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Dave Rogenmoser Jasper  
 i just think people forget that a real business is an asset  
 that can be sold and i've had these other coaching businesses where or agencies were just kind of they would  
 just kind of dissolve whenever i got tired of working on them and they would just end up poofing into that air and it's like that's like that  
 could be 25 months of revenue or profit up ahead that's just kind of dissolving into thin air and i was like man this is  
 like that that was a light bulb moment for me it sounds obvious looking back i just didn't really think about that that like  
 a ten thousand dollar a month course business is worth a lot less than ten thousand dollar a month software  
 business this is the fighting entrepreneur the podcast dedicated to entrepreneurs  
 looking to change the world learn how to start build and scale a business in today's highly competitive business  
 environment here's your host the fighting entrepreneur ank singal [Music]  
 what's up you crazy fighting entrepreneurs guess who it is your favorite person in the whole world back with another fight stepping into the  
 ring with me today is someone who's been having some pretty big fights himself so i'm not gonna try  
 to fight him today we're just gonna try to learn from him but uh we're gonna talk sas going to talk about software and why  
 that's the best business and you can see i like that slowly putting the putting mr jasper in front of everybody that's  
 right some of you might have just recognized and said hey that's jasper that's the automated ai driven copywriting bot um  
 it's gonna be a really fun conversation today you know i have except i've done sas but  
 i've not really done sas and the way i explained that is i was very fortunate to be part of an amazing team to have  
 helped build sending and so um now i exited that uh in 2021 it was awesome  
 and my best friend's still running it so i still get to kind of see and but i i was never actively involved  
 and now i got a bug i got an itch i want to build a sass it sounds fun  
 but i also know there's a lot of pain involved that much i know from the settling process but our guest today  
 is someone who i've got been getting to know because of his recent work with with jasper um and if any of you are  
 thinking it was formerly known as jarvis we're going to get into the name change and why that happened it's a fun story  
 um he made a post i think this point maybe a couple months  
 ago that was very like everybody should be doing sas period something like that  
 okay i paraphrase and it caught my attention and i was like i agree but what do i do i don't know what's  
 asked to launch and my brain doesn't work that way and i'm such a digital publishing course-selling kind of guy  
 so he was like oh dude there's definitely a sass inside of you and i was like okay okay let's not talk about this anymore let's talk about it on the  
 podcast let's let everyone else listen in and get fun from it so why is he the right guy to teach us this he took his  
 this is his third test everyone's kind of gotten bigger and bigger this third one he launched from  
 zero to over 50 paying customers keyword they're paying

customers in less than one year that is insane i can only begin to imagine what the valuation of this company is at 50 000 freaking users it's insane um so i want to learn from him not to mention i've also been an affiliate for this i've seen it from inside of a user i'm an affiliate i've kind of like experienced this company from all around so i'd love to build something wholesome like this myself and dave rogan moser who is here today has promised to help show us exactly how to do that so i don't know or i don't think he really needs much of an introduction i've gotten to know him over the last year he's building some amazing stuff and he is currently the founder co-founder of Jasper a software that pretty much everyone in the marketing world's heard of so help me welcome to the prowl fighting ring dave dave what's up man how are you good man my goal of the next however long we're talking is just to convince you and empower you to go launch your own sas company here so you're uh you're going to be fired up at the end of this day i love it hey i've always said my favorite podcast episodes are the ones where afterwards i co-launch a company so this will be this i haven't done that in quite some time so maybe this will be it um so dave first of all congrats on your amazing success um and the fact that we're going to be into all of this today i want to hear about your story but i kind of want to start with a funny story which is your tool was originally called Jarvis and i um anyone knows me knows i'm a big iron man fan i'm like i got people who were emailing me condolences you know after the last movie sorry that's a total spoiler alert but uh like it's that bad people were like man i'm really sorry for your loss like i love iron man so it was originally named Jarvis and i loved that about it but now it's called Jasper what's going on there and then we'll backtrack into your story yeah so we wanted to call it Jarvis and we asked our lawyers about it and they come to the search and you know we obviously knew about Jarvis the you know robot uh that Tony Stark or the i guess at that Tony Stark had built and you know we were obviously drafting off of that a bit and yeah when we kind of looked at the trademarks you know really the real issue is not it's not that you can't like name something what something else is already named kind of the burden comes down to our customers getting confused about who owns what and so really the bird would come down to our customers coming to us and signing up for Jarvis thinking it's a Marvel product and thinking that Marvel owns it and runs it and that maybe Marvel is kind of you know there's brand confusion around the two and i would contend that that has never happened nobody thinks that we are Marvel no thinks we are Disney that has never happened nevertheless you know as we kind of grew and became much bigger than we ever thought possible um we got a letter from Marvel um saying nicely but very very firmly that we will destroy you if you don't change your name here's a list of companies much bigger than you that have changed the name away from Jarvis you know before and uh you know we have 400 lawyers just waiting to go to bat here uh and so yeah so you know i think i obviously knew that was a potential issue and you know going into it we kind of thought either a we'll fight this you know whenever it comes or um you know be we'll just kind of figure it out later and you know we'll change our name later yeah and it came and i read the letter and i thought about it and we had like nine people at the time you know and i was just like you know i think we've got a decent case here but like these people live for this and like what's the opportunity cost of me spending like the next year thinking about like fighting Marvel uh it's pretty high and uh that's really not what we're in the business then so we uh we ended up deciding to change our name uh to Jasper uh away from Jarvis to uh to satisfy all the army of uh lawyers over at Disney yeah so my i like to just jokingly say you managed to piss iron man off and uh you know it's funny because you're right it's just it's such a far reach you think but in the end what a wise way to approach it which is just like you know this is annoying it shouldn't be the case but what's the cost of going through this fight and quite frankly in two months no one's gonna care remember and it's i don't think i mean did you guys see did you lose members because of this or now you know i mean there's probably a little bit of brand equity you lose at least have to kind of re-frame you know we probably lost some like seo juice you know it's kind of built up all the stuff around Jarvis and you know so you lose some of that but actually i mean i don't know if you know this we launched a year ago as conversion.ai so i know that yes this is this is the third thing and it's like you know i don't know it's still we're still a year in you know it's not like this is like some 10-year company we've got all this stuff like it's still a pretty good time to shift did you see the Facebook post where someone was like who's taking bets for till the fourth rebrand of Jasper and i was like you know what that's cool when you've got users that love you so much that they can poke some fun too and have a good time and you've built a great community in there which is nice to see is that people help each other but people they knock on each other they get excited they buy merchandise i mean i think i posted do you remember i genuinely saw a guy at a park national park walk by with a shirt for copy.ai and i hopped over at my family i was walking with i said i really feel like i should go pick a fight with this guy and just be like you know screw you in your stupid software i come from i come from conversion.ai so um so really cool dave you know you've done a lot before we were talking you kind of mentioned your start and how you've come so maybe tell the audience where when how you got started and i want to talk about the progression that led to Jasper and and i really want to talk about the mindset behind that post you made which was like done deal everyone should have a sass because it's a small post short post but i there's probably so much emotion calculation logic behind that statement i want to get into all of that but do tell us your story where does dave come from yeah i mean i started with i've got two co-founders one's our cto and engineer another one's um you know runs all of our like people operations and it's kind of a you know another non-technical person i'm not i'm not an engineer um you know we started a marketing agency like eight years ago uh just that was our very first company we didn't know what that we were doing basically we would sell like a consulting agreement to like a dentist office like we'll run your Facebook ads 1500 bucks a month and then we would go find other people that could run Facebook ads but didn't want to go landing clients and we would hire them to kind of fulfill it so they would sell for 500 bucks a month we'd split the cost we'd pay out 750 bucks a month and that was our like first ever business and as we built that up we got to about like 25 000 excuse me 25 000 a month of like monthly revenue and one day i got one of my co-founders i knew was like technical i didn't like really know kind of like what is like engineering chops were he uh he he basically showed me this new app called pay funnels that i was supposed to use to go like get paid by our clients to send them a little link and it charges their card and all that uh i find out like a couple days later that he had built pay funnels on the weekend and was just like it's like a little tool and he was kind of like you know embarrassed by he wasn't he's a humble guy he was taking credit and so uh that was kind of like a little aha i was like dude like you can build software like that's really cool so out of our like pain point in the agency days we uh we scratched our niche and built a little bit of software which i think is like a really good theme in our story and maybe even a lot of my message here is like you know what's the what's the little the little pain point that you're experiencing that you're kind of uniquely positioned to solve um you know for as far as a little bit but we ended up letting go of all of our agency clients because operating an agency is very hard i respect anyone that can do it successfully because it is just an operational beast and we decided to get into courses and coaching and info and really kind of start to scale up like a product tie service so we went from teaching everyone from doing marketing services for people to productizing that and then teaching how to do that and yeah i think that's a rather good principle you know in our story is kind of like how do you kind of productize what you're doing even more so ended up scaling that and selling a bunch of courses on webinars and how to do Facebook ads how to grow an agency and you know all of that stuff and as people signed up for our agency course they were like well how do i sign clients we were like oh you could use pay funnels like you know we're not really trying to build some software but we got this thing oh yeah we'd love to use pay funnels so we ended up kind of like turning it into like a little bit more of a product people could sign up for and we built that up to about a hundred or so about ten thousand dollars of like monthly recurring revenue kind of without even really thinking about it it was just kind of j's thing you kind of do on the weekends and it was just a little like add-on in our funnel and we built that up and you know we're starting to get kind of tired of like selling courses we felt like we were doing incredible marketing building great funnels and it was just kind of hard to still eke out a good profit with it because you know the way that you know this like inevitably like your course gets commoditized pretty quickly and you know kind of gets out on the internet everywhere and there's just there was like no defensibility it was all just great marketing and like brand it was kind of all you had and so um we basically got this idea for proof which is our next software product that it's just like a little widget that pops up on your website and says how many people have bought in the last 24 hours or um you know Jimmy from Oakland just purchased this um or just downloaded this lead magnet two minutes ago and we thought this is working like some e-commerce sites like we really could use this for our own funnel just like help us get an edge and so um you know we quickly decided we wanted to build this product we built it we pre-sold it and we had i don't know maybe 80 people pay for a year up front that was kind of out of our like course in coaching clients and we thought man this is really something you know like we've got this is like a little bit more defensible it's a little bit harder for somebody else to go and copy this and if we kind of roll this thing out you know we'll kind of be moving into like being a software company instead of a course and coaching company and so we launched that and we knew we needed like a little bit more cash up front and it's like a big question i think people have it's like well how do i kind of get the cash to develop software so we ended up selling pay funnels uh was the first time ever like selling the company and i think it was a real eye-opener for me because if it's doing you know 10 grand a month which is not a lot but we were able to sell it for you know mid to low six figures and pull forward the next two and a half years of profit to use today to deploy and you can't do that very easily with a coaching business you can't do that very easily with an agency and so i just think people forget that a real business is a as an asset that can be sold and i've had these other coaching businesses where or agencies were just kind of they would just kind of dissolve whenever i got tired of working on them and they would just end up poofing into thin air and it's like that's like that could be 25 months of revenue or profit up ahead that's just kind of dissolving into thin air and i was like man this is like that that was a light bulb moment for me and it sounds obvious looking back i just didn't really think about that that like a 10 000 a month course business is worth a lot less than ten thousand dollar a month software business so we sold that and kind of used all that to plan into proof and you know and again this is maybe the third iteration where we tried to productize the course that we were teaching so we're kind of teaching you how to run ads increase conversion rate on your website make your funnel work and then we just kind of said well instead of teaching you or instead of doing it for you why don't you just download this software and the software will do the work for you day and night uh and so really we i feel like we've been selling the same solution or the same you know scratching the same itch for the last eight years with a bunch of different businesses that get more and more productized and like better and better as we go here um and i think it was with proof proof kind of took off and that was kind of when we decided hey like we're going to be software people now and again we can talk about like why i like software more there's other stuff there um but yeah that was kind of what led up you know to launching you know Jasper i said yes which is like another evolution you know we ran proof for a couple years and then had the idea for Jasper to use ai to write content for people because you know we were struggling with it and um you know people just want to write better content and Jasper was like a technical solution that could just make that far far easier for you so again we've been working together for a long time i feel like we've just been solving the same problem in various ways and in like better and better ways the whole time you know it's it's um as you talk about it some things come to my mind which is you said something near said it sounds so simple now but i back you up on that man it isn't it takes you have to go through the entrepreneurial journey to realize that you can build a company um that's gonna have immense value at some point or that's gonna have no value and it takes the same amount of effort or energy because you're still putting the same amount of hours in you're still doing and pretty much doing the same types of things it's just that if you're going to build a company that's going to have a ton of value later typically there are some things you have to do today so i've always used this example of a value business versus a cash business rights or income business i call income business versus value business if you're building something that's purely income driven it probably doesn't have very much so value so the minute you stop doing it the income goes away but if you're building a value business it's probably not going to spit out a ton of income early on because it needs you to reinvest into it but hopefully at some point it's going to have a ridiculous amount of value to it so i was on the phone the other day with Josh Snow and

lo silva these guys are like big ecommerce people and they said something super interesting that no one ever out there would say they're like sometimes we wonder if it's really even worth building seven eight nine figure e-com stores um that are brands direct to consumer brands and these guys that's what they do that's what they're great at but they're so open and honest and i had los on the on a podcast too and he said the same thing he's like because the thing is you're never gonna make any money while you're building it because the bigger your store gets the more inventory you have to buy the more you spend the bigger gets more you spend he goes the only time you make it is at the end when you sell it so same thing right you're letting go of that income building up value and now as i've come around the block and this is a big reason why i want to have this podcast with you is the realization i had is i am totally cool with that i want to build for a business is an asset there's really no reason to fall in love with it it's an asset and when you do fall in love with it you might start to make mistakes as to how you manage it and run it and so where i am arrived now is that um i just know the difference so if there's a business then it's an income business it's that don't you know and they're but i've tried for the longest time with learn and i'm now i've tried to do both it doesn't work you gotta pick it just doesn't work it's it makes everyone's lives complicated confusing so i don't know my little rant just to kind of back up what you're saying um i just i don't know i have a random unconnected question dave this is like my own curiosity how old are you i'm 32, you're 32, that's incredible because of the journey you've had that's what i figured i'm like you've been through a lot you've like started all these different companies but you must be pretty young um what's your role at jasper or at proof you talked about how you have a cto and you have an operational person so who's dave what do you do yeah i mean the ceo i think ultimately comes down to like i'm the one responsible for just making sure the company is successful um all of year one we tried to keep things very small very lean we didn't hire anybody you know we only had nine people um 12 months in we only had you know two engineers we just kind of kept everything like super lean and we got like we got frankly we got like very very profitable very cash flow positive which i think people think this is impossible with software and it's certainly harder to do but we got very profitable um and then we realized like we've got something very special here let's go for it i think our mindset shifted from like let's build a business where we just kind of take out a bunch of profit do a bunch of distributions and do all of that to we want to go ipo in three years you know we want to build a really big industry-defining iconic company here and feel like we've got an opportunity to do that i don't think that's guaranteed and just i think it's really hard you know i feel like we've got an opportunity to do that so you know in the last 45 days we've gone from nine people to 30 people we want to get to like 100 people you know by the end of the year have a big engineering team we're hiring some like great execs from from some other public companies right now to help us go and do all of this and so you know my role has shifted from like i think i you know last year i was about helping make sure that we have the right product and helping like make sure our community is like really engaged so we're spending a lot more time just recruiting and bringing in great talent to go and help us scale um but then also just thinking about how to like build a company that people like want to work at and it retains talent well and helps scale so my job has definitely shifted a ton um but yeah yeah i think that's what i love about i just love being able to do something new every single day so i mean right now would you say your marketing is also part of your gig or really because you focused heavily on the people aspect so recruiting which by the way going from i've done this going from nine to thirty is a huge people say like wow congrats it's like well yeah it's just it's tough it's super tough because a culture changes right nine versus a culture supports 30 is fundamentally completely different and then from 30 once you cross that 50 60 it's again different then when you cross 100 it's again different and you have to evolve every time you have to build all kinds of and then the bigger the team the more operational structure for that team you know you have to have and you have culture and it's tough it needs someone full-time watching over it so i hear that part of your job would you say marketing is also a part of your job does that go elsewhere i think for the first eight months marketing was a lot of it and i i certainly consider myself a marketer like my background for sure um we've got a great head of marketing austin distal that you know really runs it all now and i actually don't think a lot about marketing i maybe do from a high-level of just kind of like what kind of channel should we be in and like what's the budget kind of all of that but like i really don't do i don't really don't think about marketing at all right now which is kind of just new i think that's the part i really envy about your story and i want to get into is kind of one of the mistakes that i've made if i if i actually said this year i was going to write myself a little book a short little book which is like because i'm hitting 20 years of being an entrepreneur this year and it's like what are some lessons and i think the biggest lesson is just do too much i leave too many things on my plate and i've been ineffective as a ceo because of that a ceo actually is exactly the job you described they don't think about any of those things they think about people team retention and public like messaging that's that's like all they think about right and and because the ceo's real job is to bring the right talent in and let that talent do what they do support them lead them guide them and i just have been able to properly like the light bulb really went on for me last year when i did bring some brilliant people in and i got out of their way and i was like oh wow what like shoot you know so i want to talk to you about that because something you had also said to me once was um and i remember this so you'll know i pay attention man when we talk like you had said make sure your co-founder is a technical person i honestly can't put up a website that says the world's hello i don't know anything i can't map a domain name to a server i don't understand crap about technology till this day so i do want to get into that too but here's one question that really sticks out at me you said when you guys were doing courses you had the idea for proof you had the idea for jasper can you walk me through how you got this idea because i know a lot of people listening right now like i want to do a sas what do i do so like how how does someone come up with an idea for for sas yeah so okay proof specifically you know we were running just our marketing business trying to optimize our funnels trying to increase it we had a friend that was running an e-commerce store that we were helping her do her marketing and just kind of get it set up it was on shopify one of the apps that we installed as we were just kind of setting that up was a little thing like proof that was just for shopify and it just hooked into your shopify store and showed her many people bought your product was like a little widget we put that on we ran an a b test and it worked her sales went up you know some percent of different yet and we just thought that's awesome that was easy like what a cool little app you know and then it was just oh let's put this on our funnel there's got to be something like that um and we just searched and there wasn't anything like that there was anything that kind of did what we wanted to do and we had seen it work we had enough knowledge and experience in marketing to think this would probably work like you know we kind of understand the psychology of it um and if we can if we have this well have a little bit of an edge you know our customers or over our competitors and so there was anything like that and so just jp my co-founder and you know another software engineer or a software engineer just built like a super simple version over the weekend again it's kind of our story it's like you know it can't be built over a weekend uh don't don't build it um and then we just put it on our on our funnel and just ran an a b test and saw that it worked and so i think for the lesson has always been solve a problem that's fairly related to like what we're already doing and scratches and it's for a pain point that like we're already feeling personally try to like try to solve our own pain and try to do it in a very very very very simple way for a first version you know you want to get you want to get the first version out and like under a month ideally under a few weeks you know and just kind of test from that that's something that people is they're kind of getting into software they just over engineer the heck out of everything and they think about all this cool stuff like you should be so embarrassed of your first product that you launch and if you're not embarrassed by it you know you've spent too much time on it and so even for us when we first launched preview again we tested it on our own site and then we were like well we need to test this on some other side so i had some other friends in the industry they were like running funnels and i just messaged them so hey you know can i just install this thing like on your website and running a b test for you can we just like see how it goes and so there wasn't even like a way to log in there was no none of that like jp our co-founder just had to go like manually like hack it onto their site using some javascript uh and then you know run it run the test and see how it went there so it was always like very like iterative very slow very like scrappy uh not polished at all but we were always just scratching our own itch in some very simple way so then what about jasper what was uh how did that kind of come about jasper i mean was it kind of the same thing we were we were kind of i mean proof had basically flatlined and we tried to grow and it was going about three four percent a month which is i mean frankly a good percentage but you know we had had some investor money we were trying to be like a venture-backed company and so i just like wasn't really we kind of got to where like we knew this is not going to take off uh and so we actually did some layoffs about 18 months ago and that kind of gave us the freedom to start looking around at like what else was out there i had seen this new ai technology that could write content pretty well and as a marketer you know i'm skeptical of it um but i was like i started playing around with it just but yeah like let's see what this thing is it's cool and i was like that's pretty good like you know very raw but like pretty good and i was like i just knew if i thought it was good and i thought it would help me write ads i knew a ton of other people would as well uh and so same thing we kind of just like took that and i went to jp and i was like hey like you know here's this idea we kind of hashed it out you know a little bit and i was like i just need to like build a super simple app that again is pretty embarrassing doesn't have like password reset we had no ability to cancel we didn't have like anything basically just like logged in and like like wrote some like basic facebook ads and google ads um took it out to some people people loved it and we kind of started to scale it from there but like the first version was like very scrappy and again it was solving our own pain i was running a course on how to like run facebook ads for b2b sas companies and i'm like writing ads a lot i was like i've got this framework it'd be nice to just have that automated and like help me uh you know do this faster and help my customers do it faster there so i really came out of scratch in the same image as well but with the mindset around like what technology is out there that could help us do this got it so you so the the two different well actually both have one commonality is that it wasn't really like your ingenious you're up at three in the morning you're like i envisioned this world where there is you saw something being done it triggered something you were able to see it feel it touch it use it and you just said i can do this better or i can do it for this market so proof was like oh there's this cool app but it's only for shopify people but like 95 of the world does not use shopify so i can write something that they can use and with the ai copying software next people would come out and say well that already exists now because you saw one and you're like yeah it exists but they're going after this market i can tweak it do this do this and go after this market and so what's interesting and what makes me think as you're talking is like what are some problems i have that i currently seek solutions from from applets and i wrote down here a note as i go to shopify like i don't use shopify much but like go look around shopify's apps you know call i have a lot of kinds that use the crap out of shopify so i should ask them like what are the top 10 apps that you'd like would die without on shopify and then maybe there was someone something there to reverse engineer so how do you bring that service to non-shopify i agree with that i mean i think you know just kind of a good place to look yeah would be like shopify and just see like what are like simple little products that like you know seem kind of easy to build i know that can be hard to judge without being an engineer like you know what's hard to build what's easy to build but like i'm not an engineer either you kind of just guess like there does like not be a lot going on here um find like chrome extensions that have like a lot of users that are like you know using it but it's like pretty simple like i think that's a good place to start i think looking at like product hunt is a good place to kind of look and you're like okay cool this is like a pretty exciting product with a lot of upvotes you know that people seem to like and it seems like pretty simple product hunt i don't know about account.com oh you'll love it it's basically just like they just launch you know new products all day all the time every single day there's like a bunch of new products launching on there and they kind of get feedback and upvote and all of that so i think i think i think you're right like i'm not steve jobs uh inventing new things out of thin air um obviously with the jasper like it is fairly like revolutionary and like fairly new and i think that's important to have like something new you just don't want to be a commodity you want to be like fifth to the market you want to be like first or second or maybe maybe third if you can kind of out execute um but mostly i'm taking things and repositioning them for an audience that i know needs that and i'm going to speak to that audience and i'm going to really market to that audience there and i just think

i think software has evolved a lot in 30 years and i think

building a product used to be very very hard and that was the most if you could just build a product you know we're talking like whatever like salesforce version one like you know like products are like coming out you know early 2000s if you could just figure out how to get that out the door because you had to have like server racks in your back office and like you know there's not many engineers like that was a moat but like software's gotten way easier to build now and i think for people like you and this is this is what a lot of my post was about was i think and i think i might have even said if you're like an influencer or like somebody like that you should be in sas because like the moat around building software is far lower than it's ever been which puts a lot more onus on distribution and if you know how to distribute you can go and blow up software products very quickly and get them out into the market just because of you know what you do there's so much that i want to unpack because you're right man i can market anything it's my opinion i love marketing and the reason i can market anything is because i love marketing and i enjoy it so i've i've participated i've helped my car detail i get more business by applying some internet marketing strategies i've helped landscaping companies i've helped you know i think that even though i end up helping them in ways i never use in my own company it's just like i can my brain works that way just like if you show a coder hey i want to get this done they're immediately thinking like oh you know a plus b equals c plus you know that's this is the language but what you said which is i want to unpack maybe you can reset my mind when i look at anything code when i look at sas i look at technology i see mount everest i see it's hard lately you know you want to get a semi decent coder to work for you it's 150 170 grand and it's only three months until facebook's knocking well maybe not facebook now but one of the other companies that's knocking down their doors to rip them out from you i just have all this like baggage i think that makes it and then i know that what we built one of the tools that we built has just gotten so cumbersome and so complicated and we go back and look at it it's like what because i never had the right framework from the day one you never had the right idea you know you didn't it went through so many iterations and now it's become this complex thing it just scares me so you say you see something it's simple it's easy talk me through that like what is the approach that i'm missing and this is what most people listening right now think they hear develop assassin they think i need millions of dollars lots of people i don't have to be technical and they're not yeah yeah well this is based off my experience and i think the data proves it really have a much higher chance of success if you have a technical co-founder that's really good and i think as i've talked to marketers you know people that have good businesses make a lot of money and you know like they want to outsource this to an agency or kind of try to go cheap on it or offer a little bit of equity for somebody but like you really need a really great engineer and i think you need them to be have a ton of skin in the game from an equity perspective so you know again i'm fortunate to just have one of my good friends be a great engineer and so i haven't actually had to deal with a lot of the like pain of software development um as an example i was talking to a friend i don't know maybe a year ago he runs a big youtube coaching business do you know uh alright okay big youtube coaching business doing i don't know million dollars a month or more and i was like dude you've got the distribution you've got this audience you're solving this pain around like you know how to run youtube ads and um you know one of my friends and like former he used to work with us he was a great engineer you know he just likes coding problems products but he was always building products putting them on product time they would never go anywhere because he has no idea how to go to market on it and he would say that i have no idea how to get users i was like let me just catch you guys so i kind of kept numb over text say hey like you guys should build a company together and go solve some pain that you're like you know youtube coaching clients are like experiencing here uh and you know at first alright didn't really want to like give a lot of equity you know because like well i've got this business you know why would i do that and i was like listen you just want the technical care of and there's a bunch of engineers out there that will do it that i don't know how to build companies but are great engineers but like give them some good skin in the game and so you know i recommend people give a technical co-founder you know 30 to 50 equity and it's like well like if the business doesn't work like you're not gonna get a percentage of anything it's gonna be you're gonna own seventy percent or ninety percent of zero so it's like it just needs to work so give them give them a lot there's a lot to do there but i think like yeah you're just flying blind if you don't have a great technical leader like on the on the inside like wholly aligned with like what the company is doing um and that's kind of how i recommend it you know i think you just have to have a co-founder that's going to work with you on the inside and feel a ton of skin in the game and frankly i think there's a lot of engineers out there that would gladly partner with people that are like know how to market have an audience know how to go to market and just be thrilled at that because it's like it's like guaranteed to work pretty much it's guaranteed to be something now it may not be the biggest company but like it's guaranteed to be something it's guaranteed to work and get to you know 10 grand a month or 50 grand a month 100 grand a month it's like if you can get a sas company to 100 grand a month like that's worth i don't know you know four million dollars you know three million dollars it's like that's not that much money to get it it's not that much mrr to get to uh if you've got a good team and so that's the part that i want to be to ask that those financials down a little bit for everybody because they're important so mrr is monthly it's kind of your monthly rebill rate so if you have a thousand customers paying you a hundred thousand dollars a month sorry hundred dollars a month uh i wish that would be amazing a thousand customers paying a hundred thousand a month that'll have a lot of value i promise but so thousand customers paying you 100 a month that's a hundred thousand dollars a month and when you build a sas there's a term called ebitda which is like your actual earnings like that's your profit i'm not going to say it's not important but it's kind of not important in the early days like your valuations and what someone's willing to pay for you is driven by your revenue and that's the only class of business that i've ever seen that in everything else your valuation is driven by your ebitda which is your earnings before interest and tax or whatever so 100 000 a month means you have a 1.2 million dollar a year business and what we just said is that that's gonna have three million i actually think would be very like that's a good like that's a easy argument right um four or five million there are i mean there are arguments to be had that say up to 10 million depending on what you built and the growth rate it's achieving sas will get 10 times revenue valuations i mean there's been some that are even crazier 20 that just gets out into the crazy world but anywhere from like three to seven x of that and we'd save what you're saying is i love it you're like hey get it right people build something get it to the market sell it i mean that in itself could be like a business model especially if you have that team i want to pull this thread a little bit further because i know you said you were you were fortunate i have to look i'm sure i do but i just haven't really thought about having someone that i'm good friends with who i really feel like would represent me you know a lot of engineers i run into are like i want to be an entrepreneur and i don't mean to say this disrespectfully in any way to anybody so please don't take it the wrong way i just don't know a better word is like i will say have been tainted or negatively influenced or influenced in ways not aligned with my thoughts on development i guess so like how you said build it over the weekend so many engineers that come from the microsoft center you give them a little tool they're like three months we need 15 ideation sessions three product people two engineers front end back end full stack i need a designer ux expert and it just makes you go holy crap dude i just i don't want to do it right so have you found a particular type of engineer and is there a place they hang out is there some forum i can join is there some you know where do you find these people yeah so you want a full stack engineer you want someone that by themselves can design and build the front end and build the back end you know for a product basically get an entire product out the door by themselves now that's kind of ideally who you're finding somebody who's done it before and there's a lot of these engineers that have built these little side hustles they don't really go anywhere they buy the domain they launch the site they kind of talk about it on a couple forums or something but they don't really go anywhere these people exist there's a lot of them a lot of them call themselves indie hackers indie hackers is kind of this name of these engineers kind of hack it away and they kind of you know they build they build pretty good products actually but they're like no idea how to take them to market one place they post on a lot is product time that's kind of where you know a lot of any hackers kind of say oh that's where i'm gonna go like launch and go to private time so what is product hunt is this like it's literally someone made a product and they're selling it they're like you take it what what is product hunt no it's basically a place like a marketplace so like every day these indie hackers or just software companies will launch new products on there and then everyone upvotes them like for a given day and you try to get to like be the number one product of the day on product time and the next day there's a bunch more products and so it's just like a bunch of like new products coming out every day and like again if jasper launched on product hunt like i don't know whatever a couple months in we kind of just like put it up on product they drive a lot of traffic they drive a lot of like conversation around it so yeah product.com you'll see a lot of these people just posting on there um but like they don't know how to do like marketing past that and they would gladly partner up with somebody that knows distribution uh because that is a something that they can't even fathom like how to do so you're even saying there is a possibility of reaching out to one of those companies and becoming a part of their team and asking for equity to bring distribution to their channel oh you can do that okay you could do that for sure um i think yeah i mean like and again speaking about you like you for sure could do that and i just thought i've thought like in a future life i'm just going to connect developers to marketing influencers that know how to market have a great audience and just like match make them because like all of those will be like easy businesses i also think like acquiring these like little companies is like a pretty good idea um i think you look on product for companies maybe even like companies that launched a year ago and haven't really done a lot since then you know they kind of had their like time in the sun they kind of maybe lost some optimism and they're like okay like this isn't like isn't really going anywhere i'd love to kind of like sell or partner with somebody then they're good products they're good engineers they just don't know how to how to sell and how to take it there is there an easy way on product hunt to find companies that were winners a year ago or is there like some filtering yeah yeah you can just go back through each of the archives and just look at the top and you can see i mean they kind of all right they all get uploaded so you can see all the uploads you can see on any given day the exact order of companies that got uploaded and we're excited and whatnot there um and mostly people on twitter i mean tech people hang out on twitter you know they don't hang out on facebook nearly as much as like maybe like the marketing crew does so you go to twitter and you just search for them and like you know we bought two sas companies last year just by like messaging them on twitter and just building relationship with these guys and i'd say the companies that we bought were good examples of this they were solo founders they had built the entire company just themselves they just like coding they like designing they're just envy hackers and they didn't want to build a real company i mean they they took it as far as they like wanted to they were having all these customers and customer support headaches and they were just like i don't want to like go hire a team i just like coding i just like building that's what i'm good at um and so they said it to us to kind of because i was like well that's great we'll take it the rest of the way here um so i think there's more of these people you just got to kind of go find out you know and hang out in the circles that they're hanging out in which i think it's just twitter generally yeah well listen if you do decide to start coming developers and marketers get me high on that list because uh that's the thing it's i just want everyone watching just it's not just any old developer i have good friends that are very good developers but they would not be right for this um because they have to be kind of that all-in-one machine they have to be the guys that the the guys or gals that get addicted to it and they're up until three in the morning on a saturday night you know chugging a coke having a twix bar but they're like they're not going to go to bed until that thing is working um and then you go to be able to do the whole thing they got to do the full i think is really who you're looking they don't have to do it all great i mean it doesn't have to be like eventually those specialists that are better at all of that any individual piece you know than the first person is but you got to find that first person that can just kind of do it all well enough and they may not necessarily even be your eventual cto or vp of engineering right because some of them may not evolve into they may not be people managers they may not be good at all of that did you find that in your side jr i think you've mentioned did you find that he just happened to be like already to grow to that role lead people manage people and and all of that no we found out that he doesn't like managing people and started to like really stress him out and hate it and i think he could have done it i mean he's very capable like you know he's a good dude but just like was like i don't even like doing this at

all so even with jasper now we're hiring a vp of engineering to come in and like build out the whole engineering team and he's going to kind of like be like running special projects on the side and kind of just like doing what he does best but yeah he's not going to do the people side of thing so this is such an interesting conversation it's going in a different direction but i'll take it because um that's a big point people don't realize this that when you create a team in the beginning it's good for that moment but once you reach a certain point it might need evolution changes egos can get in the way and what i have found is that actually both parties and the company and the person will be so much better off if they figure out what they really want to do and what they're really good at and then just do a lot of it and collectively the tide will rise that all boats will rise like one thing i can say is i'm not really a big fan of being the operational side of a ceo this is where i've come to learn i'm doing too much because right now i'm really ceo and ceo and so and i and i think the coo part for me is what makes me get up in the morning and go ugh because i look at my calendar i got calls i got one-on-ones i got quarterly connects i got and that stuff suffocates my creativity which is where i bring the value to the company i need to be left alone to interview people like dave and to see what's out in the world and go seek that opportunity and go get into it and clear my schedule and and so what i'm doing now you know in my life is i am specifically building and i let go of it i don't care if my actually you know what i don't even know if i want my title on the company as a ceo like i want to be the guy in the like just creating i'm gonna be left alone alone yeah you're the co-founder you just do whatever you wanna do and our founder you know it's just like you're just i always i always told jimmy my favorite business was send lane because i was a silent co-founder i didn't have a job there but i can participate and strategically help and my biggest help for sending was always in the beginning when it first got started for exactly what you said distribution i had audience i teach email marketing we built an email platform what better you know combo could there be so but after that it was like hey i'm i'm here for the ride and i'm helping whenever i can but you know and and jimmy and i we used to work together so we actually used to work for me at learn he's he's he's an operational guy he is an integrator he loves that stuff and so perfect for him to be running that it's just not me but everyone who's listening like what are you who are you where is your role in this like drop the ego for a minute and just be true to what you think you can bring to that team but there is a team involved like dave you're 100 right i'm that guy dave by the way that holds on to equity and it's like i don't want to give anything anywhere and i'm realizing now back with that man like if you can find those people give them great equity you can do three four times as much together and make up for that third you gave them or whatever like you just yeah the pie gets so much bigger and again i'd say this maybe descriptively about my journey you know i'm not saying this is always the case but like we have shared a lot of equity over the years and i don't regret any of it and i have had friends that run their own companies have been very stingy with it i don't know stingy just more careful with it awesome they keep it all and there's just they just move way slower and their pie is smaller and you know i just think the pie gets really big when you get great people incentivized about like the long-term outcome and uh i mean you know just the pi has just been it's just it just gets so big so fast when you get people moving in the same direction there so i think it's a really tough thing to learn and it's not right all the time but it's certainly been a huge driver of success for us yeah awesome well listen so everyone i'm gonna wrap this up a little bit i'm gonna go actually do some hunting so dave with your permission i'm gonna you know in the next few weeks i'm gonna send you some ideas i'd love to get your you know kind of your jive on i'm gonna go look at product times i'm gonna go look around the world and see what's what's out there and what can get me excited because i do think in the next year or two like i would like to get a g s ass out there if nothing else the curiosity of having not built a sass yet personally um kind of want to scratch that itch but let's pivot a little bit let's talk about um so for everyone who's listening remember what he just said we talked about where do you get your ideas well look at your own problems look okay what you're struggling with product hunt.com shopify's app store go look around see what people are doing it doesn't have to be your unique idea but try not to be the fifth or sixth person doing it don't go launch an email autoresponder company now i'm telling you from someone who had launched one there's a lot of them out there this is hard it's it's it's there's a better solution there's something different out there for you but you don't have to be the first and you don't have to be the innovator you don't have to be the steve jobs it's a big misconception producthunt.com was one domain i took away today that i did not know about that i will look into a lot of indie hackers great term full stack engineer get yourself a if you're not technical get yourself a technical co-founder if you are technical get yourself a non-technical co-founder um is kind of the big takeaway here too all right let's get into the marketing um 0 to 50 000 in a year do you believe and i mean this genuinely if you've hit a sass that really is just you hit the right pain point it'll just take off on its own would you say jasper was just like oh i said hello everybody here's jasper and it just went boom right or was there active marketing you did how did you get from zero to 50 000 so fast so i think jasper was a great product solving a very very specific problem again just like google ads and facebook ads you know we were we were sitting on six or seven years of building an audience that wanted to learn marketing from us you know so it's like i had a good tailwind i think there's a real thing around just like are you the right person for a company and so i looked at some of our competitors and it's just like they didn't have any of that so i knew i had all this experience to know that because of all this experience i normally had like a distribution channel in our email list but i just kind of knew the customer like i was the customer i've been living this and then we knew that this is a pretty viral product and i think ideally you have a product people want to talk about but you still have to kind of brute force your way at the beginning like get that flywheel started and so we kind of knew that we wanted to get out front and become like the clear leader in this you know very quickly and in the word of mouth and even just you know newsletters accrue excess profits to the leader and just being number one in the industry is always going to give you far outsized uh profits like the second best you know it's like if i launched a copyright course today like you know you would absolutely destroy me because like i'm just some other i'm just you know the 47th guy doing that and it's like you're a leader in the industry you know it's like it's just gonna be so hard for me to compete there so we just went really hard on you know emailing our list we started spending a lot of money on facebook ads right out of the gate we got some influencers and tried to build up an affiliate you know community like right out of the gate um and probably three months in like we were like the clear leaders in the space and then as the space grows as people learn about ai copywriting uh they just end up going to the leader and they stick there because it's got the brand and they've heard of it a couple times and it's just like so i think we've just kind of gotten to the front and like been like very busy but by the way the last i think the big takeaway for me and like the model of company that you build really matters i would say we work far less hard on marketing with jasper than we did on proof on proof we were killing ourselves our funnels were perfect our analyst was perfect we had to execute perfectly in marketing in order to sell the product because it kind of became commoditized with jasper like over the last year like we care about marketing but we don't we do talk about it a ton we don't talk about we don't even know if we run many a b tests you know over this last year like we don't really do most of that stuff because we've got the product right the community is great like we got like a great tail when like the model like really matters of like and if you find yourself having to like totally grind in marketing to like eek out a profit or eke out some success in your funnel or whatever it probably just means like the product is not good enough and you could take that same effort and put it over with a little different industry or product or model or whatever and just totally crush it and that's maybe like that's maybe like my biggest lesson in like the facebook post that i made that kind of caught your attention um is like i see a lot of people i really respect that are really great marketers execute well operate well and they're just great business people you know i put you in this category and it's like doing really well and i'm like i'm over here with jasper like working like less hard than you and like doing great in like an easier way just because like the product is like more differentiated than like maybe a coaching business or course business would be uh and i'm just like i get up i'm talking about my friends recently i'm like dude like i respect you so much like you would be destroying me because you work so hard you're so excellent but you're selling like a hard to sell product like just go sell an easier to sell product or like go sell like a more different gated product uh and you'll just you'll just dominate because there's not as much competition at all yeah and i think that's um you know i gave this advice one so i'll give the story so i had a she's a nurse she's like a next level nurse though so she's like a very advanced nurse and she wanted to build a business and she wanted to build a business in the maternity space and she used to come to all of our training events and she was a like you could tell she knows what to do so i built like a model for her to go market and i was like go you use youtube i said all you have to do maternity getting pregnant trying to get pregnant a big market youtube is really a place where people for those tips like just get yourself there your credibility is so huge and i said to her your marketing knowledge is way surpassed anyone in that space like you are a shark that is now in a pond of goldfish you use even 10 of what we've taught you you're gonna dominate because you're in a pool where they're not doing that and sure enough that's exactly what happened she started and she applied very little bit of the marketing finesse that we've shown and bam out the gate she came swinging like her marketing was probably way worse than like yours you know it's like it doesn't you don't need insane marketing to dominate there and i remember thinking this too like you know we were like doing coaching i had like a mastermind again i'm like i'm like a marketer selling marketing to marketers and get these people that would come into these different industries gym businesses or videography or just like whatever these wacky ones and they would all do better than me and like their funnels would outperform mine and like you know i'm the expert we are grinding and i was just like what is going on here like like they're just they're just differentiated in their market and it was just like effortless for them to go build these companies here and i'm just i'm operating to perfection to do worse than them and they would just kind of put up a landing page and only have a little bit of fun you do a little bit of that stuff and it would just always work great and that definitely got started you're 100 right i mean even even as a copywriter i'll tell you this you said maybe the most brilliant things you've said on this interview is that if you find yourself having to work really really hard just to squeeze out a little bit of profit you have a product problem i call it an offer problem that's all it is because i've always said a great copy can never sell a bad offer a shitty copy can always sell a battle a great offer like that's what it is i mean in the end that's that's literally the biggest truth so when i get a lot of people they'll come to me and say i'm having issues that with my copy it's not converting nine times out of ten i'm like no i think you probably have an issue with what you're offering and um and in this case it's a combination everybody of what happened with jasper and that's why jasper took off to a certain level whereas you know proof was good and it did well but it didn't take off and that was just the size of the problem that was scratched and solved and the approach with which it was solved so i took away this dave you had your existing audience facebook ads and influencers okay and this now i hear people thinking well i don't have an existing audience it's literally people will just stop right off the spot and say well i don't okay so i want to give everyone who's listening one story because this is kind of a cool story has to do with the watch company that i launched okay i don't i have an audience but i don't have an audience that like i think if i started selling them watches it'd be a little bit weird they don't really follow me for watches yeah yeah this is one of them and but what we did is we found an audience that was underserved that needed something and the person we partnered with that i partnered with this is probably one company where i'll tell you i built the founders correctly the person i partnered with had access to that audience but very small access not like the entire audience they knew like point one percent of the audience but that was enough to test the concept and it flew after that all we did is turn on facebook ads our pages suck our funnels are non-existent we don't even have a good backend we're not even tracking our data which the ads okay it's killing it like it's just absolutely killing it and now we're just getting ready to scale it and we're still not tracking any data we're not talking about funnels we're not talking about back end front end bumps we have them they suck we don't care we're not even concerned about it so now the lat next step will be we go to influencers we're going to go to people that have bigger access to that audience and that's enough this is we had a meeting earlier this year was like what is our plan for the next like two years like this is it we don't need to make it more commoditized just release more watches for more segments of this audience and get them out to influencers and facebook ads and keep accumulating and the point that i want to make to everybody is that you don't have to have massive access you can partner with someone that has a little access just enough to test it so that you're not like putting a lot of effort and time on

and boom that's what the marketing plan says  
it's nice to have an audience you know obviously like i'd say the people with audience out there like kudos like you are you are on your way and have a much easier place to launch from but if we don't we could  
have launched jasper and just like run mark you know run facebook ads if you had zero audience or whatever you know again it would have been a little harder but like yeah it's certainly not a prerequisite to go do anything  
but and like too i mean with proof we were running such an extreme ad strategy i mean we're doing you know you got multiple ads you got all these retargeting ads and certain sequences and you know we've got you know thousands of a b tests running  
i think a year in we're still running the very first ad i ever wrote for for jasper and you know whatever it was it was a good ad jasper wrote it um it's not like a great ad and like you know you and i both know that like your first take at something is like not going to be your best one ever but like it works and we just haven't had time to like like you know get it out there and learn like you know cycle through it or whatever to the next one here and so it's just like you want to find yourself doing something where the marketing is pretty easy and where it's just working  
things like it's worth as painful as it is it's worth stopping and going back to the beginning and getting that offer right because it's going to make everything else so much easier in a very outsized way for years to come so like don't just keep grinding for diminishing returns just stop and get that the first part right  
and everything else is just going to be have a huge tailwind behind it yeah i i just couldn't agree more which is why if you have a technical co-founder it didn't cost you a ton of money and if you take the mentality of build the first draft version which you're actually embarrassed to post a weekend a few days to do it he didn't really put a lot in so if you put it out there to a small audience and it doesn't sell well don't push it pull it just abandon it and move on to the next thing until one that does that's like you know this is advice that you're hearing everyone from dave and we and sounds like obvious advice and it sounds simple but i'm telling you and dave can back up on this it takes years of being your own business where you realize gosh it does not have to be this hard you know just it's like finding the thing like how hard is it for apple to sell an iphone do you want to do you even do you buy their keychain because you saw a fancy ad on tv no it's just it's an iphone does that want to do you go to buy it so i think that's been my lesson has just been spend a lot of time on the right offer and it becomes so smooth like kind of like flows like water and it may not be your first second third fourth or fifth one but it's there if you keep evolving every time you try it that's good and like getting like getting like the right offer you know maybe it's maybe it's you know twice as hard to kind of find a great offer versus like an okay offer you know it takes twice as long maybe maybe it's five times as hard to kind of find that the return is greater than five times better so it's like small like disproportionate input to output like takes a little bit longer let's say you know i takes you five months instead of one month to kind of like come up with like a great offer like the business for the great offer will probably be you know 300 times bigger than the business with the good offer not five times bigger not twice as good like it's it's hard to imagine how much better the great offer would be but and so it's worth a little bit more time a little bit more work to do that and something we learned you know i did y combinator which is a startup accelerator out in uh in san francisco when they said that was really cool was like counter-intuitively it is easier to do hard things than it is to do easy things because when you when you do hard things to try to go build a hard business people get excited about it and want to be involved and they want to help and i think it's cool and you can hire great people and we can work on an easy business with you and i think they're both hard like they're both gonna be hard they're both gonna take a lot of your time they're gonna take all your you know your your mental abilities but it's like go pick a hard thing and then you'll be able to get people excited about it and again counterintuitively the hard business will be worth 10 000 times more than the easy business this is hard to do and i think i just look for like things that like i've got an advantage in that would be maybe hard for other people to do harder for other people to do than they can do and then just try and build a business off of that and recruit people to do so hard things are worth doing and in fact like they might be like the only things worth doing in business uh i'll never try to do like a really defensible indefensible business again i completely agree that's one of my rules for my like kind of 20 years of learning that i'm going to be writing down one of the rules is that most great businesses will be harder in the beginning but so much easier later on right so it's easier to recruit it's easier to find talent there's a bigger talent pool but the beginning is probably harder because you are investing to create something that's so valuable and so those that are very easy to make money early are not bad and i'm certainly not knocking them just like you know that's exactly their purpose that they're going to make not money but they're probably going to be gone in a year from now or six months from now or two years from now and so for people that are really important that's not a good business to be in i mean i can't speak for you where an extra income isn't really what i'm looking for now i'm looking for needle movers which is more net worth driven or i wanna like i also decided the next company i build i don't want i'm getting like you know i'm 38 and i've made a lot of money and money just isn't my motivator anymore it just isn't just i don't i don't care right but solving problems that i'm super passionate about and you know coming in and disrupting a space that i think is completely and running inefficiently i am passionate about that and just so it turns out if i do that i'll get super rich doing it so yeah that's an example like you're a guy that's like you know can be super choosy with like what you do like you know you wouldn't join something that's kind of just like an easy you know mediocre business but it's like you would join something that's super exciting and super and sounds hard and like sounds challenging and sounds like man it's like it's like a decent chance of like failing but like it's worth like doing and people like you want that too and so it's like i'd want you a chance getting somebody like that to work with you uh you've got to have something that's that's hard and exciting and has a really big vision there and even i'm experiencing this now like we're starting to hire these executives from other like public companies these people are pretty wealthy and you know like they're coming to jasper and quitting their like great job because like it's a really like it's a chance of like becoming like a public company and then you know i'm running so what so hey closing off questions i mean i mean uh i there's another part of our interview that really caught my attention he said hey we want to go in three years you know that's kind of our vision for this so that's a big big vision so what is the vision of your company what's next for you just really tripled quadrupled on jasper or are you positioning more as a software company you know that's kind of the question that's coming to come out and collectively the company will go public like where what's the vision what is all jasper i mean jess will be the product and the company that we take public here you know i'm a big believer in like niching down and like really go to get into concentric circles here so you can't take like the most center circle you've got to become a monopoly in that circle before you go on to the next thing and you know maybe by monopoly i mean you've got to be number one and kind of hold that in like some little small circles let's say like right now jasper is number one in like marketing copywriting and content as like a tool now we've got to hold that that's not guaranteed we'll keep that other competitors will but it's like we want to kind of hold that especially for like smb like small businesses right now over the next year like we're gonna try to expand that market we're gonna kind of hold that but then try to also become like the go-to number one tool for marketing copywriting and content for like public companies and then like that's gonna get coo-outside and yelp and groups and you know whatever on there so it's like we want to kind of expand into that and like that would be like we're gonna get a monopoly there i think eventually we'll kind of branch out into other um other organizations inside of companies and so i think we can build a tool that helps sales teams you know do prospecting and outreach that's like that's like a different buyer a little different use case a little different thinking so we're going to hold this thing and then we're gonna go into the industry there and i think like we can use a sales space and i think we can go and dominate the customer support space and so just like using ai to respond to customer emails to respond to reviews to just accelerate how fast you can help your customers you know on a support level there and who knows there might be like other like little industries in there but you know we feel like we're kind of got like a beach head around like you know marketing content we want to definitely hold that but then expand into other parts uh of companies and other you know like the marketing in the industry there and i think like we can do that and then we can go into other stuff there but yeah we're just going to keep building the product to be better for like larger companies larger teams you know be better for just writing long form content um and yeah there's just so much to build i mean we're only a year in and we've only had you know a couple developers you know through a lot of this here so we just got to kind of build the product that really could go to the market that's incredibly hard to build and then you know i take great pride in the fact that i think about 500 of those 50 000 hopefully i've sent over and uh i see you know plant plan to continue you know supporting you guys and um i will also say that one of the things that got my attention too was i have promoted stuff that's rebuilt before and the problem is like it fizzes out in a couple months three months and then you see people that really could go to the market and they were three months ago somehow i don't know you guys you got people probably upgrading and so it's it's awesome actually uh jasper turned into went from our smallest affiliate promotion if you looked at what i made the first week or two i ever promoted it in july and actually went and became one of our top six or seven um and it continues that because i haven't haven't even talked about it in three or four months so it's like it's awesome that you want everyone to realize there is something that got me i got me thinking like oh my god i did this and it continues that was like really small compared to all the other marketing i do that was like really small effort and i'm like son of a gun if that was my own like i would have that and then i could have like four or five other ones out there that i know that are friends that can like call on their cell phone and demand that they you know support me and um they would be doing this and so yeah i've been kind of like i've been kind of seeing other people talk about but that post you made really got me thinking dude i'm all the smartest people i know who i've followed for a long time are all doing this and saying this and loving it that it's something to really pay attention to uh wish you guys all the very best keep crushing it hopefully you'll be back maybe we'll get you back in a few months give another update maybe at 100 000 you know users will kind of learn what the next piece has done for you but uh i'll leave you any closing words man i mean i want to respect your time as well so just do hard things and just keep going

where they can go i'm jarvis jasper.ai i did it again jarvis jarvis will  
redirect that so you can go jarvis marvel don't sue me i was it was an honest mistake okay it's jasper.ai  
go on over to jasper.ai sign up seriously it's a really cool tool writes a copy for you uh dave any other place  
that they can go to kind of follow you or learn more about you or is it just hey it's jasper that's kind of the main  
thing go to our facebook group yeah on twitter i retweet stuff but i'm not that  
active on there but yeah jasper.ai all right guys head over to jasper.ai with  
that said what do i always say when life pushes you stand straight smile push it the heck back this is onyx signing off see you in the next episode

<https://www.forbes.com/sites/rashishrivastava/2022/05/09/mashgin-hits-15-billion-valuation-with-ai-powered-self-checkout-system/?sh=11fca9f3176a>

Mashgin's computer vision AI self checkout can scan multiple packaged products as well as food items in a matter of seconds. The company's smart kiosks are helping retailers confront a national labor shortage. Multiple items in a matter of seconds. As the cofounders of AI-based touchless self-checkout startup Mashgin, they're especially interested in helping busy retailers at places like airports and stadiums by scanning multiple items in a matter of seconds. Mashgin, an acronym for "mash-up of general intelligence," builds smart kiosks that offer self-checkouts in more than 1000 locations, no barcode or scanning required. The easy-to-install countertop system, includes multiple cameras that build a three-dimensional understanding of objects, regardless of item or placement of packaging. Mashgin's computer vision AI can identify packaged products as well as food on a plate enabling customers at retail stores, stadium concessions and cafeterias to pay-and-go up to 10 times faster than at a traditional cashier "We understand that 75% of retail is still offline," says CEO Srivastava, whose company also offers custom tablets and mobile-based order systems. "When retailers use our technology, in many cases the sales go up by a huge margin just because there are no lines anymore. Mashgin, in tandem with its first appearance on the Forbes AI 50 list, announced a \$62.5 million series-B funding round on Monday. Led by global VC firm NEA, this round notches up the company's valuation to \$1.5 billion. The profitable company has raised \$75 million to date and earned roughly \$14 million in revenue in 2021. With the fresh flow of funding, Mashgin plans to expand its team of 20 employees and grow its business in Europe. Launched in 2013, Mashgin was perfecting its AI technology seven years before the pandemic accelerated retailer adoption of cashier-less checkout. Founders Dhankar and Srivastava first met at the Indian Institute of Technology Delhi, where they lived in the same dorm. They graduated, and followed separate career paths, but met again in Silicon Valley and began work on their startup idea. "I remember the day Mukul created a simple demo with a table lamp and a webcam," remembers Srivastava. That was nine years ago. While they thought creating the tech would be a six-month project, it took them five years to develop the technology in a cost-effective way. "We understand that 75% of retail is still offline. When retailers use our technology, in many cases the sales go up by a huge margin just because there are no lines anymore." Abhinav Srivastava, CEO Mashgin "Mukul and I drove to a convenience store in the middle of July, stood there for two weeks, and took 20 to 40 pictures of every single item in the store," says Jack Hogan, senior vice president at Mashgin about how they initially built a database of 20,000 images to train their algorithm. To date, 35 million transactions have taken place on Mashgin kiosks, and each transaction adds more images to the algorithm, making it stronger. Dhankar, who came up with the idea for the quick and easy checkout system while waiting in line at a cafeteria, says the system is now more than 99% accurate. "It gets exponentially harder as you get towards the 95% goal," he says. Nearly a decade later, Mashgin competes in an increasingly crowded market. Artificial intelligence and computer vision technology have perforated every aspect of the modern-day retail experience: from H&M's voice-activated smart mirrors that allow shoppers to take selfies to Amazon's smart grocery carts that use computer vision to scan items and pay through the cart itself. Smart checkout technology is expected to be a roughly \$400 billion business by 2025, according to Juniper Research. In 2021, Instacart acquired checkout tech platform Caper AI. Other AI startups in the same category such as Tel Aviv-based Trigo and Shopie have pocketed large amounts of VC funding amid the frenzy. This in turn has kindled concerns about how smart checkouts run the risk of displacing workers, most of whom are women. But the founders say they are meeting the needs of a nationwide labor shortage rather than reducing jobs. According to a study by S&P Global, 6.3 million retail workers quit their jobs in the first ten months of 2021. Technologies like Mashgin in turn help employees by relieving the pressures on understaffed retailers, Srivastava says. "Many of our customers are actively trying to fill thousands of open positions. Mashgin helps their employees focus on the things you can't do with automation," he says. Mashgin charges approximately \$1000 per machine per month, while the cost of production is lower than competitors. The hardware is produced in California, instead of being imported from other countries. "We actually use really inexpensive cameras commodity hardware. We can deploy a site in 15 minutes and very cheap," Srivastava says. To be more inclusive of the unbanked and areas with poor connectivity, Mashgin's checkout systems accept cash and can function without the internet. The company's kiosks can be found in Madison Square Garden in New York and Arrowhead Stadium in Kansas City, among other major arenas. You'll also find them in major airports as well as Delek US convenience stores in Texas. The Palo Alto-based company is the self-checkout tech choice for Compass Group, the largest contract foodservice company in the world.

<https://www.youtube.com/watch?v=jw7R65OgQY>

thank you  
all right Oleg how are you  
I'm good yeah how about you sir I'm  
great man it's great to see you uh yes  
it's been I guess it's only been a few  
a few weeks or a few months but uh great  
to see you hey  
um I'd love to we keep it to 30 minutes  
so I'd love to Jump Right In can you  
give folks a little bit of sense of your  
background and how you came to start  
people.ai absolutely uh Oliver games can  
you see on founder of people AI uh  
original Ukrainian I ended up having my  
first job as a bdr I didn't know what it  
stands for back in the day but uh after  
a few months of bonding the phones I'll  
never forget a moment where our CEO at  
the startup I was working at back in  
2006 in Montreal grounded the whole team  
for about two weeks to go line by line  
through Salesforce and clean our data  
and something felt really wrong about  
that at the time then uh three four  
years later I started my own company and  
guess what I had to do  
same story exactly then five years later  
I said that company joined another one I  
had to do the same thing so a decade  
into this program persisting of sales  
leadership not having reliable uh  
scalable transparent and data or  
Telemetry on how their teams are  
performing and what makes the best  
people so good  
um I decided you know I started the  
company to solve the problem so think of

it as datadog for sales productivity

I love it I love it and um you went

through YC what was that like

uh it was intense I would highly

recommend if it is an old format I don't

know what the format is today but what

year was that 2016.

it was only about 100 companies in a

batch wow which now I think it's all

about ten thousand uh wow that you know

what that means you and I have known

each other for a long time you're making

me feel old

well

um and so uh From perspective uh it was

really good because we actually had the

Personal Touch

and my Michael Seibel and Dalton

Caldwell was still with YC were my group

partners and they pushed us really

really hard so yeah our first product

when we got into YC didn't work at all

so it was a pivot one of those YC

stories and uh I'm glad they pushed us

because uh YC out of all things it's not

about investor introductions or whatnot

it is about people pressuring you to do

the right thing

yeah I love it and and so you come out

of YC

uh and you ended up raising a series a

with uh with Lightspeed with knuckle

yeah that's right that's right when I

met you in fact I just was telling one

of our LPS's story the other day

because they said well at early stages

how do you make the decision and I said

well I'll tell you a story I met olig

and within the first half hour I told

him I was in yeah and they said well how

do you make that decision I said it's based on I really understood the problem he was trying to solve because I had run sales and marketing teams and I could look across the table and realize that this guy was special he had something very special in terms of a founder and so I remember that first that first meeting uh fondly so um but I think you know one of the things that I'd love to get into and obviously for folks who don't know people.ai now now A Billion Dollar Plus company in terms of evaluation you guys do tens of millions in in ARR and and really kind of have become the leader in your category which has been so fun to watch over the last five to six years one thing I'd love to you know there are a lot of things that people can say oh it's you know up and to the right it's all been easy you and I were hanging out uh at my house this summer talking about this and you I think you made the comment you know I've learned so much I could do I could build a company twice as large in half the time or something like that so I'd love to just I'd love to just jump in talk about some of the key Lessons Learned for you over the years because I think that's you know particularly for early stage Founders to hear from somebody like you who's raised you've raised multiple rounds of capital now from Lightspeed and dries and iconic us let's just jump in couple Lessons Learned what have you learned about maybe start with team building and Leadership because I know you I've always been super impressed with the thoughtfulness that you put into the team building aspect of the way you built the company yeah absolutely and actually I'm looking at my bookshelf there's a book that changes everything I don't have it in front of me right now but there's a book called who that uh I follow to the T and it is actually for anybody who is not an I see a role it is a fireable offense and people AI not to follow the process in the book which actually allows you to figure out how to efficiently and precisely hire the person whose job you have no idea how to do yourself and turns out there is a framework and so Jeff stumpin and reason is the one who sent me to that uh to the book and uh we've been following it since um that book is one of the reasons why we've been able to hire so well and actually if I were to um to attribute kind of there was one thing I'm good at is hiring people who are doing something better than me and and everything else kind of Falls in place afterwards um and and so that's about building the early team the other piece that is very um heart to understand while you're in it but then becomes an obvious thing once you look back



is on one hand you want to hire as senior of people as you can get on the other hand two senior non-stage appropriate is also a problem because two senior people build for massive scale which could be ahead of the economic or the product Market fit position of your company yep and so uh that means massive expense that means more burn and it means uh the chances of success in some way you'll have a much higher chance of hyperscale on in the other way uh if you fail you fail pretty hard and so how do you balance that because that is something that everybody wrestles with every CEO wrestles with I want to go hire this really senior rock star type hire but I also have to have a culture of scrappiness and hard work and you know people famously sort of say well I don't hire people from Facebook or Google or Salesforce because they come in and don't you know don't work as hard as people who are in a startup environment so how how have you balanced that any advice you can share for folks who are trying to learn from from what you've learned to be honest uh I wish I had a good answer there there's no there's no Silver Bullet right because it can hold off and keep the startup uh startup crew kind of as far as long as possible which rather quickly turns into a show because you have a bunch of people who are very smart by having on the job and everybody's figuring on the Fly you're probably repeating the mistakes that other people already made yeah or you can go very senior and then uh you start building for massive scale which you may or may not reach and then it's it's a waste of resources so it's a very delicate balancing act that I I haven't seen many companies like people affiliate it's hard so um the main advice I can give there is um the friends of Frank sloodman's book the um the uh piece about yeah the book is right here ramp it up uh great book yes the piece there about finding and eliminating slack in the company is what I think is the recipe where if you have a more Junior Team yeah they'll probably have attention in terms of stretching up and you can help them through coaching if you have a more Senior Team you need to identify and find that slack and kind of push on it really hard until there is no more um extra resources being wasted uh and that's how playing Frank is doing it and a lot of folks have been going through that this year pretty amazingly I have several companies that have done riffs and it's amazing 90 days later everybody says gosh you know we had a lot of slack we had a lot of people that weren't as productive as I would have liked in 2021 and 2022 is sort of the the Reckoning where everybody is saying gosh you know even now you're seeing Facebook and Google and Microsoft even come out and say this so it's just it's an interesting moment in time yeah well what about um throw money at the problem without thinking about it versus solving

actual problem yeah what about I know  
you've learned a ton about  
um selling Enterprise software to large  
customers and you guys have a blue chip  
roster of customers any lessons you can  
share there about you know you always  
have sort of the cold start problem  
where once you have a whole bunch of  
reference customers you know that it's  
all about scaling the sales team but in  
the early days wind back the clock to  
the early days about people.people.ai  
how did you go land your first few  
customers and how did you scale that  
model and how did you replicate it and  
grow it to where it is today so our  
first large customer support networks  
and we got lucky we want to have  
yeah didn't mind having them it was a  
three-year deal it was a six figure  
right away and it was quite quite  
something and we're only one year old so  
that definitely helped  
um but what worked for us then is to  
find an executive who had the same  
vision as us  
and they were actually having a team of  
about 40 people internally trying to  
build their own in-house people oh wow  
and so when we identified that our pitch  
was not hey let me sell you something  
new uh pitch was let us be that team for  
you so you can spend internal resources  
on something higher value add let us  
build the system that you won't have to  
have here and sign them up as design  
Partners so  
um I feel a lot of Founders make a  
mistake of trying to sign up as design  
Partners people who are kind of  
interested in the topic  
while in reality you should spend more  
time and find people who are already  
investing their time energy and effort  
into making that Vision a reality  
they're already committed yeah  
that's when the design partnership will  
be the most fruitful so you're part of  
their plan versus selling them on this  
New Concept I love that on having a plan  
yeah yeah  
and then it's sort of and then the model  
for replicating that was teaching the  
team to go find more of those yeah in  
fact uh in fact turns out customers  
especially in Enterprise Visionaries  
hang out with The Visionaries  
so the moment we crushed it with Palo  
Alto networks the next thing they did  
the CMR political networks literally in  
front of me introduced me to CMO of  
Dynamics and CM of OCTA saying hey we  
were just having drinks and talking  
about maybe someone one day can solve  
this problem amazing suddenly we got two  
more customers then introduced us to  
mulesoft and it just kept them going so  
those Visionaries it's the pre-cause  
Jeffrey Moore kind of uh crossing the  
cousin piece the Precast innovators  
turns out all know each other yeah and  
you go really well with them you that's  
how you get them the danger happens  
afterwards where if you build the  
product to be fully focused on those  
innovators

and you haven't been thinking about less  
Innovative target market that's when  
you're going to run into an issue where  
your product is too sophisticated for  
the general crowd right kind of that  
middle part of the of the innovator's  
Dilemma yep or the uh sorry crossing the  
chasm not into their Slumber crossing  
the cabin we're cycling through books  
here and that's where and that's where  
things can become really difficult  
because you have a product and there's a  
group of customers who love it and use  
it and raving about it but the rest just  
doesn't get it yeah and then the  
question is either you dumb down the  
product to bring it to Market or you  
wait for the market to arrive to you  
yeah sometimes you don't have a choice  
sometimes it's one of the two yeah and  
what about  
um maybe shifting gears and you don't  
have to get into specifics here but when  
you what advice would you have for folks  
around fundraising board structure I  
mean I've always found that you put a  
lot of thought into that you were  
obviously very successful at raising  
Capital have a terrific board you also  
have some amazing mentors and advisors  
that have been helpful to you along the  
way what you know and maybe this is  
advice you've shared with folks in the  
YC Community I'd love it whatever you  
can share here whatever comes to mind on  
those topics would be amazing yeah I  
mean board design is something that uh  
is very very hard because you don't get  
to do it often and most people just uh  
just take who they get and and then you  
figure out the work with them I found  
that you have to be very intentional  
with the board design you have to have  
spent not just the dating time but  
actually have seen people in in action  
through good and through bad before I  
went into the board  
um it is very important to uh also  
establish initially a the right culture  
and the right mode of operating with  
your board set expectations because the  
boards can be the inspecting boards or  
participating boards  
and inspecting boards are I guess more  
helpful in terms of keeping you in check  
but then they're not going to be as  
helpful in helping Drive the business  
forward  
um and I've seen the most successful  
boards are the ones where everybody is  
on the same team and the board feels  
like they need to they need to they need  
to put in the work don't just inspect  
the company yeah and so setting those  
expectations up front is very important  
what about raising Capital any tips you  
did you'd offer folks there I thought  
you  
well one thing I would also uh say you  
did an amazing job of along the way was  
your I love your monthly updates that  
you would send I know it's one of your  
secret superpowers so I don't want to  
give away your secret sauce but um you  
know ever since the very early early  
days of people.ai you would very  
specifically talk about customers that

you wanted introductions to people you were looking to hire you it was a very personalized email any any advice you could share there for Founders because I think it was I think it worked I think it was helpful

consistency is everything so you just said monthly you got to keep on going and you're going to keep them doing monthly for as long as you can ideally hire chief of staff and keep on going with that uh just because I think there is a subliminal value to seeing not just that this company is sending updates but they're sending them consistently in the same format and it's clear that they are producing value or they get a value out of this and they engage in the investor community and I'm sure you've seen this with companies that aren't doing well where Founders are kind of going a little bit dark and offline and stop communicating just because it's hard yeah and so just being open and having these active conversations is what actually creates a lot of Goodwill in the investor Community that's one piece on fundraising second one is you have to be very intentional and structured about what your fundraise for how you fundraise and who your fundraise from a lot of people just jump into the process and then go with the flow which I believe is probably the worst thing you could be doing because um like my my personal strategy is you start with knowing everything you can about every possible investor who would be a value add for your company from Twitter reading everybody's Twitter stream it's a lot to uh blog posts to actually emailing someone like Jeff Richards and saying hey I'm thinking of doing a company while I'm working on a company in the space

I'm not ready to pitch you yet but what is your thesis for this problem understanding everybody's thesis understanding how well do the reason why you and I clicked on the first meeting is because you have lived through the problem I was asked about yeah guess what not every investor is passionate about every problem yeah and there is five ten people who are really passionate about every problem out there you just need to find them and put in the work uh and so I mean it's it's the classic do your freaking homework scenario where don't just go and shoot from the hip but prepare don't waste people's time be very thoughtful and deep about why you want to talk to specific person and then have that thoughtful conversation yeah and in many cases these are folks that you had built relationships with over a long period of time sending them your updates they you know building Goodwill with people in their orbit who told them hey this guy's good this company's On The Rise and I look at some of the folks you brought in as Angel Investors early on advisors and you know

the the circle of the network and  
Silicon Valley is not small or it is  
small but it has a big impact yeah  
um what about  
um what about just growth you know what  
about how have you handled growth I mean  
it just it's just such a hard thing for  
and you you had been you know you both  
started a company prior to this and been  
a part of other startups  
you know one of our LPS asked me the  
other day you guys every company you  
fund at series a b Etc has product  
Market fit what's the difference between  
the ones that scale up and become  
successful public companies and and  
manage that growth and I said you know  
it's it's company building it's it's  
it's less about the product and more  
about the company building element of  
managing growth managing cash managing  
the board the investors but it's it's an  
art yeah any any advice you can share  
there hire a CFO  
I love it okay good we're on we're on  
the same page on that one  
bo uh I wish I had hired to see it  
Forward about seven minutes seven eight  
minutes  
I hired much later life becomes so much  
simpler when there is someone watching  
cash and actually thinking long term  
about cash in the company I had no idea  
how  
much of how much sophistication I was  
missing  
until I got a professional in the house  
yeah so that's an important one so your  
advice is seven to ten million it's time  
you gotta have a good CFO yeah great I  
love that I couldn't agree more the the  
conventional wisdom is 15 to 25 year or  
whatever it is the earlier the better  
yep  
uh second piece is  
um I mean for earlier stage my advice  
for early companies is  
um higher first two Reps don't hire a  
sales leader  
and then uh only hire the next two reps  
and a sales leader after your first two  
reps have closed ten deals that the CEO  
has never heard about  
you weren't involved in yeah if there's  
no CEO pixie dust on those deals and  
then they actually the two reps close 10  
deals suddenly you do have product  
Market fit there is no way now it's yeah  
it's about tuning and that's when you  
bring in a sales leader who can tune the  
knobs and figure out how to run the  
process scale it up get more people more  
pipeline but that proof of product  
Market fit of 10 deals with CEO hasn't  
been involved is probably like the  
biggest thing on Enterprise that one can  
get yeah  
yeah it I mean it's such a huge  
challenge obviously we see it companies  
will get the five six seven million of  
ARR and all of those deals have had what  
I call superhero sales teams which is  
the CEO co-founder and a rep yeah and  
getting outside of that where the Reps  
can close deals without you involved is  
a really important moment for a company  
yeah and and most companies a lot of

companies don't cross that moment and the problem is you cannot be doing company building if you're in deals all the time yeah let me ask you a question because I know you you also are an angel investor what do you look for when you're and again this is unscripted so I'm asking you you know a whole a whole basket of questions but what do you look for I mean obviously you like to invest in companies in in categories that you know well but when you sit across from a Founder what are you looking for so that's interesting I have a set of rules because I only angel I only dedicate three hours of my time per month to Angel Investing and I'm very very precise about it um and so that creates a time limit of how much time I can spend and how many companies I can look at Etc which forced me to create a rule set that I have to follow in order to be successful at that obviously we'll see in many years when I'm successful or not but so far so good my role set is I don't take any cold in bounds ever um at least two people that I trust have to have introduced me or invested in this company uh so that's just pure peer validation which and to be honest in this time and world if the father cannot get a couple angels to invest in them we have a different problem uh and then I look into I have to be in love in with two out of three things which is team product or market so I allow one of the three not to be perfect and lastly I asked myself a question would I work for this founder I love that question and if I'd say I wouldn't work for this founder like it's a no-go yeah yeah and it's very it becomes very black and white like would you work for someone yeah very clear to answer the question yeah hey so on that note um you talking about the three hours and the structure you know I know you're a pretty structured guy at least you put a lot of thought into the way you spend your time and and relationships and things like that I know when you when you reach out to me obviously we catch up but then you usually have a fairly cogent list of things you want to cover what advice do you have for Founders and CEOs about managing their time and sort of life I don't want to call it work-life balance but just like the you know it's hard being a CEO is a hard job and in particular in 2022 it's a really freaking hard job this year so any advice or thoughts you can share lessons you've learned along the way about handling the role you touched upon this one so open up your calendar and then put an agenda and then into every meeting invite you have on your calendar and if you cannot come up with agenda for that meeting kill it cancel the meeting that's it yeah you literally have nothing to do with a person which means you couldn't

come up with a good agenda why are you  
having the meaning  
and it probably also helps you limit the  
time right you don't end up spending 30  
minutes chit chatting if it's not on  
your agenda exactly and you can budget  
five-minute chit chat but then you're  
gonna have agenda items yeah  
and I mean that that is important like  
media hygiene uh I've tried all kinds of  
products people AI itself I mean it's  
not our core kind of product Direction  
but there is also a YC company called  
Time Tackle it basically downloads  
account it allows you to tag calendar  
and gives you analytics uh which was  
helpful in the beginning to just find  
time sucks  
um and then uh in the beginning I heard  
I learned from my father probably seven  
or eight years ago I there was a guy  
named David castens I've I don't know  
where he is now but  
um he basically told me for things he's  
not sure about like inbound request he's  
not sure but he just ignores  
and if it's important they'll ask again  
yeah and if it's really important to ask  
again and he's like 80 of things just go  
away on their own yeah there is some  
logic to that yeah I mean I'm not fully  
subscribed into that logic but then on  
the other hand uh you have to account  
manager your calendar is one thing but  
managing your inbound and having a  
system of triage for your inbound is  
nothing so for example like I literally  
have set up rule sets with my assistant  
of things she can just archive and I'll  
never see them in my inbox uh and then  
more importantly she goes through my  
inbox every day and bumps up things that  
that are important to her and I teach  
her what's important what's not over  
time it becomes better better and better  
and then I block off  
um certain priority times per week to to  
clear out the backlog but then on the  
other hand you can never reach that  
elusive inbox zero so you have to have a  
sound yeah  
all right let me shift gears to the  
personal side so you're from Ukraine uh  
the last year has been  
crazy you and I have chatted a lot about  
um  
your background and sort of what's going  
on I just love any  
any thoughts you can share on on I don't  
know what stories you're willing to tell  
or how much you want to share with  
people that um you have a pretty amazing  
story just in terms of your background  
having grown up there and your  
relationships with a lot of the folks  
that are you know frankly leading the  
country and I'd just be curious any  
anecdotes or stories you can share that  
that you want to yeah absolutely so  
uh but what's interesting is  
um I find that this is probably the  
first really open source War  
that ever happened the first open source  
conflict on the planet uh where what  
people don't realize is that a lot of  
the Ukrainian military is actually  
engineers

computers they they graduated they got  
drafted and they are motivated to go and  
fight which leads to a lot of  
engineering approaches taking place on  
the front lines and and then that's what  
we're seeing we're seeing an engineering  
driven approach to non-engineering  
approach on the on the battlefield uh  
some of the stories I mean there are  
some kind of where we haven't thought  
about it where in the first hours of the  
war all the mapping providers Googles  
apples of the world Etc  
um I mean actually let me try back when  
you put 50 trucks on a highway moving at  
30 miles an hour  
every traffic system wages of the world  
Etc is going to say there's traffic on a  
highway  
turns out when the war starts there's a  
lot of convoys that are fending out from  
the cities and so we as a society  
weren't prepared to the fact that  
technology  
is actually going to have a major say in  
how  
the war today is land yeah and so for  
example turning off a traffic layer  
which Google and apple both did early in  
the war was an important thing to not  
expose military assets on the Ukrainian  
side now these were starlinks when how  
important those were turns out  
connectivity uninterruptible untrackable  
unjammable connectivity I mean arguably  
that's one of the biggest game changers  
of this entire battle has been the fact  
that starlink and I know you played a  
role in that  
went live in Ukraine what the day the  
day after Russia attacked or four days  
after yeah I mean had that not happened  
I can't even imagine where this would  
have gone well I mean the interesting  
thing is uh all satellite Communications  
from other companies were compromised at  
the time so  
um so yeah definitely this would be a  
very different outcome had not startling  
uh been delivered to to Ukraine there  
but also there is other things that are  
happening right now that people don't  
realize that we only have seen in the  
movies  
for example  
um drones forms these Iranian drones  
that are happening  
this is the first time  
a military is using a software-defined  
drone swarms  
to economically overwhelm defending side  
what does that mean can you explain that  
for folks so the Iranian drones Iran  
being on the sanctions for what more  
than a decade now had it made a decision  
that any drones they built have to be  
built in anything you could buy on  
Alibaba that's the rule  
if you cannot buy an Alibaba you cannot  
build it wrong  
which which is smart because now you  
can't put in any sanctions because  
that's what it is  
and so the drones that they built they  
the Swarms they have like a Mothership  
drone and then they have a bunch of  
really cheap drones the cheap ones cost  
twenty thousand dollars above with  
everything with margin like 40 60 profit  
margin Etc  
and they're super dumb they're just  
going from point A to point B and then  
they find the hottest thing that's there



they have as infrared sensor and then  
slam into that thing  
now where the economics come in that is  
really really dangerous is that those  
things are so grand  
again if they fly so high that you  
cannot take them out with cheap things  
you have to launch a three to five  
hundred thousand dollar surface steering  
missile to take out one twenty thousand  
dollar drone wow  
now you fly 50 of those drones and  
suddenly you DDOS  
um enemies or your your defending sides  
um a real defense system  
so this was not possible when you had to  
have 50 video links and 50 uh operators  
and whatnot and people detecting where  
the people are this is fully autonomous  
it's happening right now and this is  
exactly what the horror movies were  
three years ago yeah  
it's so wild and you also were telling  
me stories about  
you know given the technical  
sophistication of the Ukrainian  
population as well as the Army their  
ability to leverage all these open  
source Technologies and build  
various  
things in the field that didn't exist I  
mean literally building them on the fly  
we generally think of military as like  
you know five ten year product  
development cycles and they were  
literally building things or have been  
building things on the fly yeah  
Ukrainian C3 software so command and  
Control software that they're using in  
the field is a fork of an open source  
piece of software that you can download  
today  
and there are literally people who are  
shooting a gun and then going back into  
the trench firing up a star link and  
writing uh writing a commit and  
submitting it to GitHub uh amazing  
happening all over the place and I mean  
that's the that's the new speed of War  
which is speed of Open Source or Cloud  
software yeah and we can see really  
clearly how one side is staying abreast  
of it and the other side is really not  
keeping I'm not even getting it yeah  
well I want to be conscious of time but  
if we're all uh optimistic about how it  
all plays out where do you think  
Ukraine and Russia are a year from now  
or in whatever time frame if we're if  
we're if we have a positive light I'm  
not going to speculate in the Russian  
side but there is a semi-dream  
semi-vision for Ukraine that a lot of  
that myself and as well as a lot of  
people in Ukrainian government are  
really sharing which is there's another  
country on the planet that is surrounded  
by hostile environment that has gone  
through a number of Wars has been very  
technologically savvy and has spawned  
some of the world's best companies and  
has one of the most impressive economies  
on the planet it's called Israel and so  
um like Russia is not going anywhere  
they're not going to relocate to another  
continent they'll always be a neighbor  
which means the only way Ukraine will be  
successful in the future is by following  
the footsteps of Israel and and building  
hardened but yet very liberal and very  
sophisticated Society on the on the  
border with the Enemy that that allows  
them to evolve  
I hope you're right  
Israel's an amazing place and an amazing  
country we're lucky to have a number of  
Founders in Israel and our team spends a  
lot of time there and it's uh  
there's a ton of innovation coming out  
of there and I I you know I I love that  
Vision I hope Ukraine becomes a hotbed  
of innovation and obviously I hope it  
all ends you know in the most positive  
way it can well I mean if you imagine if  
you had a chance to be a seed investor  
into every Israeli company it is it's  
it's trillions of dollars in Enterprise  
Value that was created like well  
hopefully that hopefully this all ends  
in in some peaceful way and hopefully  
there is a ton of capital that flows  
into Ukraine not only for that reason  
obviously there's a lot of rebuilding is  
going to have to take place but you know  
people see it as a place where there is  
innovation an opportunity that'll be  
that'll be an exciting outcome so yeah  
and I I believe that's going to happen I  
believe it's going to happen we have a  
lot of people who are very supporting  
and uh  
um I I do think there's a lot of work to  
be done both in terms of investing but  
also the whole world will be rebuilding  
Ukraine I mean it's true we'll go into  
economy and when you have  
uh in the new Marshall Plan  
uh good things happen good companies are  
born new Industries are being created  
yeah and you're also going to have  
almost a million off  
um people a lot of Engineers with combat  
experience coming back with a number of  
ideas both of how the society but also  
the military and the technology should  
operate so it's going to be a big  
creative spur  
awesome we're praying for you thank you  
all right oh look thanks man thanks for  
being such a great founder thanks for  
being a great mentor to a number of our  
Founders and  
um  
and thanks for sharing all your thoughts  
I appreciate it man thank you Jeff and  
I'm glad to thank you for begging me as  
one of the first people to back here and  
myself as a as a founder and being by my  
side for always almost seven years now  
that's pretty incredible I I was  
thinking five but seven is uh you know  
it's a long time but I think it'll be  
our seventh anniversary it's been it's  
been a lot of fun it's been fun to watch you build thank you all right man thanks thanks all like great thank you Anna thank you so much

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AI-powered Jerry raises \$28M to help you save money on car insurance  
Mary Ann Azevedo@bayareawriter / 6:56 PM GMT+3•May 17, 2021  
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Jerry Co-Founders Lina Zhang, Art Agrawal, Musawir Shah / Jerry  
Image Credits: Jerry co-founders Lina Zhang, Art Agrawal and Musawir Shah / Jerry  
When Art Agrawal was growing up in India, a car ride was a rare treat, and car ownership was a dream. When he moved to the U.S. and bought his first car, he was shocked by how much it cost and how difficult it was to maintain a car.

In 2012, he co-founded a company called YourMechanic (and won TechCrunch's Disrupt that year) that provides on-demand automotive mobile maintenance and repair services. Over the years, the challenge of helping consumers more easily find car insurance was in the back of his mind. So in 2017, he teamed up with Lina Zhang and Musawir Shah to found Jerry, a mobile-first car ownership "super app." The Palo Alto-based startup launched a car insurance comparison service using artificial intelligence and machine learning in January 2019. It has quietly since amassed nearly 1 million customers across the United States as a licensed insurance broker.

"Today as a consumer, you have to go to multiple different places to deal with different things," Agrawal said. "Jerry is out to change that."

And now today, Jerry is announcing that it has raised more than \$57 million in funding, including a new \$28 million Series B round led by Goodwater Capital. A group of angel investors also participated in the round, including Greenlight president Johnson Cook and Greenlight CEO Timothy Sheehan; Tekion CEO Jay Vijayan; Jon McNeill, CEO of DVx Ventures and former president of Tesla and ex-COO of Lyft; Brandon Krieg, CEO of Stash and Ed Robinson, co-founder and president of Stash.

CEO Agrawal says Jerry is different from other auto-related marketplaces out there in that it aims to help consumers with various aspects of car ownership (from repair to maintenance to insurance to warranties), rather than just one. Although for now it is mostly focused on insurance, it plans to use its new capital to move into other categories of car ownership.

The company also believes it is set apart from competitors in that it doesn't refer a consumer to an insurance carrier's site so that they still have to do the work of signing up with them separately, for example. Rather, Jerry uses automation to give consumers customized quotes from more than 45 insurance carriers "in 45 seconds." The consumers can then sign on to the new carrier via Jerry, which would even cancel former policies on their behalf.

Image Credits: Jerry

"With Jerry, you can complete the whole transaction in our app," Agrawal said. "We don't send you to another site. You don't have to fill out a bunch of forms. You just give us some information, and we'll instantly provide you with quotes."

Its customers save on average about \$800 a year on car insurance, the company claims. Jerry also offers a similar offering for home insurance but its focus is on car ownership.

The company must be doing something right. In 2020, Jerry saw its revenue surge by "10x."

For some context, Jerry sold a few million dollars of insurance in 2019, according to Agrawal. This year, he said, the company is on track to do "three to four times" more than last year's numbers.

"There's no other automated way to compare and buy car insurance, because all the APIs are not easily accessible," he said. "What we have done is we have automated the end to end journey for the consumer using our infrastructure, which will only scale over time."

Jerry makes recurring revenue from earning a percentage of the premium when a consumer purchases a policy on its site from carriers such as Progressive.

"A lot of the marketplaces are lead-gen. A very small percent of their revenue is reoccurring," Agrawal said. "For us, it's 100% of our revenues."

Goodwater Capital's Chi-Hua Chien notes that the insurance space has historically been a very challenging category from a customer experience perspective.

"They took something that has historically been painful, intimidating and difficult for the customer and made it effortless," he told TechCrunch. "That experience will more broadly over time apply to comparison shopping and maintenance, too."

Chien said he was also drawn to the category itself.

"This is a competitive category because 100% of drivers need to have auto insurance 100% of the time," he said. "That's a large market that's not going to go away. And since Jerry is powered by AI, it will only serve customers better over time, and just grow faster."

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Azerbaijan and Armenia clashed last year over control of Nagorno-Karabakh, a region recognized as part of Azerbaijan but which had been controlled by ethnic Armenians for decades. Following a Russia-brokered ceasefire, Azerbaijan reclaimed large swaths of territory previously held by Armenia. (Photo by Aziz Karimov/Getty Images)

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8:27 AM GMT+3•May 25, 2023  
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AI  
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Kyle Wiggers, Alyssa Stringer  
6:26 AM GMT+3•May 25, 2023  
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ChatGPT welcome screen  
Gaming  
Marvel's Spider-Man 2 features Miles with web wings and Peter in symbiote suit  
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Sony PS5 spider-man 2  
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Enterprise  
Snowflake acquires Neeva to bring intelligent search to its cloud data management solution  
Ron Miller  
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Snowflake is all about managing data in the cloud, whether as part of a structured data warehouse, or less structured data lake. Neeva, a search startup from two former Google employees, has been a...  
Futuristic file cabinet, that represents data storage in the cloud.  
Gaming  
Sony's PS5 streaming Project Q handheld will launch this year  
Brian Heater  
12:25 AM GMT+3•May 25, 2023  
Project Q is real, and it's coming soon, Sony confirmed during today's PlayStation Showcase event. Jim Ryan, the president and CEO of Sony Interactive Entertainment, revealed the upcoming handheld'...  
Sony's PS5 streaming Project Q  
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The Virgin galactic logo above an image of the Earth from orbit.  
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Aria Alamalhodaei  
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<https://www.youtube.com/watch?v=k35GrJHDBPs>

at olson great to see you my friend how

are you hey tom how are you i'm great

good good we've known each other for a

few years now we did some work together

and i'm just excited to have you on our

podcast today you are

at least in my mind one of the top

probably 10 folks in the world who are

leading and doing autonomous vehicle

work and you guys aren't just talking

about the theory of it and sort of the

science project aspect of it like a lot

of companies are you guys have been

doing it you've had vehicles on the road

for years now

um that are truly autonomous and so

you know why don't we start there just

give us uh give us a status of where we

are in you know late 2021 when it comes

to autonomous vehicles

well i think uh we're all sort of slowly

figuring out that autonomous vehicles

are really hard

and uh lots of lots of dollars are going

into it because the opportunity is so

great it's attracting a lot of capital

and a lot of interest

i think what we've been doing is trying

to figure out what's a what's a more

incremental approach towards building an

av company sort of you know instead of

going off into a corner and going into

research mode for

four or five years and then eureka we've

got the product uh our

our mo is much more let's build

something let's get it out to a customer

let's see what we can learn about it and

let's use that to iterate really fast

and that's that's what we've been doing

over the last few years

and quite successfully

every time i

check into linkedin you guys are adding

a new city or somewhere in the world i

know you launched in japan i think it

was earlier this year

um i know you've gotten

millions tens of millions of dollars

from different companies like toyota

so how are you guys doing and what's

making you successful you think

well you know i think one of the things

that is is very that weighs very heavily

on me is why do people come to may

because there are other av companies out

there and any anyone at our company

could be somewhere else they're they're

choosing to be here for a reason

and oftentimes we work them harder

they could go somewhere else and work

less hard and probably make the same

money so what keeps them at may

and that

that's that's been a really important

thing for me to wrap my head around

and you know it comes down to the

mission of the company they're here

because there's there's an itch that

they have that we can scratch that they

can't get scratched as as easily

anywhere else and so i want to i want to

keep people here and motivated by our

mission which i kind of skipped past but

the the thing that we're really excited

about is is not just avs but avs as a

way

of uh transforming cities

so you travel a fair amount

you've experienced like you go out to

you're you're on the road you're in a

hotel room you look out the window and

what do you see when you look at the

hotel room

depends on where i am but

a whole lot of cars and a whole lot of

concrete

yeah yeah and i hate it because you can  
look at your window and there's like the  
eiffel tower something amazing and it's  
surrounded by streets and parking and  
lots of transportation that doesn't  
serve anyone very well and the same  
thing's very true here in the detroit  
area

as well that there's just a huge amount  
of real estate devoted to  
expensive inefficient infrastructure  
and the exciting thing and i think the  
reason that people come to work for may  
is because we can see a future  
where cities can be more walkable more  
friendly more uh quieter where you can  
have

uh where you can sit down at a cafe  
on the outside under a tree with  
a quiet mixed mode traffic uh calmly  
driving by kids playing on the sidewalk  
next to you go walking to school instead  
of taking a big school bus  
and you know it's funny because none of  
those things say autonomous vehicles  
but it's actually autonomous vehicles  
that make that kind of future city  
possible by really redefining what the  
economics of transportation systems are  
and that that is something that that uh  
that i think appeals a lot to may  
i like to say that we're trying to build  
a company of

missionaries rather than mercenaries  
i love it i love it you know it was an  
interesting image that just popped in my  
head and we've you know we've been we  
worked with you guys for quite some time  
and helped you with a lot of that  
mission discussion and and it's not  
about the mission statement it's about  
how do you bring that alive into  
people's imaginations um but for the  
first time ever i had this image of like  
being in you've brought the eiffel tower  
being in a city like paris  
and usually the traffic really is so

loud you know you've got  
the the engine noise you've got people  
honking you've got people cutting each  
other off you know it's it's almost  
deafening if you're close to the road  
and now for the first time i actually  
saw this image of like being just as  
close to the transportation  
but at you know a third or less of the  
actual volume um i love that imagery  
that's really cool

yeah and i think it's achievable because  
a lot of the sound the the volume comes  
from speed

and if you can have  
an efficient flow of vehicles turns out  
like 20 miles per hour is enough to get  
you anywhere you want to go in manhattan  
in a fraction of the time that it takes  
you to get there today today there's so  
much congestion uh the average speed of  
a taxi in manhattan manhattan's 4.7  
miles per hour  
but if you could actually have the  
traffic calmly flowing at 20 miles an

hour you get there in 25 the time  
and cars traveling at 20 miles per hour  
are not loud especially you know the  
kinds of electric vehicles that that we  
are focusing on  
fascinating so  
so help us uh neophytes um who aren't in  
the top 10 when it comes to autonomous  
vehicles and all this work  
understand what that means so what do  
you mean by  
a  
more efficient you know pace of 20 miles  
per hour what would that actually look  
like  
well i think the the number one problem  
that we have is that uh transportation  
planners know the transportation  
problems that they face in their cities  
today  
uh they but they don't always have the  
right tools to solve those  
transportation problems uh most some  
cities some transportation planners  
might have subways or light rail to play  
with but a lot of them really only have  
buses  
now if you think back to yourself the  
last time you saw a bus how many people  
were on that bus  
probably not very many most of the buses  
that we see even in ann arbor are nearly  
empty  
and the problem with that is i mean  
there's a reason for that oftentimes  
that that they don't provide the level  
of service that attracts ridership  
the buses are expensive they can only be  
in one place at a time and so the  
transportation planners have to do the  
best they can with a small number of  
buses because they can't afford any more  
but the result is a relatively low level  
of service that most riders won't  
are not excited about and you know you  
or i we can afford to take a lyft or an  
uber we can afford to sit in the back  
seat with our laptop and and hack away  
on emails while we're stuck in traffic  
rather than take the bus  
but what that does is it actually makes  
everything worse because we're  
contributing to congestion at the same  
time that we're not helping promote the  
public transit services  
so to answer your question what i what  
i'm envisioning here is a transportation  
system that actually appeals to a very  
broad section of the  
of the population the affluent the poor  
the disabled uh the kid kids going to  
school because if you can provide  
a transportation system that appeals to  
a broad market  
then you can end up you can end up in a  
place where you can afford to invest in  
a public transit system that works  
that's scalable that keeps cities  
solvent and is a service that you and i  
would choose to ride instead of taking a  
lyft or an uber  
yeah yeah because it's it's accessible

we know the impact and we're all the  
sort of society at large is benefiting  
from that

um what's that future look like when you  
think of maybe um

interstate transit you know talking  
about the united states for instance you  
know i was i just went on a trip with my  
family for my my in-laws 50th wedding  
anniversary and we went out of state  
awesome talk talk about that what is  
what will that future look like

well i think out of the gate it's going  
to be a while before autonomous vehicles  
can make

uh interstate travel just because of the  
amount of freeway and and  
validation required to cover those kinds  
of distances

but you know an interesting question  
would be if people start giving up  
personal car ownership  
because their day-to-day transportation  
needs are met better by taking a may  
shuttle than by owning a personal car  
then that might actually shift their  
interest to looking at trains and other  
modes of transportation that instead of  
driving to

chicago you might choose to take the  
train and maybe if you and a lot of  
other people are choosing to take the  
train there would be better trains  
and so there could be a lot of positive  
impacts once we can really make the case  
that individual car ownership  
is is not the the best solution for for  
many people

yeah it's a it's a complete mind shift  
you know you can get to those um euro  
trains where we can get from detroit to  
chicago instead of four or five hours in  
a car you can get there in an hour and a  
half on a train because it's a it's a  
bullet train

and today it's a it's a very pleasant  
four to ten hour train ride

that's that's no joke yet i got my my  
mba i was still living in the detroit  
area but i was getting it in chicago and  
so every other weekend i jump on the  
amtrak

um almost every other weekend sometimes

i drive it was great by and large but  
there was a few times where

you know uh passengers are second-class  
citizens you know the freight trains  
actually are our first priority  
and there were a few times where that  
four hour five hour trip took

12 hours

and you're stuck on a train so we're a  
long way to go from that that future but

it is exciting to to think about you  
know as we we're on a culture podcast  
we're on a leadership podcast so we  
could spend the entire time talking  
about sort of the autonomous vehicle  
component of this but i want to bring it  
back to that that mission

and

you know that imagery that you that you  
planted in our heads around that future

and

um just talk a little bit about why is that mission important to you personally

what what is it about that that gets you excited

yeah well you know uh i didn't start off as a as a transit geek

you know i started off really with a passion for technology and and applying technology to real world problems

and and that's that's that for me provides uh enough energy to keep me going and excited

what i what i realized as i was starting may is that building cool stuff and getting it into market

is is only really part of the picture and that you can start to flesh out

uh flesh out the mission of the company from build really cool things and get it out of market into ways that start to bring in other parts of your brain that start to appeal to like actually you know uh

life could be better cities could be safer pedestrians wouldn't be great if i could walk walk to if my kids could walk to school rather than taking a bus

and so bringing in all of those ideas and and packaging them into a mission statement that's

uh hopefully inspiring uh that that gets people excited about what we're doing is is a great way to to recruit people to the company and to align us around what's really important

and what do you what do you do with that on a weekly basis how do you continue to um because we would argue that the mission statement at best is a reminder of the mission that you're on you know it's it's at best very few mission statements kind of get people inspired or excited so how do you go about putting that into your team's imaginations how do you remind them of the mission that you're on in a regular way

you know i think a fail failure mode of many mission and vision and value statements is that

they they go up on the wall and then that's the end of the discussion about the mission and the vision and the value do you have a mission vision value check

uh and that doesn't cut it it's it's a little surprising to me how often um we keep coming back to it we need to keep coming back to it one and one reason is because we're growing really really fast and there are people who haven't heard me

talk about looking out the window and seeing parking structures rather than parks

uh that's and so repeating it is really important

and the other thing that i think is really important is you know how do you build a company that can scale



and and uh i think there's actually a deep connection between the scalability of a company and establishing a clear mission vision and value statement and that comes down to like how a company makes decisions when when our company was very very small we had basically two ways of making decisions like the six of us would get around a table and we would sometimes decide by a consensus and sometimes we would decide by asking ed asking me what what the decision is and neither of those are very scalable right as the company gets bigger and we're making hundreds of decisions a day and now we're 190 people we can't yeah i know we keep getting bigger and bigger neither of those decision makers just for the listeners out there when we started working together which i think was about two years ago and um you were not even half of that and so that's that's just phenomenal growth it's it's a lot to stay in front of um but you know with 190 people you can't just make decisions in the same way they can't all come back to me and we can't all gather around the table to decide by consensus and so the question is how do you make decisions and i think it's it's about knowing being able to delegate so you need to be able to decentralize your decision making empower your leaders to make decisions but how do you do that how do you know if you're the ceo that your vp is going to make the right call that they're going to make something that you would you would be comfortable with and that's what points right back to mission vision and values if you are aligned on on your on the mission and vision and and the values of the company it gives you a a framework to to believe that your your team are going to make good decisions without you having to be there and so that's that's really been the thing that i've been trying to channel uh because of course there are engineers we have a lot of engineers a lot of them listen to this sort of mission vision value stuff and kind of you see the eyes rolling like uh mission vision values um and i actually say actually i get that but think about how you scale decision making and i i explain what i i just did now and they're like oh okay okay um and the door is open at that point to to talk about how how we align in advance on what's important so that we can later on make decisions independently yeah

you're providing a framework and a a  
system through which people can make  
millions of decisions you know and not  
having to script every single decision  
um that's the difference between i think  
a an organization that empowers its  
people and pushes the decisions down to  
the front line as close as possible and  
those that are stuck in you know  
micromanagement land  
yeah and  
it's still hard right  
you still worry like are all the  
decisions going to be made the right way  
uh but this is this is the beginning  
right this is how you can start to  
establish that  
decentralization  
and and after a while you start to  
realize that like hey it seems to be  
working pretty well and it makes it  
easier to lean into  
we'll talk about your your own journey  
there ed because um obviously i'm privy  
to it um  
um so share whatever you're comfortable  
sharing but talk about your own journey  
and this sort of  
evolution that you've gone through as a  
ceo and as a leader  
well  
uh so i've told this story before but uh  
you know when i first started i'm a  
first-time ceo uh the the reality is i  
don't really know what i'm doing  
um and you know you rely on  
on tropes uh on like things you've seen  
on tv things you've read it works of  
fiction on what a ceo is supposed to do  
and there's this this model uh of of  
what a ceo  
is or should be  
liberal air quotes here should be  
uh you know the ceo who who knows  
everything is amazing problem solver can  
solve any problems there's a conference  
room people are arguing they don't know  
how to how to get the sales numbers up  
what happens the cu goes into the room  
says don't worry i'm here i've got this  
you do this you do that  
problem solved see you later and you  
know just triumph after triumph um and  
and that's that's a not a good model  
it's a work of that isn't truly a work  
of fiction it is it is and you know you  
add to it  
uh doubt about  
um  
you know whether you really know what  
you're doing because of course you don't  
know what you're doing nobody's ever  
built may mobility before  
even experienced ceos would be in the  
deep end on a new company with new  
problems  
uh you add in you know insecurities  
about are people going to  
worry that ed doesn't know the answers  
that that oh is this company going to be  
adrift  
are we all going to go down if ed

doesn't know the answer

and a lot of those sorts of

weights you know can bring out that

kind of behavior of feeling like this is

the part

that i've been cast to play

the the person who's going to come in

and know all of the answers

uh but like you said it it doesn't work

that's that's a it's a disaster

um

and uh you know it led to to challenges

at may

uh

you know led to a lot of bumpy

conversations

and and it's something i've really had

to to learn from and try to figure out

what is the

what is my role as a ceo

and i mean it sounds sounds so stupid

but you know you're it's not all a

cognitive exercise a lot of it is like

that that reptile brain that's telling

you stupid things uh trying to you try

you eventually have to just yell down

the reptile brain which says it's okay

ed if you don't always know the answers

so what's the status of ed today if

that's if that's you a couple years ago

where you're kind of this superhero that

has all the answers and

um and where are you today in that

journey from a leadership perspective

you know it's uh you're never done

so you can kind of come around one

corner and then then realize that

there's a you know another hill in front

of you

um but uh you know i feel like i've come

a long way

uh i feel like my team is is functioning

at a level that uh is really

extraordinary and really exciting and

and the best thing about it is that it's

it's not like a a endless slog where

every hill is steeper than the last one

you just got on you start to see

uh the positive aspects of

you know you make some changes and and

good things happen and you're like hell

yeah i want more of that

and you know you just kind of start

working the feedback loop and yeah

there's still challenges and there's

still times when

when you know we're trying to figure out

when we got a really hard conversa a

hard decision to make um you know

how are we going to navigate that who's

going to make the final call

uh that's that's hard it's gonna keep

being hard but it it's it gets easier

all the time

yeah and i think if i were to underline

anything in that that

you said you're never done and i think

that's

that's so critical i think for

especially for young leaders out there

who are

learning this whole leadership

thing you know i know for me i thought

well i just need to figure it out once i  
figured out  
then i'll have it mastered and  
that delusion got me in a lot of trouble  
um what i what i've shifted to over my  
life is that leadership is an infinite  
journey you know that we're we're never  
gonna get there we're just gonna keep  
getting better and better and better and  
so long as we're better than we were  
last week  
then that's that's all we really need to  
care about is focusing on continuous  
improvement  
100  
and and i think  
you know challenging yourself you know  
knowing where you are are weak  
uh where you can use to stand to grow  
uh and and kind of leaning into it's  
really important um you know i think one  
of the things i do reasonably well is  
get people excited about may and what we  
do and why it matters  
um and we talked about sort of  
leadership management and coaching uh i  
think i'm pretty good at that sort of  
leadership inspiration thing i think i'm  
okay at coaching  
i think i'm pretty abysmal uh on the  
management side uh and that's that's a  
place where my minnesota nice really  
works against me you know management uh  
being so important about uh  
getting people to sign up for things  
being accountable uh and you know  
committing to dates and and being  
responsible for the the work that they  
do  
and for someone who's minnesota nice uh  
it's that's that can be squarely in the  
the crosshairs of conflict of saying you  
know tom  
um you said you would have the  
the  
report ready for me last week and it's  
not here  
and inside my my brain is shouting like  
just just give them more time like the  
easiest thing in the world would be to  
just  
you know not have the conversation  
and so that's that's a  
that's that's an example of a place  
where you know i continue to work yeah  
we we haven't told you that but we  
started working with three new clients  
in minnesota so we are we are inundated  
with minnesota nice right now and so  
for the listeners uh ed is from  
minnesota so that's why he's he's using  
that that idea that up there in the  
midwest really i think but in minnesota  
in particular there's this idea of being  
nice which is different than being kind  
you know  
nice is is much more  
sort of you're dancing around the issue  
we're as kind as you're going right at  
stuff because you care about the other  
person you want to get stuff done you  
know you're much more willing to be be

direct and i know ed's been working on  
that um and working on his you know his  
management muscle there because that is  
that is critical um i love that you  
brought up leadership management  
coaching because i know where you learn  
that from  
that's our some of our bread and butter  
here and the work that we do  
um leadership as you you talked about so  
the inspirational stuff you know  
management's all about getting stuff  
done getting people to make promises and  
then following up on those promises  
holding each other accountable you know  
all that and then there's coaching the  
the third leg of the stool uh and i know  
you said you're okay at that but i think  
you're probably  
underestimating your own your own  
talents there and and the the may  
culture because i know  
uh you guys we're coaching each other  
and you've come a long way compared to  
to where you were even just a couple  
years ago  
and i know at one point you said that  
that you see  
improving that and continuously  
improving the coaching culture as one of  
your  
key advantages that you'll have over  
other organizations out there so what  
does what does that mean why do you  
think having a coaching culture is so  
important  
yeah absolutely so you know part of i'll  
speak selfishly first  
that that uh you know i am a first time  
ceo i love this job  
uh i hope to still be the right person  
for this job five years from now  
but if i'm gonna grow professionally to  
be able to do that well and be really  
the right person the number one person  
in the world to continue to leave lead  
may in its five-year future from here  
i got a lot of growth to do there's a  
lot of stuff i gotta learn about  
and if i  
if i can get the people who work around  
me to coach me and help me  
identify where i'm doing well and where  
i need to focus  
and you know where maybe i'm just  
completely screwing up then  
that is the best way for me to be  
successful in achieving my goals which  
is to continue to grow and be be the  
right person to to lead the company  
and so  
even though i don't like being told when  
i'm not doing things right  
uh i i see the the essentialness of that  
to my my own goals and aspirations  
and it doesn't take a big leap from  
there to imagine that other people are  
probably  
uh in a similar spot right that they  
have goals and aspirations they  
they probably would benefit from  
from the expertise we have an amazing  
team here at may

and if everyone was really behind  
everyone else pushing contributing  
helping them know uh helping them  
improve and encouraging them towards  
professional growth  
you know you could imagine basically  
everybody sort of maxing out what  
they're they can achieve right  
full fully uh  
manifesting their their ability and that  
that's a recipe for not just like  
individual success but corporate success  
i want everyone at the company to be the  
biggest most accomplished version of  
what they can achieve and we can only  
get there if we can have real  
conversations real conversations where  
we can help and support each other uh  
both on the good side and in places  
where there's need for improvement  
and and how are you guys doing at that  
how do you how do you go about coaching  
each other because there's a lot of  
confusion out there i think  
around what coaching is versus feedback  
versus mentoring  
um i read a great article there did that  
said  
somebody's saying to you and they've  
actually studied this in the brain that  
um someone's saying to you can i give  
you some feedback  
is this is the kin  
to  
uh hearing footsteps in the dark behind  
you  
that it triggers the same sort of  
emotional and and  
brain reaction from your amygdala um so  
you know that's very different than a  
truly supportive  
what i'll call loving culture where  
we're actually helping each other grow  
and improve every day so how are how do  
you guys go about that oh this is super  
hard  
uh you know the same thing like the uh  
are you open to some coaching um kind of  
being a trigger  
uh same thing like when when uh you know  
your manager or anyone calls you wants  
to talk to you and they say you know  
tom um one thing you do really well is  
and you're like oh crap here comes the  
compliment sandwich right and you're  
just like  
[Laughter]  
and it's involuntary because you know  
there are these these sorts of recipes  
for  
um for providing feedback  
um you know and the other  
other challenge is that there are  
legitimate management uh tasks of  
providing feedback like you committed to  
do x you did not do x  
i'm holding you accountable for that  
and  
uh that's not coaching that's that's  
performance feedback that's management  
um  
but we we also struggle with with people

who

uh think that any negative anything that  
is negative or critical of their

performance needs to be opt-in

and that's that's really a corrosive

place to be too

because that just shuts down the ability

to manage effectively and you know if

you can't manage if you can't give real

feedback about how someone's doing

um

how do you how do you get to the place

where you can actually have a

coaching conversation you know to talk

about like hey here's some things you

might try here's how you know here's how

you can be more how i think you could be

more successful

so this is this is really hard it's it's

incredibly hard uh because we're all

just

people who are

uh oftentimes insecure about

what we're getting right what we're

getting wrong we don't really like

criticism i think most of us are

naturally conflict avoidant um

yeah so so trying to

what i'll answer this a different way

i'm kind of babbling

but one of the values of the company

was written down explicitly to encourage

uh these these sorts of important

conversations whether

especially on the management side

uh which is to invest in personal

relationships

which which to me means

uh

tom if i if i have a feedback for you

like hey that report was late that's an

uncomfortable conversation

there's a part of me that doesn't want

to do that the easiest thing in the

world for me is to not do it

but the value

is that i am willing to invest energy

invest my discomfort

in having that conversation because it's

an investment in you and your your

professional growth and your well-being

um you know it's almost selfish to not

do that

and that's

it's it's

this is one of those values of the

company that i think will forever be

aspirational right we're never going to

be able to put a checkbox in that we've

mastered this but it's there

deliberately as a reminder that it takes

an investment of energy it takes putting

yourself into uncomfortable places

to move that value forward

yeah yeah the

well your example isn't hypothetical

either i mean you and i have had

conversations where we have had it's

been uncomfortable for both of us right

and we've but in so doing we've helped

each other grow and get better at our

respective jobs then we've done it

because

we were committed to helping other  
person not because we were committed to  
our own comfort and so  
um  
it's it's a great example that it's not  
it's not easy it's not always fun  
but if you take your eye off of yourself  
and your own ego and how you feel and  
put your eye on okay what does this  
person need how can i help them  
it changes the whole game i think  
i i agree  
still makes it hard  
yes  
i remember one of the things that uh uh  
you or brad used to say um  
uh you know when you know you i think  
you would say are you  
willing to have this con this difficult  
conversation with a person  
uh and i think i said uh i no i'm not  
comfortable doing it  
and i think you said i didn't ask if you  
were comfortable i said are you willing  
to do it  
yes yes  
yes a good coach isn't isn't concerned  
about the person's comfort they're con  
they're concerned about the person's  
growth and so those are very different  
so um  
what would you say to you know this is  
on the context of  
you know shaping high-performing culture  
and shaping a high performing team that  
you know you've got these different  
tools and your tool belt you've got  
leadership you've got management you've  
got coaching you know we could spend  
another two hours and we'll we spend  
months with our clients helping them  
really master these tools and helping  
them shape a high-performing culture so  
we don't have time to fully get into it  
but what would you say based on your  
experience of the work  
um  
to a new maybe ceo out there who's a new  
startup ceo or maybe even an existing  
startup ceo who's a few years in the  
team is growing like crazy and all of a  
sudden you know they're saying oh my  
gosh i don't  
i'm struggling i don't know how to keep  
up with this i don't know how to keep  
growing myself and keep growing my team  
um what would what advice would you give  
to those folks out there  
i think the first thing that pops to  
mind is  
is almost that uh  
you don't need to expect this to be easy  
you need permission to find you you  
don't need  
you  
uh but i don't know what the right turn  
of phrase turn a phrase but if it's hard  
if you find it really exhausting  
difficult challenging  
that's okay that means you're like 100  
of the other ceos out there in the world  
and and so you know for me for example



having this this caricature of the super  
confident ceo  
who has no insecurities you know and can  
strut on stage and can solve problems  
with a wave of his hand and you know a  
clever retort to every  
every you know snarky comment  
um that's a hard hard thing to live up  
to and i wouldn't want to anymore but  
giving yourself permission to find it  
hard  
to find it something that it's okay that  
you need to work on it i think that is  
is one of the  
the most useful things  
uh the other thing i found really useful  
is the teasing a part of the job  
uh into different dimensions like like  
the leadership management and coaching  
uh i found it very emotionally hard to  
say oh i i'm struggling uh i must be a  
bad ceo  
and sort of like spreading out like well  
actually what does  
leadership what does being a ceo mean  
well it actually means a couple  
different things and i found it a lot i  
found some psychological safety  
and being able to say well okay i'm  
actually doing okay on this one i  
probably wouldn't have ended up as a ceo  
if i wasn't good at some one of these  
things  
and then being able to sort of zero in  
on ah okay i need to work on this one a  
little bit and this one i need to really  
focus on  
um so just kind of teasing apart what  
the the job description is  
what the the space of being good versus  
needing needing to work on things i  
found really helpful  
yeah so there's there's i think i heard  
two things in that one is to give  
yourself permission that it's okay if  
it's hard it's actually a good thing it  
means you're human um it means you're a  
human ceo and not one of those robots  
um  
we're working on those  
which will make you a much more  
effective leader when it comes to other  
humans by the way um  
and and two  
you know teasing apart the job and  
getting more specific there's almost an  
equation to this work you know that that  
brad and i are working on actually as we  
think about writing this well as we go  
about writing a new book um you know the  
what's the equation for creating a  
high-performing team in a  
high-performing culture  
because it it can be boiled down into  
some component parts that are universal  
and they're frankly timeless too you  
know the ideas  
um  
of leadership of management of coaching  
and you know how do you make these  
things conscious and how do we become  
more conscious as leaders and all those  
components go into

shaping a high-performing culture  
but you got to start with you know a  
recognition that  
you as a ceo you don't have all the  
answers i think that's critical um if  
you think you've got all the answers  
then you're in trouble um  
and you need to reevaluate because if  
you got all the answers you're not going  
to be able to grow your team very far in  
my opinion what do you think i i  
completely agree  
if you want a team of really fantastic  
leaders  
with you  
which of them are going to want to work  
for someone who  
always knows the right answer  
you know ceo who signals in everything  
that they do that uh you don't really  
need them  
um  
well the time is flying by ed what uh  
one more startup question and then we'll  
wrap up maybe with uh with the book  
recommendation um  
you know startups are hard my my wife  
has  
obviously been working one for a few  
years and she's doing phenomenally well  
with the pocket nest  
um but i watch her and i watch other  
startup founders i think of you all the  
time you know and the work you guys are  
doing is just you know beyond impressive  
it's but it's hard work um  
so what would you say to  
to fellow  
ceos out there about about this work  
about creating a high-performing culture  
oh wow um  
it's hard i i think that's that's kind  
of the the number one thing  
um but you know i think especially early  
on  
uh i could see that i was  
i was modeling behaviors that i did not  
want in the company right and when the  
company was small  
we got away with it or i should say i  
got away with it for a long time  
and so even early on in the company  
when you can get away with a lot of  
stuff like inefficient decision making  
strategies or  
uh  
you know you might have a more junior  
team that  
that doesn't push back on on the some of  
the bad behaviors you might have  
uh  
trying to to be very deliberate about  
how you want to grow the team thinking  
about what kind of ceo you want to be  
what how you're going to support the  
growth of your team  
and doing that early on is really  
important  
because any problems that you sort of  
plant in the ground  
in the early days are just going to to  
grow and become bigger problems as the

company tries to scale

yeah i love that there's a there's a lot  
there i especially love this idea of how  
intentional are you about helping  
yourself grow and your team grow  
because if you're not doing that as a  
ceo you're not doing one of your  
fundamental jobs you know which is to to  
grow your people  
because the only way you grow an  
organization is by  
is by growing your people so  
whether it's a  
leadership forum of other ceos or it's  
work like brad and i do or it's somebody  
else like that  
um so critical that you're uh you're not  
having  
uh pretend like you've got it all  
figured out you know go get some help go  
talk to people go talk to other ceos go  
go grow constantly learn and and  
strive to get better every day  
absolutely yep uh and it starts i think  
you know day one  
or at least with employee number two  
so what uh what book do you have for us  
yeah so you know you you actually  
mentioned earlier on that a lot of the  
the ideas about leadership management  
and coaching are  
uh kind of timeless that they  
they're they're not exactly new concepts  
and and when you you gave me a heads  
up that i should think of a book to  
recommend and  
and i said a high bar and i was thinking  
like okay which book kind of blew my  
mind  
and i couldn't think of one right i  
couldn't think of a book that like  
fundamentally transformed the way i  
think like most more like trust is good  
yeah i agree accountability is good yeah  
i'm with you  
um  
and and i it as i was thinking about  
this i what i eventually decided on is  
it's not any one book  
it's sort of like uh you know walking  
down swimming down a a swim lane and  
you're getting these little waves that  
kind of  
bump you in different directions you  
know and each book is is just a little  
bit of a a correction force that kind of  
steers you back to what you probably  
already knew or have read before but  
that for some reason had hadn't  
hadn't set its hook in you quite the  
right way and i'm mixing metaphors in a  
horrific way  
um  
so  
so with that in mind uh what i what i  
thought i would do is just the the books  
that came to mind that most recently  
kind of nudged me had an influence like  
oh yeah right that's an important thing  
um you know thinking fast and slow was  
was a one that that uh jumped out at me  
um five dysfunctions of team was a  
another one that i i read recently

um four disciplines of execution about  
goal setting uh that one was like okay  
yeah that's an interesting way to think  
about it  
um and then you know less on the  
leadership management coaching the rebel  
allocator was a was a fun read  
uh sprint about the the doing sprints  
was was a lot of fun  
um  
and uh measure what matters which is  
actually a book that uh i don't love but  
one that through reading it i felt  
myself sort of um nudged in a direction  
i thought was was helpful  
so kind of kind of all over the place  
there but i think the value of those  
books is actually  
like any time you get advice  
it's to scan the advice for what's  
what's worth what what resonates what  
what's what's the advice that you  
actually needed today  
and to be open to that  
uh and and not to create any one of  
these books as a bible  
yeah i love it i love it it's uh i think  
that's a great way to think about it is  
to i like this idea of nudging you down  
the path that every book you read  
can transform your life you know and  
most people  
i shouldn't say most many people don't  
read a lot  
because they don't they don't have quote  
unquote time  
the reality is we all have time we just  
got to pick how to use it and  
um just just the discipline of reading  
even 10 or 15 minutes a day can can  
literally be life changing what whatever  
you're reading um but what i think i  
hear from you is just just keep reading  
keep seeking keep trying to add  
knowledge to your repertoire because  
every one of the books you read is going  
to is going to add to your life and make  
you a better leader  
better parents maybe a better son you  
know better  
daughter whatever you know it's going to  
make you a better human being  
i i think that's right uh and i think  
there's you know little nuggets in in  
most of these books that  
uh you know might resonate you  
resonate with you uh and next month it  
might be a different chapter that was  
the one that was like oh right  
that's a good point  
so  
yeah  
kind of having a conversation with the  
books and and seeing where they  
uh  
where where they nudge you or or which  
one which advice kind of lands in your  
gut and it's like oh i don't like that  
that's an interesting question  
so why don't you like that and you might  
find you like you just wildly agree or  
disagree uh but that's that's a fun like

being a curious reader yeah  
be curious and be a lifelong reader just  
keep reading  
that's right i love it love it well this  
has been a lot of fun thanks for the  
time i appreciate it and uh  
we will chat with you very soon i'm sure  
thanks so much tom and looking forward  
to your book everybody should read it  
yeah that's right everyone go and get  
our book that doesn't exist yet it'll  
we uh we begin that journey in about two  
weeks and so in about who knows eight to  
12 months from now  
we'll have a book for everybody to  
to  
fall asleep to i mean to read  
uh and devour when it's finally done so  
um  
thanks ed  
thank you  
[Music]

<https://www.youtube.com/watch?v=uHmBZnll4go>

[Music]  
matthew hall here with another tv  
spotlight and i have a big man of  
seo of memora health  
and we met a few um a few months back  
and uh uh my mother had just raised i  
think uh 40 million dollars from  
transformation capital and that's money  
from andreesen and some others and he  
kept trying to explain to me what he was  
doing and i kept saying i think you're a  
chatbot for patience i don't quite get  
it and he kept saying no i'm not so i  
thought we'd get him on here and he  
could actually show us what what uh  
memorial health really does so  
thanks for coming on and thanks for  
being patient with me about my uh lack  
of understanding but i hope we're gonna  
clear it all up today  
yeah thank you so much for for having me  
on excited to walk you through the  
platform all right well um so let's  
let's start with the basics before we  
show anybody anything uh  
you're you have several i want to say 20  
to 30-ish  
clients in the uh in the hospital  
health system sphere and the basic role  
of what you're trying to do  
is what exactly  
yeah it's a great question so broadly  
what memorial does is we help digitize  
and automate different complex care  
workflows so there's three really big  
goals that any health system or  
healthcare organization is implementing  
memora around  
the first one is around reducing the  
burden on their care teams from all the  
manual work that has come from much more  
intensive care management processes and  
that has come from them having to invest  
more in managing patients outside the  
walls of clinical settings  
the second really big area is around  
much more proactively collecting data  
from their patients asynchronously to  
understand how they're performing that  
includes symptom data  
physiologic data patient-reported

outcome measures and and several other components and then the third really big bucket is

looking for tools who that allow them to much more proactively guide their patients through complex journeys so giving them significantly more touch points driving a much better experience and as a result almost consumerizing a little bit of the journey that a patient goes through so

we'll go into these healthcare organizations and we'll partner with them on identifying you know if you could design a best in class journey for what your patients go through including all the touch points that you want them to have all the educational information you want to send them

all the data you want to collect from them

without overburdening your care team and thinking about it from the lens of needing more fies to manage a process like that what does that look like and memora designs these intelligent text-based journeys that guide patients through the entirety of that process so what you know that'll include a combination of educational information reminders surveys answers to very simple questions that patients have

pros and different components like that and then we'll work with them on being able to intelligently triage that information

collect all that guidance back from the patient and then figure out what needs to be escalated and what needs to be written back into the medical record so how much of this is replacing you know nothing and how much this is replacing uh

patient information sheets the patient was discharged with or you know something they were given before they were they were supposed to things they were supposed to do before they came in you know obviously patients are on a journey we're talking about can we fill in all those gaps before and after and possibly you know during the the the medical stays um how much do you think you're you know building something that's

brand new and how much do you think there's actually replacing stuff that didn't really work but kind of what's happening before

yeah it's a it's a great question so i think the best way to contextualize it is just in the context of a story so let's take the example of a patient that's newly diagnosed with heart failure so a patient is experiencing an array of symptoms that are coming into the emergency room they end up getting admitted and they're diagnosed with heart failure

status quo what happens with that patient is

they go ahead and get discharged right there's an entire packet of information that they're taking home with them

around what steps they need to follow  
around what heart failure actually is  
things like that and when they're  
newly diagnosed and they're being  
discharged  
80 of the information that they get from  
at the point of discharge from their  
care team is it's in one year out the  
other year they go home  
read maybe 15 to 20 of that packet and  
in most cases because it's hard  
information to understand and it's hard  
to figure out when you actually apply a  
lot of that guidance  
and what ends up happening is when a  
patient has a question or a concern the  
first place that they go to is they're  
either sending that message in through a  
portal or they're picking up the phone  
and calling their care team and and  
trying to get it answered  
and the challenge is that  
one every single message that comes into  
the inbox is the exact same for a care  
team so you may wait a day two days to  
get an answer regardless of how you know  
high acuity it is  
when you pick up the phone and call  
you're never calling directly back to  
your care team in most cases you're  
calling to a call center gets routed to  
a care team you're waiting several hours  
to get an answer  
and it's challenging for them to just  
understand what steps you need to follow  
so that's one component the second  
component is what's happening on the  
other side of the equation which is  
for your care team member  
that patient got discharged and you come  
in every single morning  
you round on your patients you log into  
the medical record  
and  
manually identify hey what patient was  
discharged three days ago right and who  
do i need to pick up the phone and call  
because it's been 72 hours now and then  
you have to remember to actually make  
that call  
you have to go into your inbox and you  
see a couple hundred messages  
and manually sit there and go message by  
message and respond to them and and some  
of them you know eighty percent of them  
on average are not even things that you  
as a care team need to be handling right  
there they're things that  
in a lot of cases just end up getting  
forwarded to another another part of the  
organization  
and it's frustrating just because  
there's no really workflow enablement  
tools that guide the care team through  
hey we're just automatically going to  
check in with this patient or we're  
going to remind you so that you don't  
have to remember that it's been three  
days or we're going to tell you that  
this patient is coming in and it's  
important that you remind them to get  
their colonoscopy done or get their eyes  
checked or something like that right so  
post implementation what that looks like  
and the processes that we're offsetting  
are one

for patients the process is no longer  
i have to read through this 40 page  
packet and figure out what is pertinent  
to me and i have to figure out how to  
process all this information and every  
time i have a question wait several  
hours for a response it's  
i'm gonna get daily guidance on what  
steps i need to follow and when i have a  
question i can text it in to this  
channel  
and i'll either get an immediate answer  
or i'll have confidence that's  
immediately going to my care team and  
going into their inbox in the medical  
record  
on the care team side it's as your  
patients are going through their care  
journeys you don't have to manually  
remember and take on the cognitive  
burden of figuring out what steps every  
single patient needs  
you have a system that's actually  
almost supercharging your efforts and  
making sure okay  
you want to make sure every single  
patient 72 hours after they're  
discharged with a new heart failure  
diagnosis gets a follow-up that just  
asks how they're feeling or ask them if  
they picked up their medication memorial  
will automate a step like that so it's a  
lot of automating the actual crux of  
coordinating care across an entire care  
plan um that you know  
ninety percent of that work gets done  
right now just manually by the care  
teams  
right fantastic all right why don't we  
dig in and see what it actually looks  
like from the perspective of  
the patient and the care team you gotta  
show me an example i think of maternity  
care um and then uh i'll give you an  
idea of how this actually works and then  
when we're done with the demo we'll  
we'll take a discussion about you know  
how complex this is to make you know  
something as simple as following up with  
the patients every two hours later  
how complex that actually has to be yeah  
absolutely so um we'll walk you through  
a very abbreviated kind of demo and  
version of the platform uh the thing  
i'll call out just before i do that is  
when memoria partners with a healthcare  
organization  
traditionally our approach is that we'll  
have these clinically validated  
guidelines and workflows that we've  
designed in all these different complex  
areas so we've built an entire  
repository of journeys in  
you know  
maternal care in oncology in orthopedics  
in chronic care management and primary  
care  
you know in kidney care and several  
complex areas  
we'll share those with those clinical  
teams  
they'll identify hey this is in line  
with the protocols that we follow  
this is not in line and we want to tweak  
it slightly but in most cases we're  
going in to them with an entire  
set of clinically validated workflows



that our we have an in-house clinical team actually maintains manages and consistently updates so with that context in mind we'll walk through one example of those workflows which is around navigating somebody who's who's expecting so the first component that you're seeing here is an interface that our care teams will end up using directly through their medical record there's two components i will walk through in this abbreviated demo the first is what's the experience like for a care team and second is what's the experience like for a patient and at a very high level the way that care teams are traditionally asked accessing memora is directly through their emr so we'll build an integration with the emr where you can see an embedded version of this interface as a frame inside the medical record the important piece to call out here is that memora works pretty seamlessly with your medical record system in the sense that we don't create a brand new inbox and we don't create an entirely new repository that you have to proactively track whenever messages come in or concerns come in that the mora platform is triaging we'll automatically escalate those directly into the emrs inbox so in the example of epic that would go to their inbasket right and make sure that people can seamlessly monitor this in the context of how they would monitor any inbox message that comes in right now or any portal message that comes in right now so when a care team member comes to this interface the first thing that they see is that we have intelligent logic on the back end that helps us triage patients and identify which patients are actually the most concerning or which patients have active concerns that need to be addressed they're moved to the top of the list right so naturally there's already intelligence that's processing the messages that a patient is sending in the way that patients will populate here is we'll integrate the medical record at identifying hey for the particular care journeys that memora is implementing with your organization let's say that that's specifically in this state in this case in the context of postpartum care what are the criteria for enrolling a patient in most cases that's something like a diagnosis code when a visit happens a certain medication regimen and pieces like that so we'll pull that information from a record and create these profiles of patience inside of memora where what you'll see is

you'll see an overview of a journey that will populate with all the different events that happen for this patient over time we'll see concerns that may come in but at a very high level we're identifying what journeys have they been enrolled in

and in the case that we have data on how that journey actually performs whether that's adherence data whether it's readmissions data whether it's nps data and i'll call out we don't have this data on every single workflow in the context of some workflows we do we'll surface it here just to show hey here's how you should expect your population to perform when they're put on this journey you'll see in this particular case an overview of information that we've pulled out of the medical record for this particular patient just in case you want to have it handy here

you can see an overview of the baby's weight in this case so there's an entire set of information that we're pulling in if i were to show you manually what all of that looks like it's everything from the baby's name to their mrn to their weight to what delivery type you had to your address and pieces like that and all of this is used to identify exactly what journey you should be put on right so

this information gets pulled in to memorize platform and when that profile is made what's happening in the background is that that patient in real time gets a text message that says hey

this is your free virtual assistant provided by in this case dr johnson from just as an example new york presbyterian right please read the following consent form and if you agree receive health information reply yes

we'll see that depending on the population it'll vary but on average a little over 90 percent of people will actually opt in

at this stage and we'll see that you know broadly every single population is looking for better tools to actually communicate and stay in touch with their care teams and receive guidance on the care plans that they're being put on

and then from there it's very much designed as a pretty almost human-like interaction that that a patient would end up having so the intention of this is to

give them proactive guidance around the journey that they're supposed to follow in a way that can be interactive so the most important piece about mora that i'll call out here is that it's not just one way

it's not static in the sense of you can only reply a b or c

you can text in free text questions you can text in free text responses to surveys that you get and memorial will intelligently process those and there's an ai component behind the system that will allow us to do that

so

you can see how in this particular case  
we're walking through an entire maternal  
journey  
so a couple weeks before the expected  
delivery date for this patient  
they're getting guidance such as hey  
it's a reminder for you to take your  
prenatal vitamins  
give them guidance around what the best  
way to make sure you're adhering to  
those are so in this case sticking a  
note in your mirror keeping the vitamins  
behind your toothbrush may help your  
mind may help remind you to take your  
vitamin right  
and actually guiding them through okay  
hey you're two weeks out from  
you know from your expected delivery  
date  
here's what makes the most sense and now  
giving them a channel for saying every  
time you have a question  
it's as easy as just texting your family  
or friends where you can text in a  
question here and we'll help you get an  
answer in real time right  
say thanks you know we pulled out of the  
record that they have an appointment  
coming up in 24 hours  
and as a result we're going to go ahead  
and send them a reminder asking them hey  
do you need transportation or do you  
need any help with your visit  
right  
making sure they're actually going to  
show up to the appointment  
guiding them through all the different  
steps of okay after your appointment is  
complete are there any additional things  
that you need to check up on that your  
doctor has documented in the record this  
case no so we're just going to keep  
going right and you're seeing an  
abbreviated version of a workflow  
obviously the true kind of prenatal and  
postpartum experience is much more  
intensive where day by day they may  
receive guidance  
on average we'll send you know close to  
two to three messages a day  
particularly right before or after an  
episode  
and we'll keep going through this  
workflow you know let's say a couple  
weeks later that that patient delivers  
and it says congrats on your baby you  
can see how we'll actually personalize  
these messages so we include the  
patient's name we include the baby's  
name which we've pulled out of the  
record give them guidance on hey  
john your baby will sleep 18 to 20 hours  
a day but not all at once wake up eight  
to twelve times a day to feed right and  
see how the information actually gets  
pretty clinical and it's longitudinal  
over the several days that you're going  
through your postpartum period so this  
will go all the way up to the six-week  
mark  
right  
ask them for in some cases the ability  
to let's say that this particular  
patient may be struggling with managing  
their blood pressure their blood  
pressure may be slightly elevated we'll

ask him to check that right and we can actually triage entire concerns that they're having so in this case we we documented that it's slightly high we actually collect the symptoms from them you can see right here how the system gets pretty interactive right all the way down to the detail of sending out specific patient reported outcome instruments so we can send out depression screens we can send out you know internal infant bonding scale we can send out a general nps survey and pieces like that right so there's tons of different interactions that you saw in this there's educational components there's the ability to send surveys there's the ability to answer questions that patients have and as a result give them this entire almost like companion that's going to guide them through all the different steps of their journey and this is just one example so we've built out entire workflows like this in tons of different clinical areas so that's a little bit around what's up what happens on the patient side and how intuitive and kind of native the experience is for them all this just being over a text message what's happening in the background is we're actually taking all these different pieces of information that they've texted in and triaging them appropriately and figuring out what does and does not need to be escalated so if i jump in to this interface in real time we've actually processed and documented their different concerns visualize them on an entire timeline right picked out those specific concerns so you know hey this patient said that they need help with transportation or hey this patient reported mild hypertension because their blood pressure was slightly elevated right these are the symptoms that they reported based off of that things like that and this particular piece of actually processing what a patient has texted in and triaging it is one of the most valuable components of the mora because it's almost like adding an entire layer of intelligence on top of your inbox so that every single message is no longer the same we're only escalating the things that are actually top of license or that are clinically concerning and then routing all these concerns to the right place in the record so you know the clinical concerns may come directly to the care team the administrative concerns may go to a different team pieces like that right so who is who is uh who is on the end of this on the care team is this uh would

this be a  
a care manager a war clock would it  
actually be a clinical person so i mean  
you've got a bunch of different stuff  
but you're you know you've got i need to  
get a i need to get a taxi or an uber i  
need to get you know or here i might  
have so you know i'm out of suicide it's  
all coming in happens to be that because  
we're doing this today all came in on  
one day but you know presumably this  
would come in at different different  
times different days how does this get  
resolved at the other end of your client  
is this something that only your client  
does or does more have a services team  
that helps the clinical team or  
where do you guys start to stop on this  
and how does actually work it's a great  
question so we have an entire kind of  
routing infrastructure on the back end  
that identifies different concerns to be  
escalated to different teams so every  
single healthcare organization will be a  
little different in some cases there may  
be an entire you know cs team that's  
managing transportation concerns that  
come in from patients in the health  
system in other cases it may just be  
going to a front desk in a clinic right  
so we work with them on identifying hey  
here's the list of different concerns  
that will escalate to you who do you  
want these to be escalated to and then  
we'll automatically push those out to  
the right people so that  
what's happening is every single concern  
is no longer coming just to the care  
team inside the inbox and they're  
responsible for navigating and routing  
them to the right place we're  
automatically doing that  
that in itself cuts down on the inbox  
volume quite a bit just for the care  
team because they're not seeing all  
those administrative concerns they're by  
default just going to the right place  
now  
in most cases these journeys are pretty  
clinical so naturally a lot of the  
concerns that come in are either symptom  
reports or it's physiologic data or it's  
you know let's say a patient requesting  
an appointment things like that  
in those cases we'll surface them to the  
care team  
most cases will have a team of either  
care managers nurses  
mas  
that are actually man you know coming in  
and looking at these notifications  
and then in some cases those will  
actually get escalated so  
if i see let's say that this patient  
said that they have middle mild  
hypertension it's not that i'm just  
seeing this information in a vacuum  
that's relatively useless to a care team  
and it's how the inbox works right now  
it's if i click on that i can see the  
entire history of interaction that the  
patient had so  
what time did they report it  
okay they reported that and then right  
after that they reported that they're  
feeling really sick

let's say that i am  
a nurse on this team and i want to  
escalate it to the physician  
directly from this interface what i can  
do is i could very easily  
come in here  
and say hey  
i want  
let's say  
dr doro's the physician  
i can tag them in this interaction  
and this will generate an actual staff  
message inside the medical record so it  
allows them to much more seamlessly  
coordinate on very specific concerns  
that a patient will have  
right  
so  
different concerns will get routed to  
different places  
we don't have our own services function  
and we don't necessarily provide them  
clinical staff  
outside of  
our internal clinical team that actually  
will help them  
tailor these guidelines and revise them  
and review them over time right  
and then the last piece that i'll call  
out is  
as all that data comes in will actually  
help visualize it as well right so i  
filled out post-natal depression scale  
we can actually visualize that  
track the scores over time we can  
visualize their blood pressure over time  
if they're reporting it different pieces  
like that  
and then lastly  
actually for the organization as a whole  
track how much time have i spent on this  
interface so how much time did all the  
different users spend how much time if  
that was just reviewing data how much  
time did they spend  
calling a patient which you can do  
directly from this interface versus  
messaging a patient  
and is that reimbursable so we can help  
tie that to reimbursement codes in the  
future is is kind of what we're working  
towards so i'll pause there and  
hopefully it just gives you a good sense  
of  
that's great so so basically you're  
you're essentially automating a huge  
amount of this but you are servicing the  
stuff that matters  
and they're probably you know this as i  
said this probably wouldn't have  
a lot of this stuff wouldn't either have  
been asked anyway i mean people go home  
with a leaflet and maybe they get called  
later maybe they don't now by the  
doctor's office but you're basically  
building a building a connection system  
between the patient and and the care  
team um i assume there is a decent  
amount of once once this goes in a  
decent amount of reorganization of the  
care team or at least the care team has  
to get used to operating a different  
somewhat different way but as you say if  
this works properly right um with that  
with their em with their emr with their  
current their current set of  
protocols um it actually should cut down

a lot on the on the sort of unnecessary  
work they're doing  
yeah that's exactly right so in some  
cases we've even seen that memoria can  
help  
cut down inbox volume by almost 40  
percent  
and  
it's a pretty meaningful dent right like  
realistically even if you're eliminating  
10 of messages given  
the amount of work outside of work time  
that most clinicians are spending right  
now managing their patients  
it's it's really meaningful um  
both in the context of you know just the  
provider experience  
but also in the context of  
if you're a provider  
or if you're a clinician you know you  
want to spend  
your time focused on the most pressing  
concerns and the highest risk patients  
and actually connecting with them and  
spending more time with them rather than  
let me work my way through  
out of these 200 messages  
you know that 30 of them that are  
actually clinically relevant where i  
actually need to call a patient  
and then i only have two minutes to call  
them because i spent all of my time  
going through the other messages i came  
back from vacation yesterday and you  
know i heard even though i tried my  
inbox quite a bit to 178 messages  
they're probably like seven that  
actually mattered but i have to get to  
maybe that i don't know that's exactly  
right the same process so um when you go  
to sell this to a health system uh and i  
mean obviously you know i don't know how  
much there is in terms of integration  
with the mr and epic and all the rest of  
it but when you're going to sell this  
who is buying it who who cares about the  
pressure on the team who cares about the  
improvement of patient outcomes etc  
who's interested  
yeah it's a great question um  
so there's really two groups that that  
care quite a bit right the first is  
who's responsible for you know the  
well-being of the actual care teams and  
the physicians and in some systems we'll  
hear from care teams that they feel as  
if no one is responsible for their  
well-being tomorrow obviously helps fix  
quite a bit  
and then second is who's responsible for  
the actual patients and making sure that  
they have a good experience and receive  
the right level of care so  
the primary stakeholders that we spend a  
lot of time with are folks like chief  
medical officers chief digital officers  
service line leaders chief nursing  
officers folks like that  
who will have a combination of both  
clinical perspective  
plus a pretty strong just operational  
lens on hey what are the core challenges  
that across the entire institution we're  
working on solving before i let you go  
off the demo screen and go back and talk  
about the company a bit when you come to

uh healthcare organizations and they say  
you mentioned earlier we've got we've  
got protocols for this protocols for  
that  
what does that actually look like um or  
what what what is you know what have you  
got and what does that look like you  
have it you have a tab you can show me  
which gives you an idea about about  
what your pathways profiles are  
yeah sure so we'll have clinical  
journeys built in tons of different  
areas and there's a lot more complexity  
to these journeys behind the scenes and  
work that we do to configure them  
there's an entire artificial  
intelligence engine that allows us to  
respond to open-ended text and actually  
improve these responses  
and and mappings over time but just to  
give you a sense of like how detailed  
these get  
right even if you just take one simple  
workflow around postpartum management  
there's entire  
trees around how different types of  
concerns get escalated what types of  
responses we send out to patients based  
off of that right and there's all this  
logic that we build in to the system  
around all those different clinical  
areas right so there's  
so the workflow you see here there's  
hundreds of versions of this that that  
we've built out in different clinical  
areas and then we'll surface those care  
teams and say hey here's where this is  
validated here's the statistics on how  
it performed if you want to change it  
here's an easy template that allows you  
to configure or maybe adjust some of the  
triage logic here just because you know  
naturally at the end of the day every  
single site is a little bit different  
how much how much customization you do  
you see your clients doing well yeah  
it'll vary a lot by system you know in  
some cases uh you know if you have like  
a an academic system where a lot of the  
clinicians are very highly specialized  
and trained in certain areas you'll see  
a very high degree of customization and  
other systems you'll see  
very  
minimal amount of customization and part  
of that is just tied to how much  
resourcing they have  
to  
you know  
manage significantly more concerns and  
have more data escalated to them versus  
not have it and just follow the preset  
guideline that another site's  
implemented  
and then how many different uh areas  
clinical lines how you define it do you  
work out and they haven't you know you  
have a lot of different options but how  
many how many how many of these have you  
pre-done already um so if you march into  
a big system they're like an academic  
center that's doing hundreds of  
different types of service lines how  
many can you deal with  
it's a great question um  
so it's not as clear kind of an  
answer as just here's all the disease



areas and here's all the workflows those will vary by different clinical area so in oncology a lot of our workflows will be much more tied to treatment regimen rather than just diagnosis whereas in orthopedic surgery it'll be a lot more tied to diagnosis rather than specific medications

so it'll vary but across the board have support for for hundreds of different kind of indications and kind of patient types is what we call them um and that is a combination of lots of different simple modules that we've built so it's not as if every single clinical workflow is hard-coded there's these abstracted modules of hey here's the generalized medication reminder module here's the generalized important reminder module things like that and we intelligently will stitch those together in the context of each different patient type

fantastic all right so let's talk a little bit about the company so you came out of georgia tech is that right uh with this i don't know was this a graduate school was supposed to be a graduate school project that went wrong not quite

about how you got from there to uh you know raising money and and working with working with hospital systems you're working with yeah it's a great question so uh the scientists by training uh prior to memoria you know studied biochemistry and was a computational biologist and

you know the thing that really drove us to start memoria was that we had a close friend who went through a pretty severe chronic diagnosis and it's one of those cases where you see

you know someone who's relatively tech savvy has great access to care well-equipped to navigate a diagnosis like that still struggle quite a bit and gives you a really good sense of the fact that

challenges with care navigation and care coordination are not population specific they're pretty systemic and the reason is that at the end of the day health systems and healthcare organizations broadly just do not have good infrastructure to actually manage and support patients outside the walls of the hospital so

that was a big learning for us just in the first year of doing a lot of research on what memoir could be and then from there had a chance to partner really closely with a couple academic institutions in boston and in atlanta and

run a couple of pilots get some really good data on how patients actually would interact with the system like this and uh it was really positive and and both for the care teams and for the patients which was a good kind of indicator to keep working on it

so uh what so that's where you started

when was that when when did you actually  
get going on that  
that was in 2017.

all right so that was five years ago um  
uh since then you know you've gone  
commercial with this and your number of  
health give me a sense about the scale  
of the company now how many  
self-systems you're serving every  
patient you're serving how you like to  
think about you know revenue growth and  
what's been going on but uh um there's a  
lot of subtext because i do talk to some  
uh vcs and hospitals to say well we're  
so pressured on the staffing side now  
with the cost there that we don't have  
room for for new technology but on the  
other hand this is probably believing  
some of the staffing pressures so give  
me a sense about how you've been growing  
the last couple of years  
yeah uh good question so  
one of the the interesting components of  
being a clinically agnostic platform is  
that  
you know  
it's really hard to find that one  
particular metric that is the biggest  
kind of indicator of growth so it's not  
always just patient volume just because  
that looks different in different  
clinical areas it's not always number of  
physicians so it's an entire kind of  
array of those partnered with you know  
dozens of healthcare organizations now  
including medical groups health systems  
a couple of health plans that we've  
partnered with as well now digital  
health companies um and now have served  
a couple hundred thousand patients and  
then have quite a few physicians who  
actually will log into the platform on  
a monthly basis through their medical  
record to you know review these messages  
to actually interact with their patients  
understand how they're performing  
so i've reached a pretty meaningful  
scale especially in health systems which  
has been great because  
it's allowed us to actually build out  
really detailed clinical workflows in  
tons of areas and then second it's given  
us a lot of perspective on how different  
types of health systems operate  
including really large academic systems  
all the way to the end you know other  
end of the spectrum of massive community  
systems all the way to federally  
qualified health centers and you know  
several of  
the customers and partners that we have  
are listed on our website we've done you  
know joint webinars with them we've had  
a chance to publish with them and then  
fairly accessible from the website to  
learn more  
all right and then so last question  
there's a lot of discussion a lot of  
funding going into kind of the world of  
of uh  
helping health systems build  
internal  
tools to make their data and their apis  
more accessible you've seen vastness  
want to go to commuter there's graphite  
there's obviously epic but it's apple  
you're now coming in and building into

epic you mentioned i don't know i like  
other uh technologies other emr systems  
give me your quick view about how hard  
that whole process has been for you and  
whether you think any of these uh new  
whether they be  
companies technologies consortiums are  
going to make it or where do you think  
we are in the whole process of making it  
that you can bring a technology like  
yours and insert it to the emr the  
workflow uh on the sort of scale of hard  
to difficult is it getting easier or not  
yeah um it's a good question so  
one there's a lot of you know really  
good kind of underlying railing that's  
starting to be built  
fire is obviously a peak example of that  
um but great infrastructure graphite  
being one example things like the app  
portrait being another example uh that  
makes it easier for companies like  
memora to very seamlessly  
integrate with medical record systems to  
very seamlessly integrate into care  
teams workflows that the reality of  
memora is that  
you know  
it's important that we are able to  
integrate with those systems just  
because they serve an incredibly  
important but yet slightly different  
purpose from what memora does right so  
the ability  
to actually document and manage all the  
information on how that patient is  
performing is something that's critical  
to medical record systems  
memora helps fill a lot of the gaps in  
information that may exist and also kind  
of layers all these intelligent actions  
on top of that for  
you know to be significantly easier for  
for care teams to be able to manage  
their patients um  
so  
the integrations are relatively complex  
and pretty deep with a lot of the  
partners that we do have uh by no means  
is that easy anybody who's done it or  
anybody who's in proximity to the space  
has heard hundreds of times that it's  
incredibly complex and challenging and  
you know painful to work with uh but  
the trend over the past five years is  
that it has become easier and it will  
continue to i think everybody's  
incentives are aligned on the fact that  
the more tools and services that  
patients have access to  
to make it easier for them to navigate  
their their care plans and make it  
easier for care teams to manage those  
patients the better it is  
yeah very interesting and i did some  
work for for years on the apa api  
surveys and there's been a lot of issues  
about working with the big emr business  
but it's clearly uh it's clearly the  
pressure is on everyone to expose  
whether it's api points fire better data  
sources transparency of of things like  
pricing that's going on in the in the  
world in hospitals and all kinds of  
other stuff that  
it's all slowly getting better but it's

it's healthcare it's very long long  
journey right last question um what's uh  
what is next for memorial how do you uh  
you've obviously built this very complex  
system and how much more on the building  
side there is to go but uh what what's  
next for you someone wrote you a big  
check earlier this year so presumably  
they're gonna expect something back so  
what what's the answer to that  
yeah  
so spending a lot of time  
this year on building the foundation for  
what memoria needs to look like at scale  
so  
we're we've stood up a you know  
incredible commercial team so far an  
incredible kind of client success and  
implementations team a product team our  
edge team is starting to scale quite  
rapidly  
and  
the focus for this year is okay we've  
had a chance to do this in a handful of  
different instances how do we now do  
that at 100x of scale so  
there's naturally a lot of different  
kind of components to to where memorial  
is headed we're starting to  
you know partner a lot more aggressively  
on the health plan side have a handful  
of digital health companies that we're  
partnering with pretty  
pretty you know um  
kind of comprehensively right now  
but at the end of the day our bread and  
butter and where the large majority of  
our focus is is on continuing to scale  
our presence inside of health systems  
and build a really repeatable muscle  
around  
not just being able to partner with them  
but actually implementing with them and  
seeing a lot of value in in those  
implementations  
so squarely on building a lot of scale  
and repeatability around that all right  
i like to do that  
do  
a lot more  
more  
more and be able to manage more great  
well thanks for your time i've been  
speaking with manu sayak he is the ceo  
of mora health um and we have a pretty  
if you didn't know what i did before now  
bye bye now hopefully you should this is  
matthew holt signing off with another  
the spotlight with the war health thanks  
a lot thanks for your time thank you

[Music]

[https://www.youtube.com/watch?v=-INSepR9\\_yQ](https://www.youtube.com/watch?v=-INSepR9_yQ)

Well, first, I'll claim my bias, which is I love startups.

And the reason why I love startups particularly is because

you build from scratch.

That's really what I love to do.

And I would say, I like to call them intangibles: drive, passion,

hunger, curiosity. These qualities that you do not teach.

You either have them or you don't.

Those qualities really help new marketers flourish because

those are the things you rely on to figure things out, and

especially in a startup context.

Welcome to the B2B Digitized Podcast.

Where leaders of B2B technology, startups and scaleups

learn how to use digital transformation to differentiate,

educate, build trust, improve competitive positioning, close

sales faster without compromise, and scale revenue growth.

Now Here's your host, Joshua Feinberg, from SP Home Run.

I'm Joshua Feinberg from the B2B Digitized Podcast.

I have with me today

a very special guest: Rebecca Corliss, who is VP of Marketing at

VergeSense.

Rebecca, thanks so much for joining me today on the podcast.

Thanks for having me. It's great to see you again.

I feel like we have to take every moment to see each other, even if it's in the digital form, to really appreciate the opportunity to reconnect.

I know it's probably only been about a year and

a half since the last INBOUND conference. But it feels like

18 years ago, not 18 months ago.

It does; a totally different era.

So that's terrific.

The first place I'd like to start: I've known you

probably the better part of 10 years or more, dating back

to the early days of HubSpot's marketing team.

But can you give us a little bit of an introduction of how

you ended up being a college student, how you stumbled across

HubSpot, how you were involved in the early marketing team,

early video, early live streaming, early building out

of courses and user groups and evangelists.

Can you give our viewers and listeners a little bit of background?

Yeah, sure.

Happy to.

So, first, my original background is PR.

That's what I studied in college quite a bit of time ago,

but it was a really great opportunity in terms of learning

writing. And I met this incredible individual named Mike

Volpe. And I was a new college grad.

I think what he saw in me was energy, ideas, and creativity.

A musical background, which I never thought would be relevant for the marketing world.

And he gave me the opportunity to create HubSpot's first ever marketing music video.

My goodness. This is in 2008 when YouTube was really starting

to take off and marketers are thinking we might be able to

use creative videos for marketing.

Imagine such a thing.

And that was my big break.

And so I joined HubSpot when it was 50 people.

The marketing team was a mere five.

And it was a cool opportunity really to. It was my opportunity

to learn each facet of marketing. The theme, I say, is

when there was something brand new to be built, they put

Rebecca on the job.

And I loved that.

And that's how I learned that I'm truly a startup person.

And so that brought me to cool things, like how we met with

the HubSpot User Group program and having the opportunity

to work with these amazing individuals and showcasing how

HubSpot can affect the marketing world in these little micro

communities across the United States and the world.

It brought me to the opportunity to build a program called

Inbound Marketing University, which has since transformed over

and over again to be HubSpot Academy, which is such a resource

today with the amazing leaders leading it.

And it's been a cool place to really build my foundation

and move forward.

Yeah.

It's really interesting. If you think about the same interest

and background in music and the creativity and realizing how

quickly marketing was going to be a place where not only

education and trust building needed to be combined with entertainment

to a certain degree, just to keep people's attention and engaging

and stand out from the crowd.

And remember that first video "You Oughta Know"

from Alanis Morissette, right?

Yeah, that's exactly right.

I'll tell a quick anecdote.

So imagine me a new gal at HubSpot. And Mike, he's very creative.  
And he always likes to dig in.

He wants to make sure that the content is going to be really  
high quality.

And I love that about him.

And so when I was presenting the lyrics to the song, this  
is all pre-recorded, we're sitting in a conference room with  
some of my colleagues, and I printed it out, my goodness,  
which that even sounds archaic at this time.

But I printed it out for everybody, and I was going to read  
it. And Mike looks at me.

He goes, "Don't read it.

This is a song.

You have to sing it."

And I think, Oh, my goodness, if you're going to put me in  
this situation, I'm going to sing the heck out of it.

And I belted in that conference room.

And then they thought, okay, this will be great.

Yeah, this works.

It was a fun moment.

That's terrific.

I think the first place that would be super helpful to get  
your thoughts on: for someone that is brand new to getting  
into marketing, digital marketing in a company that sells  
to other businesses.

B2B

What advice would you give to someone, if you think back to  
yourself, maybe going back 10 years or so, fresh out of school,  
maybe somebody that got connected with you through the BU  
Alumni network. Or maybe a friend of a friend, and they ask  
you for advice. What should they be thinking about to build  
their career up, to be successful in a marketing role in  
a startup that sells to other businesses?

Yeah.

I have two directions to answer that.

First, for anyone considering B2B, one of the things that

I think is really a shame when people think of B2B is  
the boring marketing.

I like to say B2B is where the budgets are.

That's the fun marketing -- is the reason why so many B2B  
products are called solutions.

It's because they're actually to address real problems that  
businesses have and are investing in.

So I guess that's my first tip.

Any new grad that's thinking: I want to do the fun marketing -- like  
B2B is the fun marketing.

It's fun to have businesses spend thousands, if not hundreds  
of thousands or millions of dollars.

That's exciting.

So anyhow, that's thought number one. And thought number two,  
bringing on my own experience.

And thinking back when I entered the marketing world, I would  
say, marketing yourself is your best asset.

When you're early in your career, you don't necessarily have  
a foundation yet.

Maybe you have a few internships, maybe you have a newer  
job. Marketing yourself.

and that can mean, how do you create content and use the  
digital world to showcase an idea that you have? Or show the  
type of content that you can create? or really successfully  
drive results?

I remember I had the opportunity to hire a woman who said,  
I have this Instagram account, and it has 350,000 followers.

And that was the basis of the whole conversation.

I said, tell me how. It was so clear that she on her own had  
stumbled upon what her audience would be, what the content  
would be to attract them, how she would cause the engagement  
in order to create this great resource.

And I said, that's all marketing.

You did it by yourself on your own.

So I would say lean into that idea, and that will be great.

Yeah.

I remember in the earlier years of HubSpot, there were stories of people creating music videos as part of the interview process, people running really creative LinkedIn campaigns targeting employees at HubSpot, and Facebook ads targeting employees of HubSpot.

So what better way to get your hands-on an active project that showcases your expertise than building your own blog?

Building your own podcast or YouTube channel? Driving campaign results? Account based marketing.

Yeah.

Exactly.

And also the drive, the drive that that individual has.

And I would say: when you're an ambitious company hiring the best of the best, and that's your goal, you can't teach drive, you either have it or you don't.

And so seeing those instances in which someone does something you would never have thought of, that's going to catch someone's attention, because that's a person who's going to enable him or herself to make things happen.

And that's exactly the type of teammate that you want on your team. Do you see those instincts being even more important in a startup

kind of culture, as opposed to walking in and being one of 50 people on a marketing team?

Yeah.

Well, first I'll claim my bias, which is I love startups.

And the reason why I love startups particularly is because you build from scratch.

That's really what I love to do.

And I would say, I like to call them intangibles: drive, passion, hunger, curiosity, these qualities that you do not teach.

You either have them or you don't.

Those qualities really help new marketers flourish, because those are the things you rely on to figure things out.

And especially in a startup context, you're doing things below your pay grade and way above your pay grade, way above your pay grade.

And you need to lean into those intangible skills in order to find the resources, the information to make sure you're making great, informed, smart decisions.

So it's very, very important to have those.

Yeah.

Thanks for adding that, because I think it's so important to contextualize for the kind of company that someone is working at, the size of a team, how versatile they need to be, versus how specialized.

And it seems it makes an enormous difference depending on whether you're one of the first five people hired or one of the first 100 people hired in that particular role.

I think that's true.

For example, when I think of even HubSpot's evolution in the first early days, I think back to my now really close friend and someone I respect quite a bit.

Ellie Mirman and I. We did everything.

It didn't matter.

We did everything purely because everything needed to be done. When I left, the marketing team was approaching 200 individuals. It was amazing.

Amazing.

And so now, what was really celebrated and really needed was this specialization and this ability to optimize and unlock value in this specific area so deeply.

And that's a different skill set.

That's a skill set that is incredibly valuable as well.

That is really impactful in larger businesses where you need to always figure out: how do you one-up yourself, one-up this channel, one-up the strategy to continue to drive growth?

That's some great advice for someone that's just at the beginning of their career.

What insight would you offer to someone who's got at least a decade of experience in a marketing role focusing on on B2B?

And maybe they've had a really difficult year. Or maybe the company they were working with was hit hard, especially by the pandemic. Maybe there's been a lot of turnover on their team, a lot of churn within their customer base.

What would you advise someone in that role to help them reset and get back on track?

Yeah.

That's a wonderful question.

And also, my heart goes out to those in that position because there's been a whole lot of shake up in our world in the past year.

So my thoughts are a few things.

One, I love the word consultative, being consultative.

It really applies to the B2B marketing world.

I think it applies to the interview process as well.

I would say, going into an interview.

And this is actually the approach I took when I had the opportunity to interview for my company.

now, VergeSense. Use your interview process to pretend you're a consultant in the role and think about solving problems, like even within the interview process, if it's natural and natural to the conversation, of course.

And the reason why I really like that idea is for two ways,

1. For the individual interviewing, it gives someone the opportunity to imagine the types of problems he or she will be solving and confirm that they're interesting.

That's really important.

And 2. I think how that portrays the individual is: you start talking about the real work. And I think that often creates a hunger in the employer. And saying, Oh, I can't wait to have this conversation on the other side of the hiring contract. Wouldn't that be fantastic?

So I would say dig in that way.

I have another tip.

I'm going to tell you one of my pet peeves.

It might make a few people angry, because I think it works for some people, but I don't think it works as well in startups; growth-stage startups, et cetera.

It's when people are really excited to flaunt their playbook.

It might be a hot button item, but a lot of people will say

I have a playbook.

I have a playbook that I do.

And on the one hand, I'm sure they do.

I bet they have a fantastic set of strategies and tactics that they've applied here, here, and here.

And it's worked great.

And I think that's excellent if you plan to continue to stay within the same space.

However, if you're a startup person, being a figure-it-out'er and knowing how to ask the questions in order to figure out what's right here, I think is more unique and super valuable. Because it shows how you tackle issues in ambiguity where there isn't a lot of information.

So that's my takeaway there, too.

So somebody that's rolling up their sleeves and figuring out the personas and figuring out the jobs to be done and figuring out the whole journey, as opposed to just coming in and assuming that because whatever they did in the previous role worked, that we should just do a Find and Replace and reuse that same playbook.

Yeah, exactly.

I can give a story.

So HubSpot, everyone knows HubSpot in terms of being so strong in the content marketing world and thought leadership. Absolutely.

.

Actually, this is a funny story in a different way.

When I joined my last company, Owl Labs, I didn't want to rely on the way we did things at HubSpot. I wanted to discover on my own, use real data, to make those decisions.

And so I actually dug into advertising and these different paid channels quite a bit.

Anyway, the long and the short of it: I at least got data to



find out that content marketing was still going to be very effective in this context, but it was wonderful to have that true data in order to validate the amount of investment we needed to do.

So I think that's really important, not to assume. Use your data to decide.

And then just when you think you have it all figured out, the past 14 months comes along and changes so many people's playbooks and strategies on products, services, target markets, messaging. Absolutely.

And that's when I think those figure-it-out skills, that dig in, what do we do now?

Maybe we're dealing with uncharted territory here, being able to navigate that is so crucial, especially when things you don't expect to come your way.

When I was doing a little bit of research about VergeSense because I was curious. It really struck me that how the founder could have. Obviously, nobody had foresight to see this coming.

But to be in a place where you could make such a big impact on offices, buildings, being able to safely reopen and keep a pulse for what's going on. It's got to have amazing opportunities around content marketing, webinars, and worksheets – and helping people figure all this stuff out.

Yeah, absolutely.

I honestly, when I had the opportunity to consider the position, it was that very element and we know is a marketer's dream.

And I said, this is going to be fun.

This is going to be fun to solve a problem that I think you could be fair to say is on the top five list of every leadership team across the world.

It's really fascinating; means that you really need to have a high bar on what you deliver, but it is a ton of opportunity.

For the context for those who might not know VergeSense.

So we're an enterprise hardware and software company that creates a workplace analytics platform to measure how people are using your office space.

And also in terms of being agile, the original real driver to purchase was to make sure you had the right amount of real estate to match your business.

That's still true.

That's still really important.

But now, if you're a workplace strategist, you have no idea when people are going to come to your office on the other side of this, how they will use it, what they will need and having data to validate is really important.

From a marketing standpoint, we have a really fun education opportunity in terms of offering our market and offering our buyers, leaning on the expertise of our team to share, well, how do you progress in these uncharted times?

How do you reopen your office?

How do you do that safely, productively in a way that drives collaboration? It's super fun.

If you think about too, you mentioned something early on about college students having a perception that B2C marketing is much cooler than B2B. If you think about a commercial landlord or developer that has a 30, 40 50 story high rise, that's sitting pretty close to empty.

There's an enormous financial implications to helping them get companies, tenants, that are in a position to start filling up the space again safely.

Huge.

Huge.

And I think another tip for those considering B2B versus B2C. Or B2B industry specifically. For me,

and this may be why people like B2C often, for B2C,

you can imagine marketing the products you buy yourself.

And I think sometimes that drives appeal because you have that empathy.

I think when you can find empathy with your buyer in a B2B context all the time.

So with VergeSense, I thought, well, I'm someone who can't wait to go back to the office.

Well, it'll be different.

Probably won't be five days a week, but I cannot wait to get that in person time.

And so even imagining that, I could feel real empathy for the employees that our customers serve, the impact of the decisions that our customers are making in order to think about how to reopen their space. And that empathy is then our motivator to think about how do we attract our buyer and really support them best?

That brings us to the next question that I wanted to ask

you is: how that empathy, how that approach changes depending on where someone someone is in the research and purchase decision.

We all know the stats that everyone throws around, that there's an enormous amount of shift from seller to buyer.

Buyers are just tons of research before they're willing to speak with someone from a sales team anymore. For good reason.

They're able to get access to tons of information.

They're asking questions of Google and Siri and Alexa. And posting questions on LinkedIn and Twitter and Facebook all day long.

How does your approach to B2B change depending on where you're trying to first intercept a prospect?

Sure.

And I think, also how much emphasis you put depends on the length of your sales cycle, too.

Right.

So let's see.

So one of the ways I think it changes and it's important.

Well, one I think you need to map not only the needs at each stage, but also the mindset.

That's where that empathy comes in. What is their mindset?

And really being authentic to it.

And that's how you can make sure the way that you speak to them aligns with what they care about in that moment.

I'll take a VergeSense example. If we start sharing sensor and platform tech specs when they're just figuring out what reopening policies look like, that doesn't align.

So that's really important.

Once you've mapped out that lens, I think you then can think about what is going to be most value to them at that stage. And then I think, going into that consultative solution-based focus, you can really have the most impact. Because the best sales cycle, the best sales journey, is one where you're in the mindset of -- I need to find people who have the problem that I solve.

Because at the end of the day, you could be their hero, not even about making revenue.

You could be their hero.

You could be the answer of their problem that they're ready to invest in.

And so how can you make sure you start the relationship by answering the questions they have? Then make sure they have the right product information to know that it fits their needs. And then really dig in in the sales process in order to get that nuanced view into what their true needs are and talk about how it's going to work.

Where does it work?

Where doesn't it work?

And how do you make sure it fits in order to then ultimately have a sale in which you have a customer that's really excited to get started and implement the new product? You bring up so many really interesting, subtle nuances that so many people seem to often overlook.

If I think about the brand buzz and perception that people had of HubSpot 10, 12 years ago is basically you taught hundreds of thousands and millions of people about SEO, about digital marketing, about how to set up their Twitter profile the right way, about how to do LinkedIn right.

So much to the point that many times learned these great things, had a great perception of HubSpot, before they even knew, like, What does HubSpot do? And being able to connect the dots like awareness, consideration, decision, staying with them throughout that.

whole process is a big part of it.

But I think just the same as I always tell people, your goal really is to get them to fall in love with your content and then by extension, fall in love with your brand.

And then it's a much easier process of them seeing you as the educator, as the trusted advisor, helping to shape the criteria that they use to evaluate the whole process.

And when you do that, right.

Not only are you on the shortlist, if you do it correctly many times in a B2B context, you are the entire short list. Whether the prospect actually tells your sales team, that's another story. But it's a great way to differentiate and neutralize competition.

Yeah, right on.

And I would say, we saw the sales journey beginning at that point, when someone remember, this is 2008, Googling "What is blogging?"

That's where the sales process began.

And our top of the funnel.

The timeline in which we focused on top of the funnel was maybe 50% of the full journey.

Because once you came in, our sales cycle in terms of talking to sales and closing could be a matter of months. So really the time that we needed to focus on was that beginning journey. And it could be even it could be even longer than you might expect. Those individuals who – we'll put it real into context, when building Inbound Marketing University, it was 2009.

What was happening in 2009: this terrible recession.

And so real, real long, long play was honored in terms of building the certification program.

People used that to better themselves in their career, get the new job, which is wonderful.

What we all wanted to do is get back to work.

And then they advocated for purchasing HubSpot.

And so I mean, that's even the longer journey and it really goes down to earning credibility.

And I would say earning trust.

It's an interesting place that HubSpot ended up in the last couple of years, too, was putting a lot more emphasis on getting college professors to use HubSpot in the classroom, which I can relate to.

My job during college was working for IBM. And Apple did the same thing.

And Microsoft did the same thing – where they went on campuses, and they were trying to get professors to adopt the platform.

Because they knew if you were a Windows user all through college or Mac user all through college, there's a very good chance the first time you had a chance to pick your preferred platform. If you're using HubSpot in the classroom as opposed to another martech stack or something like that. It's the same idea. The comfort, the familiarity tends to breed loyalty.

Yeah.

And even today, I'm in the position where I'm hiring for a handful of roles myself for my team at VergeSense.

And I smile from ear to ear when I look at someone's LinkedIn and I see HubSpot certified, Inbound Marketing certified.

And I think it just makes me so happy because one, I'm glad for just the HubSpot brand continuing to flourish.

That's wonderful.

And two, I love seeing the full impact, like that is as good as marketing can get.

Full marketing that impacts the full ecosystem and the full marketer. And truly with the goal of bettering their world, their lives.

And then seeing the opportunity that comes from that.

I've often said that in a lot of ways, the free education that a SaaS company like HubSpot has put out should make the marketing professors at a lot of universities very nervous that they need to keep raising the bar to make sure, to be able to justify the tuition investment and the time investment

of a formal higher education approach to teaching these same courses. Because everyone's constantly comparing these different options. It could be. Or the evolution that can come from it.

A rising tide raises all boats moment where university systems also think about what can they uniquely provide that maybe they weren't prioritizing before?

I mean, that's the best of every world.

The experience, the real world experience of encouraging somebody to build their first blog, build their content offers, doing customer insight research, giving all these super hands-on things.

So when they walk in for their first interview, someone's like, Wow! We have people that have been here three or four years that haven't gotten to some of these things yet. Real live demo portfolio.

Yeah.

When you look big picture at what some other companies do with approaching B2B marketing, B2B sales enablement, What do you think is the biggest mistake that a lot of companies make that's preventable if they knew better going into it?

One thing that comes to mind, and this is especially true right now where we're a full enterprise sales process. Long, long journey, given the investment of our platform.

I've been thinking a lot about attribution, and one of the I think problems that some folks could adopt accidentally is putting a lot I would say too much value into lead source.

I actually used to think this way all the time at HubSpot. Loved lead source.

Where did it come from?

Came from social, came from organic search, came from email, came from a BDR.

Great.

And while I think it's really important to capture that, there are some businesses who put 99% of their marketing ROI evaluation into just the entrance point; where I think in some cases it might even be irrelevant.

That's what I believe.

And I think businesses, especially if you have a lengthy sales cycle, like ours, who really invest in understanding all of the touch points that a prospect has along the journey to becoming a customer, I think that's more impactful because ultimately you're doing this not this territorial mechanism to give credit and celebrate and win.

I mean, sure, that happens, but that's not the value of the business. The value of the business is understanding where to invest more.

And so I think companies who aren't investing more into just that full attribution picture are really losing the opportunity to understand where they should put more dollars or where they should take dollars out in order to keep growing.

It's interesting too to see all the different models that people are using to try to justify that they've completely figured it out.

But it's so easy to see at the same time, the things that sometimes get attributed to organic search or paid search or really a brand search on the company that started with something much more impactful happening that wasn't as easy to measure.

Yeah.

A new lead comes through a partner.

That's awesome.

But it's actually because they read a press release and then they asked the partner, or vice versa.

We get a new lead from a webinar, but it's actually because, I don't know, a BDR did a quick phone call and they went and jumped to the website.

So I think we need to really lean in, especially as digital marketing gets more and more sophisticated of seeing how these things weave together and just accepting that there isn't this binary, which cup can I put this customer win into; like it doesn't work that way and embracing that letting go and saying, all right, I know that these experiences we weave together. I want to measure the whole ecosystem, ultimately,

because it's not about credit, it's about knowing where to invest. You think the pressures of so many companies in the space following these playbooks, having venture backing adds to complications because there's an impatience to show that something is working and being able to measure things in the short term that sometimes are really difficult to measure in the short term? Especially when I think about, like, a startup that's trying to get to product market fit or go to market fit, and there are just so many unknowns.

Interesting.

I think when things aren't going well or you have a big goal in front of you, there's a lot of pressure.

And I think when there's a lot of pressure, there's often an instinct to go to the nearest answer or the most obvious answer versus the best answer, most impactful answer.

So I think that in that dynamic, that absolutely could be the case.

I also think that then I mean, it's real marketers leadership opportunity to say I understand why there's interest in being really binary about just like categorizing a customer by a source.

But what ultimately what I want to do, like you go back to the value you're trying to provide. Ultimately, I want to be able to have conviction where I want to invest and the method in order to have that clear answer is this.

And so this is what's going to serve us more than that.

And I think when a marketer can step back and speak to the ecosystem in that way, in those high-pressure situations, that's going to be much more successful and a real moment for credibility for him or her. There's the extra complication too of post-purchase. What does retention look like?

Is it someone that's a really good fit that's getting value enough out of their investment that they're going to stay and become a customer marketer's dream, being a great evangelist and promoter? Or are they at the other extreme, where sales pushed really hard just to get it over the finish line and maybe it wasn't the right fit?

Yeah.

And I think that just emphasizes that measurement doesn't end at the purchase.

Continue collecting that data.

The data you collect might evolve, but continue to collect that data because that's going to be really impactful, especially if you're at a startup phase or a scale phase in which more data is going to inform what you do and how you prioritize.

That's terrific.

The final area I wanted to ask you about today is to get your thoughts on is where B2B digital marketing, where B2B sales enablement, where the whole B2B playbook is headed in the next 12, 24 months or so?

Is there something that you see going on right now that seems like it's going to be this big inflection point where we'll look back and be like, Oh, Yeah.

That was the big thing that was changing everything.

Sure.

So where my mind goes is: really is relevant to the time right now is: What marketing channel have we all lost that might have an opportunity to be reborn?

And that's events, physical events, in-person events.

And I know for our market, particularly, events are great.

I know in the meantime, we've done the digital events, and that's been wonderful from a demand-gen standpoint as a means for our reps to talk to their customers, et cetera.

But we've lost the depth.

We've lost the depth in that. We've gained accessibility.

That's interesting.

We've gained accessibility to it.

We can now join without traveling.

So that's a win.

But we've lost the depth.

So I think, I hope, that those who produce events from a marketing standpoint are those who use events as a marketing channel,

use this really disruptive moment to think about how can we take the winnings from this disruption and what we miss and actually create a new, totally fantastic marketing channel event type that can impact businesses?

So that's where I'd put my bets in a lot of changing, a lot of changes happening very soon.

Hybrid events and offline events and getting back into traditional conferences and trade shows. Or maybe something totally, totally different that neither you and I are thinking of right now.

I don't know.

Yeah.

It'd be really interesting to watch that space continue to evolve because anyone that had large investments in that has had to get really creative the past 12 or 18 months with running virtual events. And to try to keep. But then what's interesting, too, is I see in the next few months that a lot of traditional IT events that I've gone to over the years are coming back in very reduced capacity with all kinds of safety measures.

And as hybrid events, I guess, with the idea that they're keeping everything warm with the idea that as we move into next year, that they'll look to return to where they were in years past.

Yeah.

Well, I'm an optimist, Joshua.

I have to be.

I'm an optimist.

So I can't wait to see what creativity is born from this, because I do think these moments to come together are so impactful, so impactful.

And I know they will flourish and I expect it will be in a new, evolving form. Every inflection point in the last 20 years or so between.

the housing bubble, between post-9/11, brought so much innovation in technology and rethinking how companies communicated in workplaces. And everyone talks about the idea that we've had a decade of digital transformation in a matter of months. It'll be really, really interesting to see how that plays out with all these new experiences.

So true.

So true.

Well, thank you so much for joining me for this podcast interview. It's been super helpful, really insightful.

And I know a lot of the viewers and listeners that are going to watch and listen to this will get a lot of value from hearing about your experience, in building and deploying B2B digital marketing in startups and scale ups, and in all different contexts.

I know you're active on LinkedIn.

Is that the best place for someone to reach out to you if they have any questions or want to connect with you?

Yeah, that would be great.

Rebecca Corliss on LinkedIn.

Love to connect there.

That's where I have some of my most fun conversations.

So please, please find me.

It'd be great to connect.

Absolutely.

And I'll make sure I include a link to that with the show notes, too.

Thanks again so much for joining me.

Rebecca. It's been great.

I wish you all the best in growing your career.

And I look forward to continuing to see great things coming from Rebecca Corliss.

Thank you so much.

And thank you so much for having me You're very welcome.

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drive  
more successful outcomes in today's  
demanding marketplace by leveraging  
alternative data and retail analytics  
solutions  
to identify and plan for what's next  
visit 1010data.com or arrange a meeting  
at grocery shops spring meetup for more  
information  
today we're joined by linen gao the ceo  
of caper lyndon welcome to the show  
it's great to have you thanks for having  
me yeah  
i'm excited to do this this has been a  
topic that's you know just been kind of  
blown up of late  
so i can't wait to hear more about you i  
know i feel like we've  
seen you at grocery shops past like i  
remember the very first grocery shop  
when we saw it you or your team  
presenting the cart for the first time  
and and it was really the first time i  
think that we actually got to  
see in real life like what the future  
smart cart might look like  
um but we're excited to have you on the  
show i'd like to hear a little bit first  
about you and your background because  
you have a pretty impressive resume  
london why don't you  
just give us a little bit of background  
on you  
i wouldn't say it's an impressive resume  
but  
i just started i just started out my  
career a little  
earlier than most is mostly because uh  
you know  
grew up in a fairly humble uh background  
but and i've always had a lot of time to  
myself growing up so  
i started my first business when i was  
14 doing gaming commerce  
bought and sold game accounts and game  
equipment subsequently sold a  
business about two years later and  
started my second business which is  
jewelry  
supply chain management wow and uh i  
still  
run the company today as a majority  
shareholder as a self-managing business  
and  
no longer actively involved in the  
execution the day-to-day of the business  
as uh i focus a lot of my full time on  
capri now  
um and after i graduated college i  
joined uh goldman sachs as an investment  
banker  
and uh after a year or so i joined jp  
morgan as a  
merger's acquisitions banker so i've had

a fair share of entrepreneurial  
background  
finance background and back to  
entrepreneur  
how does someone get into smart carts  
then  
i mean i remember that first grocery  
shop it was like you and i maybe was  
like your co-founder or another person  
on your team i mean  
i mean you guys were like strapping it  
like it was like hey let's let's get  
this thing out there and demo it like  
how did that happen  
well i mean i think first of all when i  
was working in banking i was working  
over 100 hours a week and  
i figured that if i was going to work  
100 hours a week i might as well do  
something that i'm  
a lot more passionate about and and i  
kind of found my routes back  
back to tech startups because it's it  
was a booming area  
and when i was in when i was an  
investment banker i'd really  
cover a lot of the retail sectors so i  
cover a lot of retail  
emergency acquisitions and research and  
so forth and i realized that there's a  
lot of  
potential opportunities because you know  
a lot of retailers would implement sap  
for example under and they will  
start pricing the amount of savings that  
they have on their future projections  
and i just realized that you know it's  
it's a really funny joke i was telling  
my co-founder if  
if we had a time machine and we traveled  
back to world war  
ii in a time machine inside grocery  
store  
now by the time you're done and you get  
there you'll probably double check if  
your time machine was broken because  
you'd be like hey like the grocery store  
really hasn't changed too much  
since then so i think i think that's  
kind of  
really where i started because i i felt  
i felt that it's  
an area that's just severely under  
innovative  
and every and there's a lot more that  
we could do there to bring a different  
level of ecosystem that never existed in  
physical retail today  
yeah it still looks like piggy wiggly  
uh in a lot of ways but but  
so why the cart though why why'd you go  
there that's a very  
interesting question so we decided to  
build this physical retail  
technology we first came to this idea of  
just installing a ton of cameras and on  
the ceiling  
and installing smart sensors around the  
shelves and  
if that sounds familiar to you that's  
amazon go but that was before  
amazon go the idea before the technology



came out

so me and my co-founders were  
really really excited about the idea and  
we're like all right let's go do this  
this is gonna be  
the next the future of physical retail  
but  
before we start building it we we  
thought maybe it's better if we start  
with questions maybe we should just go  
out there to talk to store owners to  
really see how they feel about this  
so we did um me and my co-founder ahmed  
we literally went to almost  
every single grocery store in new york  
city and new jersey  
uh so we know a lot of grocery stores  
around here sometimes we could go in  
to grab a free drink but  
it's it's and we we started talking to  
them about our idea  
the grocery store owners really just  
they kind of freaked out they're like  
what are you kidding me like what are  
you trying to do here you know you're  
trying to automate checkout but you're  
renovating my entire store like it took  
me  
do you know how long it take it took me  
to install wi-fi and amplifiers in my  
store  
it took me six months you know i need to  
renovate renovate my ceilings redo my  
wirings the illustrations were  
in and out all day every day and how do  
you think a technology like this will  
work inside the store  
and and so that was when me and aman  
kind of took a step back and  
we thought about it and we're saying  
we're saying hey you know you might be  
right  
so you know all the grocery store owners  
out there  
what do you guys want and they kind of  
just told me hey just bring me something  
that works  
and what kind of dress just went out  
from that template okay something that  
works  
so what is something that is very common  
in the grocery store  
that everyone uses that we could just  
bring to the store  
so we realized we could compact computer  
vision and sensor fusion directly into a  
shopping cart  
and that was the route that we went down  
to and now  
and since then it's uh you know we we  
started building it and now now it's uh  
a lot bigger than it was before yeah wow  
so it's really it's really kind of comes  
down to  
um and it really kind of comes down to  
then kind of just this whole retrofit  
built from the ground up  
full computer vision or not that whole  
kind of discussion again you felt like  
that's just a very expensive undertaking  
for people to do at this point in time  
and so there needs to be a way that  
existing operations can find

something that kind of moves in this  
in this check out free realm that that's  
essentially the philosophy you're  
describing there in terms of you know  
why you thought it was the right place  
to go  
yeah completely because we had talked to  
grocery store owners they were very  
into the technology i mean they like it  
they like the concept they wanted to  
implement it and they you know grocery  
store  
although they have thin margins they do  
have the capital to innovate  
but when it when we got to the uh  
operating discussion  
which is how are we going to implement  
it you know our original idea  
was retrofit the store was a ton with a  
ton of cameras  
sensors didn't even come into the  
picture but will require  
the cameras to really label where all  
the items are inside the store  
so imagine one camera is going to  
oversee probably a shelf of  
200 items and basically it would just be  
this person would sit in front of a  
computer and just click on each each one  
of these products oh this is orioles all  
this is  
this is cereal and so forth and  
and there's and the retail store owners  
were just saying hey  
this is a lot of work like maintaining  
the technology  
but the labor required to maintain the  
technology might actually be more  
expensive than the labor that  
you might potentially you know cut out  
so  
so it was it was it was really a lot of  
practical discussions about how this  
could potentially work  
and we ultimately realized that  
it was just a lot more difficult to  
retrofit the store not not only because  
of  
the infrastructure overhaul but it's  
also because of the  
operational maintenance um and then so  
we kind of took this back and we thought  
about how  
we could make this a lot scalable and we  
realized that  
inside a shopping cart environment it's  
a very very small  
compared to the size of the entire store  
the shopping cart environment is much  
smaller  
so if if you monitor everything that  
goes on  
in that environment number one is we're  
able to achieve  
a very stable consistent environment so  
that if we go to from store to store  
nothing's gonna change and that's gonna  
and that's a very big thing  
in the world of computer version which  
is when environment and lighting changes  
a lot of things needs to be needs to get  
retrained but where we have a stable

lighting plus background  
environment and on top of that we're  
able to extract granularity  
so that so that means that when items  
are being placed into the cart  
we're able to extract textual  
information  
to that level of precision uh so that  
we're able to differentiate the  
different  
flavors of coca-cola uh bottle  
and that and that's the the the core  
part of um  
another reason why we decided to to go  
down the shopping cart route  
that's a that's a really interesting  
point i've never heard i've never heard  
that before in terms of that  
controlled environment i've heard that's  
incredibly important but i've never  
heard of the shopping cart being the  
kind of root of a kin  
of a controlled environment like it's  
your thesis then i know anne wants to  
ask you about kind of kroger in the  
announcement there too because that's a  
huge news in this front but like  
is that is the thesis then that  
computer visual will never fully run a  
grocery store in the way it's in the  
ceilings and sensor fusion in the  
shelves  
no matter what time in the future or  
you know is this more you know or is  
there like a medium term  
versus long-term solve like how do you  
think about that like  
you know or is it dependent on the  
retailer the use case the trip  
type what's all what's going on there i  
think it's it's a tough question  
it's a very very very interesting  
question this is something that we're  
always consistently  
reevaluating our thesis and our  
technology as we're going along and  
i think the number the number one thing  
for this  
to work is return on investment  
if we worth of retailers it has to be  
worth it for a retailer so  
so number one thing is if you're if  
you're installing that amount of  
infrastructure the amount of  
processing power that's required to  
process that amount of images  
is massive so that means that the  
compute the server room that you're  
building uh the gpus that you have  
is just at a different level that in  
itself is already getting outside  
outside of the price range and then the  
second piece is back to the operational  
piece which is  
effectively grocery grocery stores have  
50 to 100  
unique skus inside the store uh at any  
given time they have probably  
you know 500 to a million items inside  
the store  
they process over a thousand  
transactions a day  
so how can you develop a process such

that we're able to very easily maintain  
the process within one second  
uh you know you don't need to add  
additional operating labor  
into into labeling the images into  
training the images  
and into differentiating the difference  
between i don't know a cherry coca-cola  
versus a regular coca-cola  
uh if their positions on the shelf are  
swapped  
right so these are all the all the very  
very important questions that we need to  
ask  
before and you just i i don't  
i don't see this happen happening within  
the next three to five years  
and that's why i think right now we have  
the best solution  
in the market in terms of scaling very  
quickly and deploying  
deploying these immediately into the  
retailer's stores  
well lyndon i want to go there for a  
little bit too and talk about  
you know the progression like you you  
were in  
some smaller grocery stores in brooklyn  
in new jersey in that general vicinity  
for a while  
and you just made a pretty large  
announcement a partnership with kroger  
to actually start  
piloting these in some of their stores  
and i mean this is this is pretty big  
time tell us a little bit about how  
you're kind of you kind of got to that  
point and what  
uh you're hoping to kind of get out of  
this pilot what's next what are some of  
the challenges  
yeah so so so we started we started  
probably two  
two years ago with a smaller smaller  
grocer uh  
around the new york area as you  
mentioned uh  
very very thankfully our first  
enterprise client was sobe's  
uh not very well known in the us but  
they're that's they're one of the  
largest  
grocery chain in canada and we started  
working with their their uh  
with their store in stores in toronto  
and we started learning a massive amount  
we realized that really going from a  
small chain  
like a small one store one demo store  
into a production environment at the  
enterprise level is a whole different  
story  
because because the amount of  
infrastructure that we need to  
accommodate for the amount of corner  
cases that we need to tackle  
at the enterprise level which is massive  
and so  
we really did a lot of our learning  
along the way uh with  
sophie's over the past year  
and kroger approached us probably if you

know

i kind of forgot but but but definitely

uh

more than six months ago with the

initial discussion of potentially

implementing this technology uh and

trying this out in their stores

and i think what really had accelerated

the process was

you know definitely you know kova is a

part of it because

there's the contactless need from the

shoppers

average grocer you know um

in the cashier industry you see more

than 20 of the cashiers being diagnosed

positive with kova before so you really

want to

not only protect their employee and

their staff but also

protect their shoppers because grocery

is seen as an essential work

and we want to make the environment safe

so that's that's one of their biggest

effort which is to make sure that

you know they're keeping everyone safe

and then

what has really also um been a catalyst

in this process is also that amazon go

which is the i would probably categorize

them as the pioneer and

the physical retail automation space

decided that they were instead of

launching amazon go

in amazon fresh they built amazon dash

cart

which is basically this the smart card

version

of amazon go in the physical store

inside a grocery store

and that instantly really validated a

lot of the

to a lot of people the thesis that we

have always had because we have always

talked about how amazon goes it's

difficult to scale into a larger

environment and it takes a long time to

scale it too because

you know amazon goes since launching

until today is probably two plus three

two

to three years they only launched 27

stores there are certain levels of

scalability constraints there

whereas when dash cart launched it's

just launching with amazon fresh

wherever they go so in

the la area they probably already have a

dozen stores launched within the past

three months since they

they made the announcement so i think a

lot of retailers saw that

uh and they that validated a lot of

their

their concerns and and worries and

that that

was also what kind of accelerated the

project so we've been very very

fortunate to

to have kroger as our client they're

very very very smart very nimble they

move really really quickly

and so far uh since we have launched

we've seen very positive results from  
the customers we've seen increasing  
momentum and usages  
very high customer customer feedback and  
going forward you know we're  
we're heads down working with krogers to  
make sure that they love our technology  
their shoppers  
love our technology and potentially  
we're hoping to  
roll out and more of their source how  
many how many stores are you guys in now  
so right now we're only in one store in  
under ohio cincinnati  
in ohio okay cheers to you you brought  
up amazon go i think it's interesting  
too yeah  
my thesis anonymous thesis has always  
been that the thing kind of caps out at  
10 000 square feet i think that's where  
go grocery is right otherwise they'd be  
doing it right and i think that kind of  
goes to your whole points about the  
server room and the cost of technology  
and all that  
question though for you like how the how  
does the fact that they're now  
licensing the amazon go tech to say the  
airport operators  
how does that make you think about your  
strategy in terms of which  
segments and verticals of retail you  
start to look at you know specifically  
and and i know you have some other  
things that you guys are working on too  
like  
how did that announcement change or you  
know maybe cement  
strategically what you guys were  
thinking about if at all  
so um we don't we don't see  
amazon as a direct competitor uh i  
definitely they're in the market working  
with a lot of people  
um first of all obviously this market is  
very big so there's  
room for a lot of different players in  
in this market and they pose a  
competitive threat to a lot of people  
too but yeah  
right and then and at the same time i  
think amazon is a very large  
organization there's a lot of  
competitive nature between amazon and  
other retailers out there so it's it's  
it's very difficult for other retailers  
to want to  
adopt amazon technology in their store  
because  
then sure amazon gets access to a  
certain level of data  
that they probably want to stay hidden  
from um  
amazon and lyndon i was sorry i was and  
i was actually thinking more like  
more from a trip type forget amazon just  
the fact that now you've got  
you know airport operators quote unquote  
retrofitting their stores with you know  
the computer vision and the ceilings and  
the sh and  
you know the salt the center fusion and

the shelves like

does that did that does that impact in terms of like hey this is

you know convenience goes one way this is really for full scale grocery store above 10

000 square feet like how do how are you thinking about that that was more what i was trying to get at

got it yeah it's no so that's that's one of the things that we've been thinking about which

is you know what do we do in an environment that doesn't require a shopping cart because we have a very versatile core technic core technology out there so we decided to develop this uh a checkout counter which is basically amazon go compact into a checkout counter

where you could directly just place items onto the counter and we leverage computer vision to identify everything um there so these can be implemented in any retail format so currently where we're already launched with one of the largest convenience store chains in the world

uh but unfortunately we cannot announce who that is yet

um that's fascinating leave it out there yeah all right and yes uh and you know and so far

it's very interesting you know that this also goes

to a little difference between the retrofit and what we have been building which is if you were to rush to the store there's no way for you to scale very very quickly because you need to install the tag and

all that stuff we went from the for we we went from the first store to the fourth store in one day

so we literally launched three stores in one day we just literally just moved to checkout counter

uh from our warehouse into the store place it there plug it

into the uh the power cord connected to a wi-fi and everything is up and running so it's it's very extremely nimble and it provides

essentially the same level of experience with uh versus

versus the cash the full store retrofit because

if you really think about it the customer already has an app and you all you need to do you know if you already have an app all you need to do is just

place the items onto the counter and then just grab it and leave

and that's it so um so

we felt that it was from experience perspective that's very very similar and on top of that we're able to deploy this very quickly with retailers and we've been seeing a lot of traction

uh in the in the convenience store space in the cafeteria space in the beauty space

so that allows us to really scale  
ultimately into a lot a lot more stores  
got it so it's still that's how it works  
it still pairs with an app so it's kind  
of like a it's kind of just like a  
wait sorry go ahead no no no no it  
doesn't it doesn't pair with an app  
i'm just saying hypothetically if you're  
like for example in an amazon  
go store you will you'll need to  
download an app sure but  
what's the checklist yeah you just need  
a credit card so you just insert a  
credit card and then you could just pay  
a lead but if you have an app maybe it's  
slightly easier you just  
place it onto the counter and then grab  
that lead so okay got it got it got it  
so it's kind of yeah it's not that  
different it's kind of a new  
new version of like a self-checkout  
machine then but it sits at the counter  
and or somewhere in a convenience store  
and you place your items  
small basket probably and you just walk  
out the door interesting okay yep  
there's a cool video you guys have a  
cool video of it too right we'll try to  
get that in our show notes as well  
please do okay yeah we'll try to do it i  
think it paints the picture a little bit  
better too for everyone  
for sure well lyndon as we as we kind of  
close this up um i'd love to hear  
your thoughts on you know who you're  
what kind of clients you're going after  
what kind of experiences you're going  
after you know you've talked about the  
convenience story angle you talk about  
large grocers  
what's next for caper and how are you  
going to kind of  
prioritize the next few months and year  
so i think  
right now we because of a lot of the  
you know uh kova has really accelerated  
the space on top of  
uh what i mentioned amazon dash cards uh  
and a number of catalysts here  
we've seen a tremendous amount of  
inbounds from different types of  
retailers wanting to  
uh potentially launch the technology in  
their store so really  
for us right now we have limited  
capacity we're  
we're we're series a companies or we're  
not we're not too big so  
we have about 60 60 people or so and  
we're really just focused on some of our  
top clients and also  
retailers who are willing to move very  
very quickly  
so that's going to be our top target we  
don't have a particular constraint as to  
what type of retailers we want to work  
with because  
we could work with any you know it could  
be as small as a bodega it's as big as  
a gigantic walmart so uh that range is  
very wide but  
most most of our efforts will be



dedicated to uh

very innovative retailers who are

willing to move quickly

and what if anything are you seeing

would maybe

keep people from being one of those like

early adopters or or really

taking this whole cashierless checkout

approach like

what are what are they telling you if

they're not quite ready to bring this on

is it

cost is it the product itself like what

kind of things what kind of feedback are

you getting

we usually don't see a lot of barriers

once the customer have

interest because from effective cost per

square foot perspective

to our ability to scale to

our operational and technology

maintenance it's all very very low

maintenance um so

so we always make sure that we help

retailers get their return on on

investment

uh when they work with us uh typically

retailers who are

not fairly receptive are slightly more

on the later stage adopters

obviously you're going to have a curve

of adoption with earlier adopters

these are definitely the more innovative

companies which are which are the ones

that we are focused on

right and other ones are kind of more in

a wait and see mode

it's like hey i want to i want to see

how this plays out uh

before i start pouring in more resources

which is also fair so

uh right now our focus is just to make

sure that we prove it to them that this

is

this is going to be to be the future and

do it in a real cost effective way i'm

curious let me tell you you're having

those conversations

um are they trying to find additional

roi at all from operational use cases i

mean we've really talked mainly here

about the consumer-facing applications

of

the computer vision and you know whether

it's the card or the counter

are people retailers i'm curious are

they looking at operational use cases

as well in regards to this with you or

are you guys staying clear of that

i just want to get your thoughts on that

so

uh in this is a great question um

in in my opinion it's this this

whole overall

retail is a gigantic ecosystem like i

don't

if i go out there and talk to investors

and retailers i wouldn't say we're a

shopping cart hunting company where i

work with a self-checkout company

because it's a very very small piece of

what we do

holistically it's just like when you

walk into a grocery store maybe you  
spend five minutes at the checkout  
but during your 40 minutes of shopping  
trip you're spending 35 minutes around  
the store  
so that definitely there's a huge  
element of consumer facing aspect of it  
which is  
we have seen effective we're able to  
increase average basket size by more  
than 18  
so uh customers are interfacing and  
interacting with our  
with our cart screen as they're shopping  
around the store so that means that  
we're able to guide their purchase  
decisions you know if if you bought milk  
i could recommend you cereal  
so that that increases average basket  
size and also increase the top line  
and on top of that it's it's an area  
where we see a lot more interactive  
opportunities and also on the  
on the operation side you know there's a  
lot  
there has been a lot of talks and  
suggestions from the retailers where  
they want us to install a camera that's  
facing the shelf  
so as customers showing their their cart  
we could detect  
out of stock we can also detect where  
all the items are inside the store  
because a lot of times retailers don't  
even know where their items are inside  
the store  
so uh and and and to even further that a  
lot of our computer vision could also be  
help leverage in warehouse applications  
to help um  
their warehouse management a lot more uh  
to become a lot more efficient  
so these are a lot of these ongoing  
conversations but  
at least for now we're making sure that  
we get just get our roots  
um cement it and i think once we get  
our cars in there and becomes a  
long-term fixture  
inside the retail environment then we  
can start creating the ai operating  
system the entire ecosystem to help both  
the shopper facing component and also  
the operating component  
that makes a lot of sense uh lyndon if  
people are interested  
in finding out more about caper if they  
want to learn  
from you um get your theories on  
retrofitting versus  
putting carts in stores or counters in  
stores or  
see demos of the product uh where's the  
best place for them to get in touch with  
you  
uh yes so they could definitely come  
visit our website at [www.caper.ai](http://www.caper.ai)  
and you could also find me on linkedin  
at  
lindengap awesome awesome we always love  
when people do that well hey man thanks  
so much for that conversation that is

really enlightening  
we're still trying to piece together  
this whole smart card thing i know early  
on i was kind of  
you know you probably know that too i  
was kind of like okay i'm not sure about  
this but  
it started growing me a little bit and  
i'm trying to try to learn as much as we  
can here as we go so it's good to make  
your queens too and  
i like a lot of what you said today  
there were some definitely unique points  
that i hadn't heard before too  
especially the  
controlled environment of the card  
itself and in terms of what computer  
vision requires too  
so you know and even the trip type  
things i think is becoming much more of  
a fascinating part of this conversation  
as well so again for everyone listening  
lynn and gal ceo of camper check them  
out we're doing this for grocery shop so  
drop them a note you can connect with  
them on linkedin like he said  
and everyone listening as always be  
careful out there

<https://www.youtube.com/watch?v=g-MFfXyBHok>

all right it's all right all right all  
right hello ladies and gentlemen boys  
and girls welcome to another episode of  
the ux world we are coming thick and  
fast right now uh we've got some people  
tuning in on youtube uh ad wait yeah i'm  
hoping to pronounce your name right  
apologies if i don't welcome raw hit  
welcome  
um we are going to get moving right  
about now we have a tremendous guest  
joining us today to discuss a topic that  
is immensely immensely uh passionate  
part of of what we do at the ux world in  
all things speech technology and voice  
technology related crucial part of that  
voice technology stack is the automatic  
speech recognition not just for voice  
assistance but automatic speech  
recognition is being used in all kinds  
of different places to help businesses  
solve some real challenges and to help  
provide value to users and so we're  
going to get into that today a little  
bit about speech recognition how you can  
utilize it what mistakes companies are  
often making when implementing how you  
can avoid that how you can select the  
appropriate speech recognition vendor  
and a whole bunch of other things as  
well that you should consider uh when  
embarking on any voice based project our  
guest today is deepgram ceo scott  
stevenson scott welcome to vox world  
great to be here thanks for having me  
it's a pleasure absolute pleasure i was  
just sitting there we've been connected  
on linkedin for so long and this is the  
first time that we're actually doing  
this it's a long time coming but i  
appreciate you joining us yeah  
absolutely glad to be doing it  
nice one what's that t-shirt there  
listen to the well you can fill in the  
blank you know listen

to you

yeah

listen to the beep audio i like yeah

i'm a little bit like a where's wally

sort of character today yeah i keep

feeling as i should be like

yeah

i should have a

busy busy background behind me and

people can

exactly yeah yeah

point me out uh but welcome welcome

everyone tuning in if you do have any

questions as we progress through the

course of this conversation then please

do stick them in the comments and we

will do our best to answer them or scott

will do his best to answer them should i

say i am merely here as a facilitator

and a willing observer into your brain

scott into your knowledge which i'm

looking forward to uh so thanks for

joining us so let's get started with

some brief intros you have a

rather

interesting and peculiar

background traditionally

in terms of where you began your your

journey so gonna tell us a little bit

about your your prior experience and how

you got to found deepgram and then we'll

move into a little bit about deep ground

what it is and what it does

sure yeah um so previous to deepgram i

was a particle physicist so i built deep

underground dark matter detectors um

both in china and in the u.s but think

like two miles underground you know a

mile or two underground um in tunnels

dug by tunnel boring machines or in

mines like uh the one in the u.s was a

was a gold mine that's over 100 years

old but it's a great these places are

great places to do uh dark matter

experiments because you have a giant

shield on top of you that shield is the

crust of the earth and it's blocking out

cosmic radiation

and if you don't know um

everything around you is radioactive

what you eat is

you're radioactive you know it's

sleeping next to your uh partner uh

throughout your life uh they're

radioactive in a non-trivial amount uh

of course humans have you know evolved

to be able to deal with the with a

certain level of radioactivity and and

we're for the most part totally fine um

and by the way that that radioactivity

is totally natural it's not from like

nuclear activity or anything like that

for nuclear energy or weapons it's just

literally there's cosmic radiation that

rains down on the earth and it creates a

whole bunch of stuff um also just the

atoms and everything that the soil is

made out of has a lot of thorium and

other stuff in it and it's radioactive

um but but nevertheless um

that we're what in the in that

experiment we're trying to run away from

that radioactivity and find the quietest

place in the universe or build the

quietest place in the universe and so

the first thing you do is you go deep

underground and then you place uh

your experiment there with a whole bunch  
of shields it's like an onion it has  
many layers  
and you you have kind of a dirty shield  
on the outside which is the earth and  
then a less dirty shield less so less  
dirty until you get to a really pristine  
interior and that interior um is the  
quietest place in the universe there  
isn't much going on in there and then if  
something does happen inside uh then you  
know that it's interesting and um that's  
what we were doing is capturing  
interactions inside and uh the  
interactions were just little puffs of  
light basically it just you know  
splashes of photons and we had really  
sensitive uh sensors that could pick  
those up and those sensors uh were  
analog though they were not digital uh  
they they were waveforms they were they  
they looked a lot like uh audio actually  
and so that that's kind of how the  
crossover here happened was we got  
really good at analyzing hundreds of  
signals in real time um to figure out if  
there's anything interesting going on  
inside this detector um but hey if if  
you have hundreds of conversations going  
on you might want to know what's  
interesting inside them as well and and  
what we were doing in the physics world  
was using end-to-end deep learning and  
hardware acceleration in order to do  
this in order to make it all work and uh  
it it turned out you know turned out  
really well we published a paper on it  
um but also that technology we realized  
could be used in other areas and uh six  
years ago we started deepgram and made  
the big bet that you could take um  
end-to-end deep learning hardware  
accelerate it and then  
launch it to the world world as an api  
um and put it in the hands of developers  
so that they can build voice products  
and voice companies around it and uh  
that's that's what we do now  
interesting so  
so you ended up through  
it's a random spot to begin being a  
particle physicist is a very uh  
it's a very deeply technical i suppose  
it helps us being a very deeply  
technical kind of  
raw kind of skill set understanding  
tremendous amounts of detail because you  
can't have a very if you're measuring  
reactors  
underground and measuring trying to pick  
up the slightest  
signal and analyzing tremendous amounts  
of data you've obviously got a brain for  
that kind of stuff taking a whole bunch  
of detail extracting  
insights and knowledge from it  
where did  
how did that  
lead to kind of specifically speech  
recognition because  
monitoring bits of light coming out of  
particles clashing  
you know some people might not  
necessarily draw a direct correlation  
between speech okay so where did the the  
kind of

journey to specifically the speech  
recognition come from what was your  
interest in speech recognition

yeah there's a

yeah there's there's a lot of facets uh  
to that i mean just in particular i i uh  
love love playing music have uh

you know i understand  
audio engineering and you know dynamic  
compression and all of that thing and  
have always had an interest in audio um

uh it but i think also just kind of from  
the from the signal perspective too so  
uh there are different types of data in  
the world there's images there's text  
and then there's like time sequence data  
and uh

audio is a form of that music is a form  
of that um the signals that we were  
analyzing in these experiments were a  
form of that they were they were just a  
waveform that got sampled every 10  
nanoseconds and you read the value the  
voltage value on a specific center  
hundreds of them but nevertheless  
but you would see it you know it has  
shape to it you could actually play it  
as if it were sound um if you slowed it  
down um and

so a lot of the algorithms that we were  
working on um these different pulse  
finding algorithms and shape finding  
algorithms um we we tuned them by hand  
at first but then we thought oh man this  
doesn't

it works so it works all right but it  
doesn't work as well as you would want  
and we just had a

um you know a thought that hey we as  
humans can look at this and we can tell  
the difference um we're able to learn  
and look at the signal and be like it  
looks like it's this type of event  
versus that type of event so we're  
always trying to figure out signal  
versus background is it dark matter or  
is it something else basically and you  
could look at the events and and really  
you could see with your own eyes as a  
smart human and it's like why can't we  
make algorithms that are just as good or  
better than us at looking at it and now  
be able to go do that at scale and um  
that's the real thought that went into  
it and the only way to do that with any  
efficacy

is to use machine learning and so we  
went down the path of  
learning and building our own machine  
learning and putting it in place and  
running it at scale on those types of  
signals and so you know if i back up  
from it all um and i look at like what  
we do day to day in deep gram today and  
what we were doing day to day in physics  
uh back then it's actually really really  
similar um the under

the

one of my uh colleagues put it put it a  
great way um at least if you're a  
physicist it makes tons of sense they  
say the world is translationally  
invariant meaning like  
many problems are actually the same kind  
of problem they're just disguised in a  
bunch of different dressing and um this  
this problem that we were solving in

physics is actually very very similar to  
the audio problem of trying to  
understand what people are saying and  
um we just recognized that and  
recognized that the world  
was trying to solve that problem one way  
like if you went out to nuance google  
microsoft you know amazon um  
ibm watson those those type  
of companies they were trying to solve  
it not using it and deep learning they  
were trying to solve it by developing an  
acoustic model which tries to understand  
the phonemes that people spoke and then  
feed that into a pronunciation model  
which takes those phonemes and tries to  
figure out what words possibly they  
could have been saying and then there's  
another step which goes into a language  
model that says well which words make  
sense to happen in a sequence basically  
and that's not our approach our approach  
is very different than that we say well  
actually there's just one model and that  
model takes in audio and it puts out  
words but you give it a goal and that  
goal is to get the words correct and so  
if you put it into  
a training scheme uh where you reward it  
appropriately um our you know our hope  
our idea here is that the model will  
actually learn faster better deeper uh  
etc as long as you have enough data and  
you have enough compute and you have  
enough uh or the right algorithms in  
order for it to happen and so um that's  
the journey of deepgram over the last  
six years has been um getting enough  
compute enough data and the correct  
algorithms in place and the right team  
around it uh to build that that uh that  
kind of new way to do speech recognition  
which is a  
just purely learn by example approach  
rather than um speech engineers like  
hand tuning things  
so the way that you described amazon  
and the other approaches  
with a lot of different kind of like  
almost sub processes that happen  
so  
how is it that you're able to then just  
take audio and turn it into text  
without  
that because every time we've spoken to  
most people we've had i think we have  
kathryn bresler on the show and she was  
talking about speech recognition and not  
necessarily in the detail in terms of  
like what it is and how it works but in  
terms of some of this pipeline you know  
she was at amazon for a while familiar  
with their kind of pipeline  
um so that's the only real way that i've  
come across it being done what is it  
kind of what is it that you are able to  
do that makes it  
either different or better than that  
kind of process how is it that you just  
take audio and it ends up being words  
yeah yeah i think um  
well one thing you know the  
one way to tackle that problem is to  
just first start you know and say like  
that is our goal our goal is to have  
that happen like

and it's either that or a bust and uh  
the reason that we would have that goal  
is that um  
we believe that that's the right way to  
solve the problem or that's the way that  
would actually win and um  
what what we mean by that is on in the  
long term you know maybe not today maybe  
maybe not well when we were starting it  
six years ago maybe not then maybe not  
two years in but you know eventually  
this is the way  
that it that it will end up working and  
the reason that we have that intuition  
is that this is how humans learn you  
know that we learn by example we we we  
can learn from a situational cues we can  
do that type of thing and so um why  
wouldn't a machine be able to do it as  
long as you have enough compute power  
and expressive enough algorithms and so  
we just had made that assessment around  
like do we think um end-to-end deep  
learning is expressive enough and do we  
think there's enough data around and and  
uh and talented uh people that can put  
it all together and um you know  
our bet early on was that that answer  
was yes if you were if you were to ask  
speech experts at the time they would  
have said no like a language is too  
complicated how are you going to deal  
with different dialects how are you  
going to deal with different noise  
profiles how are you going to deal with  
all the different languages and  
different domains in those languages etc  
and we're thinking well if your system  
is expressive enough and you have enough  
data that that will solve the problem just  
like it does for a human a human it you  
know we have a very expressive algorithm  
you know hardwired into our brain we can  
be dumped in situations and maybe at  
first be very confused about by it but  
we'll start to pick up on things and  
we'll get better over time and you know  
given enough time you can do really well  
at it and so anyway that was the  
intuition um and i think it really  
helped that we were not from a speech  
background i i  
don't have you know my phd was not in uh  
speech it was in uh physics it was in  
solving hard problems with messy data um  
and we just looked at speech that same  
way and we didn't look at it with the  
preconceived notions that you had to  
have an acoustic model pronunciation  
model in the language model um which i  
think weighed down a lot of researchers  
for a while because they wanted to fit  
it into that framework and um yeah it  
was better to just  
to just you know burn it all down and  
start again anew given new constraints  
new new processors like gpus um using  
only intended deep learning techniques  
and chasing after that goal um and you  
know within a couple years of starting  
we knew that it was going to work and  
now it's just a question of distributing  
it to the world um  
and uh continuing uh continuing to  
expand to different languages and and  
that type of thing  
interesting so you mentioned there that



you didn't have a speech background  
um but you're using words like neural  
networks and you're using these kind of  
like ai terms  
um  
so  
where did you acquire that understanding  
from were you using neural networks and  
all of that stuff in your particle  
physicist  
was it some you were using that kind of  
stuff already yeah and um i i think uh  
uh if there are any physicists in the  
crowd their their ego may be stroked  
here a little bit but but nevertheless  
like the physicists i think they  
they think of themselves as being able  
to understand the world from first  
principles um they may not be the best  
at that particular you know area so  
i don't think i'm a world-class computer  
scientist like not at all i don't even i  
don't think i'm a world class physicist  
i don't think i'm a world-class  
mathematician or chemist or any of those  
things but many physicists think of  
themselves as  
being world class and being able to put  
all of that together and achieve some  
goal so it's more like a problem-solving  
mindset while being able to go deep from  
a first principles perspective on what  
really matters um  
and  
so when you look at like the speech  
problem uh you could you could think  
like well you have to have an acoustic  
model a pronunciation model language  
model and it takes up this much memory  
and it does this and we've all seen  
before that acoustic models have  
problems with this type of noise and  
that type of noise and we just start you  
know from the beginner's mind and say  
like what if you don't know any of that  
um how does a human learn and they learn  
by example and you you show you  
basically show humans uh pairs of here's  
here's the audio and here's the text  
that goes along with it um do we think  
that there's enough expressiveness in  
between with current technology meaning  
like gpus or  
application specific uh processors or  
whatever it is to like attack that  
problem and we just surveyed what was  
available at the time the tools that  
were available at the time and it's like  
i think so i mean there's enough  
teraflops out there to do  
uh what we think  
you could do um the real trick was could  
you  
we were very confident that you'd be  
able to do it with a small enough  
vocabulary um we didn't know if you'd be  
able to go to a very large vocabulary  
and it's been it's been shown now or at  
least we've shown that you can go to a  
very large vocabulary as well but that  
was one of the biggest unknowns early on  
is maybe you make a really great speech  
recognition system that is end to end  
but it could only work on like a  
thousand words or something like that  
and if you go if you go far beyond that

then it can't it can't deal with it  
maybe um but that's not the case um you  
know you can go to hundreds of thousands  
of words millions of words etc and so  
anyway i think it's just that beginners  
mindset that really helped us break out  
of it you know and i think this is  
something that's talked about a lot in  
startups as well where  
you just start on something and then um  
you're you may not be the uh uh the  
expert when you first start you might  
not be an expert a couple years in but  
uh but pretty soon you will definitely  
be an expert on your market you'll be an  
expert on how they react to different  
products um uh being put out into the  
world but but over time you're also  
going to accrue those skills uh like the  
technical skills as well  
um but for us in particular uh we were  
we were building um machine learning  
previous to speech uh as well in  
in a very similar way using using uh  
fully connected layers cnns rnns etc in  
order to build systems that operated on  
things that looked like audio waveforms  
you know we were  
we were building those previous uh to  
this but now it's just hey can you go to  
really large vocabulary and have it  
expressive and be able to transfer learn  
into different languages and that type  
of thing and um it's not easy but the  
answer is yes you can  
interesting so  
we kind of got right into the meat of it  
all there which is which is which is  
fantastic uh and i definitely want to  
keep going down that that kind of thread  
because there's a number of questions  
i've got following that but um  
let's let's kind of bring it up a level  
and and discuss  
so obviously deepgram is a speech  
recognition company for those people who  
have not come across speech uh deepcon  
before i i know that our our listeners  
and audience are familiar with speech  
recognition but do you want to kind of  
shed a bit of light on the kind of use  
cases that deepgram kind of support and  
how deepgram's api and speech  
recognition capability is being used at  
the moment out there in the real world  
sure yeah so we um  
yeah so we are a speech api uh for  
developers so you can you can sign up to  
use deepgram to transcribe audio in real  
time uh you can do it across about a  
dozen different languages right now uh  
you can do it in in in real time or you  
could do it in a pre-recorded mode so  
you know maybe  
uh  
in principle if you hooked it all up you  
could have you know deepgram  
transcribing this as we're having the  
conversation now or afterward when when  
the conversation is over you could  
submit it submit the pre-recorded file  
to dprn and have it transcribed uh that  
way as well um the output of the  
transcription is words like as you would  
expect um punctuation that type of thing  
but also um timings and confidences so  
it can tell you when the words happen it

could tell you with what confidence the  
the model thinks that word was actually  
spoken

uh that type of thing um and then we  
offer other services like speaker  
diarization so in particular like this  
recording um if it were recorded only to  
one single channel um which is fairly  
typical uh then you wouldn't have an  
obvious way to tell who was saying what  
um you would have all these words but  
you wouldn't know who was saying it um  
speaker diarization  
is what helps solve that problem it  
breaks the audio up into uh the  
different speakers and labels them hey  
this is one speaker this is another  
speaker etc so you can see that there's  
a conversation going on back and forth  
we also do things like automatic  
language detection so if you're a  
large platform um like a  
you know like a meeting platform you  
have all sorts of meetings happening in  
different languages and things like that  
um it could be someone in the us but  
they're calling somebody else  
up in the u.s and speaking chinese to  
them that's a very that's a very common  
thing um and uh what do you do about  
that uh do you make them select the  
language that they can then transcribe  
you know like it doesn't  
what what kind of user experience is  
that that's not good why don't you have  
something that automatically detects  
which language they're speaking and then  
transcribe it actually in that language  
and that type of thing so anyway we we  
build the products that um that allow  
companies uh to build  
new voice products on top of them or  
build entire companies based on it and  
so to give you an idea of the the  
products uh that we're deployed to now  
um it can be like a real time agent  
assist for a call center so two humans  
having a conversation um but maybe the  
agent isn't all that well trained yet uh  
and they have like an exoskeleton a  
something that's helping them out that's  
listening to the conversation and saying  
hey this person's asking about this  
particular phone with this particular  
problem you know it looks like the steps  
that they should take are x y and z um  
say that to them you know and then the  
human you know the the agent will say  
that type of thing so it's like it's so  
it's a real-time agent assist um we have  
uh  
companies that use uh deepgram for  
other uh call center things as well like  
um  
for compliance to figure out you know  
are people saying like hey do i have  
your permission to create this account  
that type of thing or uh  
or  
for training you know to look to look up  
um you know did you cover this thing  
you're supposed to cover that type of  
thing um but uh that would be in the  
speech analytics uh regime but there's  
also a lot of other use cases so um like  
food ordering um is is common um

understanding what buyers in physical retail stores are saying about products that they're looking at and so people will put uh recording devices on the showroom floor and then figure out what people are saying about different items and that type of thing or like nasa uses deepgram for space to ground communication for the international space station they have a lot of jargon a lot of messy audio it's a very tough uh thing to transcribe and they have a whole backlog of it as well because they record everything on that side um and they want to understand how best to communicate but also you know in real time they want to transcribe and uh be able to react very quickly to different circumstances and they use uh deep crams automatic speech recognition to do it so um yeah and we've had entire companies that are built on top of deepgram as you know like a core piece of technology built into them they wouldn't have been able to exist if deepgram you know wasn't available because uh because of the accuracy level that we that we supply number of language languages supported the scale let's we focus on um returning transcripts very quickly so generally 10 to 20 times faster than our competition have very fast uh um interactive real time so you might have 500 1000 milliseconds um latency when you're using one of our competitors but with dgram it'll be like 200 milliseconds so like you know two and a half to five times better and so the conversation feels more lifelike if you're having a conversation with a bot um so so yeah a lot of a lot of different use cases were very horizontal infrastructure type of product where you can use deepgram to build many different voice products interesting nasa sounds uh sounds interesting and the one about the retailer using the in store sounds a little bit uh a little bit creepy yeah and you don't really expect yourself to be recorded when you walk into a shop would you well hey i mean you're recording a video camera yeah you already are right and we're used to but yeah it is one of those things that we're going to have to uh decide what to do as a society what we allow where and all of that it's still very new um and yeah but there are products being developed around all sorts of things right now in voice to try to make people's lives you know just a little more efficient so yeah yeah yeah well definitely and you know i can think of you mentioned like agent assist and stuff like that we had uh mark bernstein from balto on the show a while back and and their product kind of does that

really there's an nlu behind it  
obviously the speech recognition um and  
so i'm thinking that you know the  
companies i don't know what they use in  
terms of their speech recognition but  
things like that i can see what you're  
saying in terms of businesses being  
built on top of it there's another  
company um  
oh i forget the name of it now it might  
be called something like uh  
punch  
something i'll better find it anyway um  
basically what they do is they and again  
this whether they whether they use  
deepgram uh who knows but they do  
uh automatic transcriptions of tv shows  
and translate them into other languages  
in real time and then also they've got a  
synthesized voice basically i'll tell  
you the name of the company because uh  
yeah that will speak it back  
and it will speak back yeah exactly yeah  
um it's called uh  
where is it uh paper copper that's it  
paper cup uh so yeah so basically what  
it does yeah it will it will take the  
audio that the video is producing it  
will transcribe it all translate it and  
then have speech to text uh that reads  
it back yeah in real time which is  
phenomenal so these are the things that  
can be enabled with something like  
deepgram isn't it voice voice community  
is blowing up right now just with all  
the possibilities just because um  
i mean  
a good way to think about uh how all  
this works is that there's really kind  
of three types of things happening in a  
voice conversation or  
any type of voice understanding there's  
a  
uh  
there's a first step which is the  
perception side so  
this is this is mostly what deepgram  
does right now although you know i'll  
talk about some other things later but  
um  
the  
just trying to establish  
as close as possible the truth to what  
happened meaning like what speak what  
which speaker was talking what words  
were they saying when did they say them  
and then you know with what confidence  
do i does the model have about that um  
and then uh  
the next step after that so that would  
be perception the next step after that  
would be the understanding part so say  
okay with all of that information what  
do i think they were trying to do you  
know were they trying to order something  
were they  
just you know talking were they uh  
you know did these people just meet for  
the first time or do they do they know  
each other really well you know that  
type of thing this is the kind of thing  
that a human can do when they jump in a  
conversation even if you don't know the  
people that well you can be like oh i  
have a pretty good idea what's going on  
and also what they're trying to

accomplish um and a human could then say  
like well i should speak back to help  
them or i should hand them a piece of  
paper or i should send them a text or i  
should call somebody or i should do an  
action and that third step is that  
interaction piece so it's really just  
that perception understanding  
interaction and then that loop just  
happens over and over um and uh in the  
interaction side you might have text to  
speech like you're talking about  
generating voice but it but it could be  
other simple things send an email text  
you know uh that type of thing um but uh  
but yeah there's there's a rich uh a  
rich um set of products and companies  
that are being developed around voice  
right now and you know if i had to um  
if i do make an analogy here it's very  
similar to like  
you know going from steam power to  
electricity and uh  
it's 1900 still and yes electricity's  
around but it's being only used for like  
industrial purposes to like you know  
raise ore from mines or  
stuff like that and then um  
then maybe like the consumer use cases  
too of like lighting up the streets of  
paris  
to reduce crime or something but there  
isn't much in between  
um and then as time goes on you know  
1910 20s 30s 40s etcetera refrigeration  
comes around uh computing comes around  
in the 60s 70s 80s etc and then you know  
internet communications all this stuff  
builds off from it basically um and it's  
it we're in a very similar state to like  
1900 electricity for ai and voice right  
now where previously we only had  
connectivity that's it it was just the  
ability to speak over distance which is  
great um but there's no way to enter  
have a machine interact and do something  
about it to automate it to whatever it  
is and we're just at the beginnings of  
that stage and um it's going to turn on  
it'll be here forever um and you know  
it'll increase the productivity of the  
world and we're going to have to decide  
what to do with it um but yeah it's a  
really exciting time  
interesting so do you do you see uh this  
kind of technology then  
as to usually to continue the  
electricity kind of analogy the  
electricity is almost like the pipes  
isn't it  
it's a little bit like you know  
i suppose no i wouldn't want to use the  
analogy of water pipes because  
electricity is a lot more flexible than  
water as such because as you said  
electricity enables refrigeration it  
enables connectivity it enables  
phone communications now you know and it  
was absolutely everything  
um and so  
do you think that  
are you saying that the  
this technology speech recognition  
technology and other technologies nlu  
something like that yeah pipe work or is  
this the stuff that's being built on top  
of

the pipe work like a version of the  
refrigerator for argument's sake are we  
learning the pipes now are we building  
on top of infrastructure right now we're  
building the infrastructure right now  
we're laying the railroad track we're  
putting down yeah we're we're stringing  
you know telegraph wires across you know  
we're we're doing that kind of thing  
right now um  
and you know we'll look back at it 10  
years from now and say oh it wasn't  
isn't that cute isn't that quaint you  
know that's what we were working on then  
you know um but they're necessary steps  
to show value to the world so that more  
so that more investment goes into it um  
they're necessary steps to um understand  
what works and what doesn't um i i like  
i like another analogy here that around  
the same time is when electricity was  
really starting to be discovered is  
this is more of a physics analogy but um  
radioactivity was discovered around the  
same time um or  
like starting to be understood more  
around the same time um and uh at first  
people thought of it as magic you know  
just like they thought of electricity  
too um and  
there are certain instances where it  
actually has a like a really great uh  
effect on the world and then there are  
certain circumstances where it's like  
crazy it doesn't make any sense um so  
for instance um  
people uh  
cancer treatment um  
like you need radioactivity in order to  
have uh many successful cancer  
treatments um  
but uh what people used to do a hundred  
years ago is like drink a solution of  
radio radio  
active you know atoms uh uranium you  
know stuff like that uh uh lead whatever  
um and they got very sick and you know  
that actually caused cancer and things  
like that right and so it's like  
yes they're going to help but but  
they're going to help in specific ways  
and you have to understand the ways that  
they're actually going to help um it  
can't just be a blanket statement like  
ai is going to solve everything no no  
ada is not going to solve everything ai  
is going to help with automation it's  
going to help that  
i like to i like to think of it like uh  
you know we had our agricultural  
revolution we have our industrial  
revolution right now we're in the middle  
of an intelligence revolution is the  
intelligence revolution going to solve  
everything no it doesn't solve like the  
space problem of and uh of where people  
live it doesn't solve the safety problem  
for humans and things like that it can  
help with them but it's not like the  
thing that's going to solve it all um  
but uh but yeah it is a new  
it is a new modality it's a new it's a  
new thing that didn't exist before which  
is uh all intelligence had to derive  
from humans in the past well that's not  
true anymore it can it can come from

machines now and in just like uh it used to be human labor in the past building goods um now we can rely on machines to build goods the same a similar kind of thing is going to happen it will transform our world but we'll still have problems you know ai's not going to solve them all just like electricity doesn't solve them all just like connectivity doesn't solve them all et cetera but it's going to you know increase the productivity of the world is the best way to think about it you know you you get to start talking about new problems now like hey global warming is super serious and before we were all worried about how we were uh going to do these other sets of things we've solved those sets of things or many of them using ai now let's focus on these like much more core problems but yeah interesting and and and you so you're laying the foundations and part of the lay in those foundations we've kind of touched on a little bit earlier on around you know if you're building a speech recognition model you need some degree of data especially if you're going to cut out that kind of uh process that we that we spoke about and also if you're going to be able to have something that works outside amongst noisy traffic versus something that is you know in a factory or whatever so inevitably and you've also referenced accuracy assuming that the accuracy levels that speed uh that deepgram is providing is is better than other options on the market and so in order to get that level of accuracy in order to get that uh capability to be able to work well in different environments you inevitably need training data of some description you've also mentioned computing power which leads me to believe that you need a lot of training data where where where does a company like deepgram get training data from like is that that must be surely a large part of what you do is sourcing training data or all that stuff being done now and the model is just working like how do you approach the whole concept of getting training data and training these models i'll tell you definitely any company in the world working on speech uh would not answer the question like it's already been done like no way i i i look at it more like there's a map and that map is super dark everywhere and you've got a few bright points on it that you know fairly well about like um you can use tv shows or you can use audio books or you can use um news broadcasts and things like that that are that are recorded and transcribed you can use those to help train these um these models but does that cover a phone call use case an internal uh company meeting where you're using a whole bunch of jargon



etc uh

a noisy in-car situation like no not at all there's in not only that it's just in all of those situations you have different people you know all of our voices sound differently we speak with different pace and um and emphasis

um we

we might have uh well everybody has an accent so just depending on you know does the model know that accent really well or not um now what language are they speaking um what context are they speaking about what topic etc there's like so many different uh combinations here and uh

no no speech researcher would say like oh yeah we've got all the data we need we're all good um uh you you need more um but uh there is also a push in um ai which is a very smart one um

to try to require less data in order to achieve the same goal or a better goal and this is just an idea of data efficiency training data efficiency

and the way you do that is by coming up with better techniques um but you know with that said

usually the way that you discover something first is by brute force um and then you back away from it and try and make it more efficient um this is similar to how many things are accomplished in the world i mean the first processors computer processors were massive you know they were huge you could see the transistors on them and now and then you refine them and make them smaller but those first processors were you know they were a zero to one you know step function change uh the world was one way before and then afterward you know it was a different way and then now it's just evolution of that afterward similar kind of uh thing here where you you figure out that something works and even if it took a lot of energy a lot of compute a lot of data et cetera you can reduce all those things or you there you're expecting that you'll be able to reduce all those things by possibly orders of magnitude um and again the reason for that reason or like the reasoning for that is like hey humans can do it cats can do it mice can do it etc we probably can do it too we just have to come up with the right way uh to formulate the problem um interesting so

you if so

there's a ongoing effort to continually optimize the models based on all of these things you spoke about accents environment you know different types of topics and all this kind of stuff

if a person listening or a potential client or customer or user wanted to use deepgram uh let's say that you mentioned call center let's say it's a call center situation or maybe it's an internal

meeting transcription based thing

um

are they likely to be able to just use

the api because it's already been

trained on those environments so how

often do you need to get involved with a

customer to then

help them train these models for their

unique scenario

yeah so um i i

i like i like to put it in these terms

that uh there's actually two types of

models in the world these speech

recognition models um

those that are only trained on for for a

general audience basically or they're

they're the jack of all trades it's a

single model that tries to do everything

and generally you call those general

models that's it um but uh they are not

in

in most circumstances they are not the

best model for any particular thing and

so when a company comes to us

specifically

uh we'll say um hey try it out on the on

the general model build your demo on the

general model get things working that

way and it will work very well you'll be

happy it'll it'll be it'll be fast it'll

be accurate it'll be um

you know you'll have uh you'll have a

great experience using the api and

testing it all um and it's not gonna

cost too much um and but once you build

your demo once you get water through the

pipes you're gonna have you're gonna

start having questions like hey wait a

minute um it missed this particular

like word or acronym or something that

we use very typically in our business or

in in in our vertical that we operate in

um is there some way that you can make

the model know that you know and um the

answer to that is yes for deepgram for

most other companies the answer is no

sorry

what you see is what you get

um and the the way that we do that is

with uh um

a what we what we call model adaptation

where um

essentially the model is able to be

exposed to your data so it can learn the

different acronyms words acoustic

environments um types of people that are

using uh the service and

um

this

this may sound like a super involved

process um i would say it's not a super

involved process now it was it's it's

very tech it's very difficult to build

this type of process but

you can have a model that is adapted to

you within two weeks and you see like a

30 reduction in errors uh right within

those first couple weeks and that's just

with using the deepgram service as if

you normally were and so essentially

just over time your accuracy continues

to get better uh just because it's a new

type of model so i

kind of tongue-in-cheek say like our

general models are the worst version of

our models um

for any particular customer uh because

it's probably better for you to train something um for your particular uh domain and that domain doesn't have to be super specific most of these companies it will be like just a meeting a meeting company okay that's still good to train it for your domain because it can forget about um phone calls podcasts you know news broadcast all that stuff it can weight that stuff differently you know and it can focus only on getting this other stuff um uh done properly and uh so so anyway yeah there there is a there is a way uh for all of that to work and um but it's not normal uh to have this ability to just turn something on and have the model learn over time that's something that we do uniquely at deepgram um so so most people will find better results if they do some level of of yeah tuning retraining you know changing that model what is a acceptable level of accuracy for for a given use case let's say that um you know let's start it's word error rate isn't it i suppose is how it's known so let's say that you're you're um maybe it's two different scenarios one might be a meeting scenario or transcribing meeting notes you know which which companies do zoom will do it auto can do that and you'll notice that there's little errors here and there that you need to correct or whatever um versus something that is short sharp crisp like a like a voice assistant call center or something like a voices and device what's an acceptable kind of word error for those sort of environments and and where is it that you as deepgram are aiming to get to yeah just just to give you a general range um for audio that a human can't understand without too much difficulty meaning it's not like crazy uh noisy or anything like that um then 80 to 95 accurate is like the range that you're working in um and to give you an idea um a lot of big names don't hit that uh even you know for their general model and their most recent models um so uh there there's a there's a couple out there like aws and google like their general models uh will sit in that range um but you know some of the legacy providers like uh ihm and uh uh and nuance depending on the the the vertical that you're in it might be as low as like 60 or something like that and so um there is there is really there's like a there's kind of a new uh or a there's a set that are at the top all

bunched together that's like deepgram  
aws google from a general model  
perspective um that do well on a large a  
large variation of many accents and  
things like that in audio um in  
different modalities or different  
media so phone calls you know podcasts  
all that stuff  
um and then there's kind of all the rest  
where uh they you know they're 60 70 75  
that type of thing and so there's like  
two kind of groupings um  
and uh  
but but but like i like i mentioned um  
that's that's just the beginning for us  
well you start in that in that range and  
it kind of depends like i say 80 to 95  
it's probably more  
the typical experience is more like 85  
to 92 percent sort of in that range and  
um it depends on the audio quality it  
depends on how well people are dictating  
um it it depends on many different  
things but um  
the  
typically the low end of that spectrum  
would be a low signal to noise ratio  
type scenario so like in the car phone  
call that type of thing is going to have  
somewhat lower accuracy um but if it's  
like a well recorded a podcast then  
92 that's probably low actually it'll  
probably be 95 you know something like  
that so um  
yeah it's kind of all over the place it  
depends on the use case and it depends  
on the quality of audio and  
it depends on the dictation that's  
happening um but uh yeah hopefully that  
gives you some idea of the range yeah  
definitely yeah and what's up so  
following that kind of journey of a  
customer who needs some speech  
recognition capabilities who has maybe  
started with uh using the general model  
maybe they've reached some areas where  
they want to start optimizing it they've  
kind of optimized that that all sounds  
like a a nice smooth path to get up and  
running presumably some companies don't  
have a totally straightforward time with  
this kind of technology there's not that  
many people who uh have skills in this  
area  
broadly speaking you know you go into  
most of the you know either banks or  
insurance companies retailers uh these  
these startups that we're talking about  
who are utilizing this technology um  
presumably they don't have a tremendous  
amount of experience in this kind of  
area so what are some of the common  
challenges  
common obstacles if you like that  
companies face when trying to get up and  
running with speech recognition that  
could be for transcriptions in the call  
center it could be for using it on a  
voice assistant whatever the use case  
are there some common themes that you  
notice with customers where there are  
challenges and how do they overcome them  
one of the biggest things is access to  
the data at the time that you need it  
you know with the with the reliability  
that you need it and so what i mean is  
um for instance like call center use

case um you have live conversations that are happening right um

but uh a call center like that that connectivity software or hardware that was built for them

dates back to you know

a lot of them like 90s 80s etc it's literally like a server in their basement and all the phone lines are hooked up to it and that type of thing

uh

yes the customer can talk to the agent and everything happens um but if you want to record it or if you want to uh send that audio off for uh for analysis with some uh some automation um you you have to get access to it and if you want it to happen in real time you have to get access to it in real time uh that type of thing and so i i bring this up as like the number one thing

just because it's a non-starter if you don't have access to your data so you have to start talking to your it people talk to your engineers etc where does our data sit um if it's in an s3 bucket like an aws s3 bucket or something like that that's great that that that's a nice pre-recorded use case that where everything's easy um but if it's like hidden away uh in a call recording software that you bought like 20 years ago then you're gonna have to figure out how to get it out and set up scripts to start syncing that to a service that's more amenable to automation and the reason i put it that way is you know 5 10 20 years ago there was no automation um all you had to do was store it and then a human would go you know rifle through some files listen to it if they needed to and they would do that on a tiny percentage of audio and that was it um but the world is changing now to have it have the automation step in here and help assist in many of these qa tasks and compliance tasks and things like that and so you have to have access to your data now that's if you're starting out with like you already have an established product or you know you're already collecting a whole bunch of data that type of thing if you're if you're a new company or building a new product building it from scratch building it on mobile that type of thing you don't have a data access problem that that one's that one's easy capture it from the microphone or or do whatever you need to do

in that case it's just product development you have to get a demo working get it into the hands of your customers and iterate to get to a point where like they actually care and actually want to use it um because once you get to that point now many of the whatever problems or tasks or things that you're trying to accomplish like those things can be solved um like just to tell people bluntly like the the power is here you know now to solve those problems um there is not a one-size-fits-all

um

single

company that you can go to  
uh with a single product that solves all  
of everybody's problems that doesn't  
exist um but there are pieces there are  
lego blocks that you can put together to  
solve the problems that you're trying to  
to solve um accuracy  
is key reliability is key speed is key  
etc in most of these use cases um and  
then uh  
you you'll probably have like your own  
data science team or some of your  
engineers set up a an understanding  
piece and an interaction piece so you  
come to a company like deepgram and get  
your perception down you know  
turn things into words get that moving  
smoothly  
and then you set up a  
not straw man but just a first demo that  
that solves some small problem for  
customers or or a simple but big problem  
for customers and then gain momentum  
that way and then once you sort of get  
water through the pipes there then uh  
the success of that pulls you into  
building more and more and more success  
so  
um yeah that's just some words of advice  
that like water through the pipes  
matters and like make sure you have data  
access if you're actually working with  
legacy technology  
which which plenty of companies will be  
uh likely you know especially when  
you're looking at call center use cases  
and stuff like that without doubt um so  
how do  
organization i mean the easy answer to  
this i already know uh which is give  
deepgram a call yeah  
but  
how would an organization go about  
trying to understand  
uh  
how to choose a speech recognition  
provider you've kind of given a lot of  
good arguments around  
why and how deepgram works and and the  
flexibility and the speed and the  
accuracy and all of that kind of stuff  
um  
but how how do you judge  
one provider over another because a lot  
of companies will want to go out into  
the market and have a look what advice  
can you give for people who are who are  
trying to decide what speech recognition  
systems use what criteria do you think  
they should be using to assess which uh  
provider is a good provider yeah and and  
i'll back up a little bit from that uh  
too and just say like do you need voice  
do you need voice automation do you need  
understanding do you need that is that  
something that your company like  
believes  
is a differentiator you know or is it  
just kind of a nice to have and the  
reason i ask that right now or you know  
up front is  
uh if it's just a nice to have voice is  
too hard for you to uh voice is too hard  
for you  
to  
accomplish like you're going to lose  
motivation basically if it's just nice

to have you know like it's too hard um  
you know wait a year two years like  
whatever it is until some more like  
turnkey services come out and and you  
can you know try a few things but if but  
if you recognize like hey um our  
competitors  
like we're worried about our competitors  
doing voice where  
we really do think that this is um  
you know we see the next stage of  
automation and uh we're afraid you know  
we're going to lose out or like we just  
want to be the ones to bring the best  
service to our customers and so we're  
willing to invest and go after it um i  
think that matters that conviction is  
what means you'll be successful  
essentially so like establish that  
conviction first because like i said the  
tools are available you can do it um uh  
but are you going to put the resources  
behind it the motivation behind it etc  
and then go out there and actually you  
know build that successful product or  
build that successful new line of  
business okay but once you've decided  
that you know now you now you look for  
uh hey uh there's there's some big um  
uh  
uh cloud providers so like i mentioned  
aws google that type of thing and i'm  
okay mentioning uh competitors we all  
have different uh differentiators um  
and uh like google google and aws um  
they they don't uh you know they're in  
the cloud they don't run on-prem one  
thing i didn't mention is that deep cam  
runs on-prem um it it it doesn't have to  
you know we we host it if you'd like you  
could run it in your own aws vpc or you  
could you know run it on your own  
hardware if you'd like that's a really  
big deal for you know  
companies that have you know large call  
centers and that type of thing but you  
have to really start thinking about  
those constraints where does my data  
live do i need it to run on-prem or in  
the cloud okay if in the cloud is  
okay and you're okay with giving away  
your data to a whole bunch of people  
then a lot of options open up if you're  
not okay with giving giving away the  
data or you just need a more controlled  
like partner on that side then you have  
to  
you can you can weed out a lot of  
different things and you'll start to  
have only like two or three  
conversations with vendors then um but  
uh but really i i think that strategic  
side of hey is voice strategic to us are  
we willing to invest in it um then you  
know go go meet with the go meet with  
the companies um and see how they treat  
you as a customer because that strategic  
side uh  
to what you're building is what matters  
to you the most and um many of these  
providers uh it's it's really just like  
a  
sign up there's no there's no customer  
success that's helping you along there's  
there's no you know good luck trying to  
uh get somebody on the phone at some of

the biggest providers uh they're not going to customize a model for you um sorry if it's slow that's just what you have to deal with um that's just how it is you're not gonna get a better price you know that type of thing but like i said there are really good reasons to go with them like if you were uh if you're just setting up a demo a lot of times it's really easy to get that going um through uh the big providers um or if you have uh like like google's really great at addresses you know that type of thing if you need addresses maybe you use google for the address part you know but uh but really it's uh if it's strategic enough then you should be thinking about that deeper relationship and how is that company going to scale are they going to cover the languages that you care about and then what's next after asr so like you know we're just talking about asr here but like what's next that piece that i was talking about which is you know what is a human going to be able to do um in a conversation or what would a human do in this circumstance you know um is the company building that type of thing as well on top of the asr or as the as the next piece and understanding stack and um and again if it's strategic to you uh then you'll probably care about that a lot like automatic language detection being able to tell if they're different speakers or not being able to tell what topic they're talking about that type of thing so um yeah and i would say don't lose sight of the cost aside because um it's easy to look at just licensing and not compute cost or something like that you wanna you wanna look at real total cost of ownership because speech in many cases is really expensive again this is one of our differentiators because we use um uh we use hardware acceleration and end-to-end deep learning and so generally um uh for the same workload are generally much cheaper than our competition but like think about that um and yeah so it's it's uh i wouldn't say it's an easy i i don't envy the person who has to go out and look at all the different vendors and look at the different things it's really tough uh but you know at dpram we're scientists we like to help people find the best solution for what they're doing so you know you can contact us we'll help you do an asr comparison if you want you know send it through dcram's general model send it through our competitors general models you know do do a comparison for you and say hey here's what it looks like here's what the costs would be etc and you know you can do your own analysis on that as well um so yeah uh it's it's not it's not easy to go out there and do it but again if it's strategic enough then it's going to be worth it for you to go down that path



perfect that was absolutely spot on and  
where would where could people if they  
are interested in doing one of those  
comparisons what's the best way for them  
to go about doing that yeah so  
deepgram.com um you can you can contact  
us uh there um email me at scott  
deepgram.com  
or you know just send me a connection on  
linkedin uh that type of thing happy to  
get involved and help you uh  
our our partners i mean we really we  
treat them as partners at deepgram and i  
think that is part of the  
one of the differences um  
for how  
how our business model works is that uh  
our  
our processing  
our processing differentiation um means  
that our margins are a lot higher than  
our competition and therefore we can  
spend more on the customer service  
you know customer success side in the  
partnership side and so i think you'll  
you would see that um if you contact us  
and you know just start that  
conversation um and like i said i  
mentioned i'm mentioning now in this too  
like if we think a competitor is going  
to be a better fit for you we'll we'll  
we'll send you over there too like it  
it's uh  
we're we're not afraid um  
in this world there's a there's  
certainly like a rising tides lifts all  
boats um  
uh  
situation in voice and  
and uh automation right now uh if we all  
play nice together and solve the things  
that we are good at you know it's only  
going to help our customers and then um  
and then bring even more adoption to the  
world so uh yeah happy to have that  
conversation if people want to have it  
wicked fantastic a man for the time  
scott i know we've run over a little bit  
but i really appreciate you joining us  
absolutely fascinating i think you're  
right that you know  
that white glove service i think is  
going to be a real help for people who  
are not experienced in this area don't  
really know what to look for and how to  
get moving with it and stuff like that  
inevitably the big cloud providers are a  
kind of like you know pilot high and  
ship it kind of approach whereas to get  
this stuff right i mean you mentioned at  
the beginning you've got a music  
background for anyone who's familiar  
with any musical production  
you need to get a clean signal at the  
beginning because if you get crap in  
then you'll get crap out at the other  
end and the speech recognition part of  
it i said many times before on on many  
many shows in the past that the speech  
recognition part of it especially when  
it comes to voice assistance as we talk  
about mostly on this show the speech  
recognition part is absolutely crucial  
because if you get crap in you get crap  
out and the whole thing breaks down and  
so i love you yeah thank you i love i

love the approach i love what you're  
doing i definitely vouch for for deep  
ground when people are uh trying to do  
something uh that requires it so thank  
you very much scott i'll stick the links  
in the show notes as always uh if you  
are not subscribed to the show uh the  
newsletter by now then where have you  
been or whether you've been on my life  
uh vox dot world forward slash subscribe  
every week we have conversations like  
this with experts in the field like  
scott  
and many many more sometimes twice a  
week as it is this week in the next few  
weeks uh so if you are interested in the  
bleeding edge of conversational  
technologies then do subscribe there  
without further ado and uh it's not  
really without further ado because it  
seems a bit harsh to say that i don't  
really want to end this conversation i  
think we left a lot on the table there  
and hopefully we can do this again  
sometime soon  
but it's been an absolute pleasure scott  
really appreciate it thanks very much  
thank you  
cheers

<https://www.youtube.com/watch?v=0gg0MrzB-MI>

[Music]

[Music]

hello and welcome i'm jeff terry  
delighted to be joined today by moody  
garg who's the ceo of juventus we're  
going to talk a bit about something that  
we uh is important to both of us which  
is real time healthcare good morning  
moodit  
good morning jeff thanks for having me  
thank you so uh first question uh please  
tell the audience about juventus what's  
your vision how do you bring value to  
healthcare providers  
yeah at juventus we help hospitals and  
health systems manage their operations  
in real time and as you said it that  
that as a result is important to both of  
us but  
at the highest level if you think about  
you know our vision where um my  
motivation came to be is i strongly  
believe that world-class healthcare  
requires world-class operations right  
and  
what i mean by that is you know when i  
first  
came into healthcare worked in process  
improvement work alongside doctors and  
nurses  
i was you know at that time part of  
mckinsey and company  
charged with helping a rural hospital  
and it was amazing what i saw you know a  
dichotomy on the one hand that this even  
this rural hospital had world-class  
physicians world-class treatments  
equipment therapies  
and yet the experience of the average  
patient was far from world class right  
that's that's just so surprising how can  
those two things exist simultaneously  
like if you  
anywhere in the world if you want the

rarest of rare disease treated  
our healthcare system is the best place  
in the world uh to be at yet for the  
majority of the patients we fall short  
and that just was really surprising and  
what struck me even more  
was that that was happening  
in spite of heroic efforts from staff  
clinicians managers who do whatever it  
took to take care of patients right if  
the patient is waiting for mri and the  
doctor i'll wheel them in or that  
patient didn't get the disheartened  
instructions that's okay let me run over  
and get it done that kind of heroic  
willingness to do whatever it took  
nothing's beneath me in spite of that we  
were seeing these issues and sometimes  
there was a department leader manager  
who had the time and energy to identify  
and look at a problem and say oh i need  
to adapt the process and they would  
unlock the potential of the department  
in terms of quality costs and experience  
there are hundreds of such things facing  
those folks  
requiring the super human effort to stay  
ahead of them and the improvements  
gained in one area would often fade when  
their attention shifted to another  
so  
this and of course the staff that was  
doing these efforts is burning out  
that's sort of my realization of saying  
look world-class healthcare is  
impossible without world-class  
operations  
and that's what i set out to solve like  
how do we become a company that can be a  
strategic partner of health systems to  
build those world-class operations to  
transform their operations and you know  
being an engineer by background i  
strongly believed in the power of data  
to do so but the traditional way of just  
having data and dashboards i knew wasn't  
enough because the people who were busy  
didn't have the time and energy to look  
at them so we brought in and machine  
learning to predict we brought in  
behavioral science to change people's  
behavior and operations management to  
realize how to change the processes with  
the team with deep expertise in clinical  
operations performance improvement  
change management to apply to these  
long-standing operational challenges and  
that's that's that's what we are now  
doing at juventus i'm super proud that  
we've gotten a chance to work with  
leading organizations across the country  
like all the way from community  
hospitals academic medical centers  
safety net hospitals like common spirit  
honor health and health fairview mercy  
in your presbyterian boston medical  
center to name a few and and that's why  
i'm so passionate about this topic and  
we share this passion on real-time hope  
camp  
amen and i just  
echo if i agree with all that and it's

uh the caregivers are amazing the the environment is complex so how do we help them you know work work with them uh to make it easier for them to do what what they're already trying to do and so real-time health care obviously is part of the sort of you know the solution for that so what does real-time health care mean for you yeah that's a good question i mean if you think about health healthcare like healthcare is an area with high inherent variability right different patients different conditions different progression even with the same condition different sites of care and that of course that high inherent variability makes the job of managing the system as you were just saying around the delivery of care much more complex because underlying it is a series of rapidly changing and highly variable paths right so that makes it complex and that makes it difficult to manage oftentimes but anytime you think of an environment that is highly variable and rapidly changing what's the best system for that i've always found the best system for that is something that can rapidly adapt to the presenting situation not in days not in weeks not in decades but as it happens right and that's what real-time health care is for me what what would allow us to adapt to the patients the populations the progression of their care on the fly as information becomes available to provide the patients with the best possible care with the resources we have and that adaptation needs to happen at multiple levels right like at the patient level you know as i said if this patient needed uh was an npo and needed a whole bunch of iv medications but is now changing how do we adapt to that if they're uh now much healthier to leave uh the hospital sooner how do we adapt to making sure they're post-acute is set up for ancillaries it means adjusting the priority for awards it means identifying and releasing blocks and capacity or where the patient will go in the ed predicting ahead of time at a system level realizing and i mean covered more than most times demonstrated this realizing where my capacity is going to be where my bottlenecks are going to be how do we release that and all of this needs to happen fast but also automatically right it shouldn't require that heroic effort it shouldn't require a patient pressing someone to say hey my conditions changed what's my plan supposed to be or a case manager or an executive to notice something out of whack and then raise the red flag and then try to manually intervene that's

what we rely on today but i think  
real time healthcare would change that  
in my mind you know  
a great analogy is like kind of like a  
great basketball team of course they  
have a process they have certain  
offenses they've practiced and they've  
practiced a lot of different plays and  
they come into a game with a game plan  
but you don't just sort of wait quarter  
after quarter to say what should i do in  
this situation you're adapting in the  
moment as it's happening as the  
opposition's changing and that's what a  
great basketball team does and that's  
that's what we need and i think in your  
informally i think  
garner defines the gartner defines the  
four attributes of the system is like  
first we need to be aware of what's  
happening we need to be collaborative so  
since healthcare is a high stakeholder  
environment we need to be smart and  
learning about it and we need to make  
sure that um we are also able to  
orchestrate things in real time right  
like all that is good but if you can't  
do something with it in real time that's  
not helpful i think all of those are  
very important attributes of that of  
that real-time healthcare and that allow  
it to adapt in real time  
amen and i want to double click on a  
part of that which is the phrase real  
time and there's sort of an information  
component threaded into into what you're  
describing  
and i i uh  
find that some that's a concept that  
sometimes people who aren't close to  
this sort of underestimate how different  
real-time information is i've had people  
say well i i get a dashboard sent to me  
once a day so i have what i need  
real-time information no no that  
dashboard is real time once a day even  
like we mean in the moment yeah i love  
your basketball you know here i am what  
decision do i make in the moment with  
information that's current so yeah what  
is real time double click on that piece  
of it please  
yeah i mean i think  
i think i was sharing with you you're  
spot on right like what is the  
definition of real time and very often  
once a day has passed off as real time i  
think for a for an environment that is i  
as inherently variable as healthcare is  
that's just not that's just not  
acceptable and i think in the time of  
covert it exposed the gaps and the  
burden we have placed on our care teams  
with an operational system that's not  
real time right  
where if you are now  
i mean  
in the pandemic where you're if you're  
not able to understand right now  
where you have capacity right now where  
you can create capacity right now which  
of my negative airflow isolation rooms

can get freed up

it is completely pointless to know that  
at 6am i had four of them right like  
that doesn't help me at all and i think  
that's the bottom line that is why this  
real time is so important because this  
current state already is not working the  
pandemic has exposed it to people beyond  
in the thick of it how difficult it is  
and our answer was in the pandemic was  
for many health systems was to you know  
have multiple times with ray huddles and  
that solves some of it but  
candidly our current state just isn't  
working we are far far from real time we  
have these rigid operations versus  
real-time operations right we both the  
technology the process and the people  
infrastructure it doesn't support the  
kind of adaptability we were talking  
about instead we rely on the superhuman  
heroic efforts to support that  
adaptability for someone to realize  
improvements are you know sporadic and  
cheerleading driven and i think as a  
result of it there's a ton of waste  
across the board i think you know for  
example um we focus on one aspect of of  
the patient journey where we want to  
make sure patients don't have to spend  
excess time in the hospital that's  
that's not good for the patient not good  
for the health care system economically  
not good from a  
hospital acquired condition standpoint i  
think advisory board the estimation was  
that about 22 of hospital days are  
excess and that's  
you know about 10 billion dollars of  
annual waste across the industry in that  
problem alone  
and that's at a time when we have  
significant financial pressures there's  
large quantities of the  
patient population that is not insured  
that is not able to access health care  
imagine what that waste would allow us  
to be able to serve more patients with  
the same cost space we have you know  
even if you wanted to spend more money  
kindly we don't have the nurses and  
doctors to take care of more patients  
and by being able to eliminate that  
waste we can take care of so many more  
patients and and of course i think the  
thing that everyone hates is having to  
chase those operational bottlenecks at  
the last minute and and at a time when  
these doctors and nurses are so burned  
out  
i think allowing  
solving for that i think that's that's  
why for me  
the real time is important and  
we've backed that with actually looking  
at data so in the same journey of the  
patient piece we've studied about 75 000  
patient encounters and we said okay  
what helps make sure that that the the  
excess time a patient is having to spend  
is getting addressed  
and it's very clear the earlier you have  
a plan of a patient if you have a plan

of the patient where they're going when  
they're going and it's accurate by the  
second midnight there is 91 percent  
fewer excess days if you are able to  
orchestrate and solve the barriers we  
see again 45 reduced reduction in excess  
days both of those are require us to be  
adapting very rapidly to the changing  
situation of the patient and have  
something way more upstream than  
healthcare today allows so this  
sort of this is why my belief is both at  
a macro level that real-time healthcare  
is critical but almost wherever we've  
seen a process that needs to change a  
way of providing care that the logistics  
of providing care needs to change we see  
the data bear it out that the way of  
managing it in real time is is  
significantly better for patients and  
better for the health systems than the  
way of managing that we subject our  
patients and our staff to today  
amen speed to diagnosis speed to  
treatment speed to rescue speed up speed  
to get back home fewer resources less  
cognitive load i mean amen it all it all  
adds up and i i love what you said by  
the way that it's so right that frankly  
that 6 a.m report if it's 9 a.m may  
actually be a net negative because you  
either have a false sense of confidence  
or you have or you have a missed  
opportunity because you don't know that  
something is opened up and so the  
difference between  
current information and slightly aged  
information in the dynamic environment  
of patient care is  
it's it's night and day  
if i can add one more actually example  
to where i first learned the importance  
of exactly what you were describing  
this time like eight nine ten years ago  
when we were first applying ml we were  
applying it in the maternity world right  
so i was predicting the census and um we  
would sort of predict the hourly sensor  
so we could adapt how um staffing would  
be  
and um  
of course it was based off of clarity  
reports because that's all we could  
access at that time this is when there  
was just two people in the company  
and um we got that data which was as of  
midnight  
we got that data at seven a.m  
and at seven or two we would send our  
predictions out right  
and i would go every day talk to the  
nurse manager how she thought and what  
his other predictions were and you know  
one of the days she said like look your  
prediction was wrong at 7 00 am itself  
like what you said it should be at 7 00  
am is already wrong  
and i was like ah like you know it's  
based on the data from midnight so we  
are already predicting but then we get  
it to you i mean she's like i like  
it doesn't compute like it doesn't

matter why

it doesn't compute and i think that was  
just a real understanding and  
realization of

if you cannot understand the context  
that a care team and a patient is facing  
right now

how can you help them make the best  
decisions you can't you just you just  
cannot you either have that false sense  
of confidence or you end up actually  
underestimating the problem neither one  
is good and you lose the trust of the  
patients you lose the trust of the care  
team in the process and it applies to so  
many aspects discharge planning you  
mentioned same thing if the information  
is not current we can't plan accurately  
and all the benefits of doing so that  
you mentioned are lost

right obviously there's tons of software  
and healthcare in use today  
and uh you know companies like juventus  
uh ge in some similar ways other  
companies provide software related to  
these these real-time concepts so

um

there already is software

why is

are the the kind of software that you  
make

why is it essential you know how is it  
different from what's already out there  
yeah it's a really good question and i  
think look

there are some essential portions of  
software that hadn't been there  
we wouldn't be able to do anything in  
real time so i think it's important that  
that we have those

we have made tremendous progress in  
having systems of record in place that  
gave us the ability to digitally  
understand what the context is right now  
and i think they play a critical role in  
providing that system of record that  
providing that understanding it's  
unfortunate that it's kind of today has  
to be on the backs largely of humans  
entering that data but i think we are as  
an industry moving more and more towards  
that getting more digitized and got  
getting more automated as well  
but that's not enough i mean we have  
seen again and again that the you know  
the

probably the classic approach is i have  
system of record and i have a promise  
improvement project that just hasn't  
been enough for delivering sustained  
operational improvements because what  
those rely on is that a human has to  
take that sort of information which is  
coming at such pace  
take vast quantities of that information  
be able to make a decision change the  
orchestration of what needs to happen  
and then keep that kind of heroic effort  
going over long periods of time  
you know

we if you look at inpatient level state  
data over the last 20 years in spite of  
the system of record gains it's



essentially been flat and that sort of  
bears out that  
we  
of course need that system a record but  
we need something different we need to  
go beyond that we need to make  
organizational reliability happen  
without heroic efforts and that's sort  
of what i believe the core the code of  
reliability is that automation platform  
and  
for us what that means is we have to be  
able to identify the issues before they  
happen  
without requiring a human to  
scour through and pour through hundreds  
and hundreds of data points right so we  
use our probabilistic inference models  
to identify those issues way before  
they're happening not just identify the  
issue identify the probability of all  
the different things happening because  
we can trigger decision points based on  
that so that's the first thing  
we learned very early that you know  
making predictions is good but nearly  
not enough because you have to then help  
them orchestrate the action you have to  
help them understand what to do how to  
do it you have to automate steps so that  
you have to make the right thing to do  
the easy thing to do so that at that  
point in time it just happens and  
you know that requires user-centered  
design principles that requires  
hardwiring habits that desire requires  
designing new processes that wouldn't  
have existed and then lastly  
again as i said the environment is so  
variable and always changing and people  
are coming in and out you need to close  
the loop and understand what is working  
what's not working  
where do we need to improve where are  
our is failing much like you would do  
preventative maintenance in a factory  
you need to do that preventative  
maintenance on our processes as well and  
i think those three things are core  
deforming organizational habits and if  
you actually at a human level if you  
look at all the behavior science theory  
it is very similar right if you need to  
have a queue you need to have a routine  
and you need to have a reward right so  
that's  
very similar to at an organizational  
level you have identification of an  
issue proactively you need to  
orchestrate across a large group of  
people and need to manage the  
accountability somehow and that's sort  
of the platform that's core to our  
system of action that's how we go from a  
system of record to a system of action  
and it's it's a set of underlying  
technologies but it's also a set of very  
packaged solutions of what process what  
management practices that need to go  
around and that's what we find is  
required for our health system partners  
to achieve the results we've seen but

also sustain the results we've seen and  
um the underlying technical platform's  
pretty critical for that to allow to  
launch new uh solutions but also these  
solutions of saying here's exactly what  
to do and how to do it is super critical  
and we've seen every time we do that we  
see length of stated use by 0.3 to 0.8  
days driving a 50 to 90 basis point  
improvement in cash flow margin you know  
10 million plus  
dollar value in the per facility but  
also most importantly  
helping these health systems achieve  
systemness right like many of these  
health systems processes are unit by  
unit varied facility by facility varied  
and most of the  
operations is managed by touch and feel  
and you can do touch and feel on a unit  
by unit basis but when you need to  
achieve system that's when you need to  
go centralize or  
actually go virtualized that doesn't  
work and and being able to do that while  
reducing the cognitive burden on the  
front line teams allowing them to  
practice at the top of their license i  
think that's that demonstrates to me  
that we the systems record play a  
critical role but there are a set of  
capabilities that need to be brought  
both technically and process wise that  
need to operationalize this change into  
a  
very reliable management of the highly  
variable clinical care that we deliver  
what you said by the way to make the  
right thing the easy thing which is  
essential right people want to do the  
right thing but it has to be easy  
and uh boy i just i i couldn't agree  
more i mean the systems record are  
essential and important but they're  
insufficient they they don't provide  
that you to use your word that  
orchestration layer that gets you to  
standardization and systemness and and  
all the things that we've talked about  
moody brilliant um i'm inspired i i i  
you and i are sort of uh  
on the same wavelength so it's it's just  
really cool to talk to someone that uh  
is sort of living in the same space  
fighting the same battle so thank you so  
much  
absolutely no thank you jeff it's it's  
is a pleasure and i love um love talking  
to you on the same on these same topics  
because we're on the same wavelength and  
i love sort of pushing our own thinking  
as well with that  
you're here thank you again and uh with  
that i'll close the podcast  
[Music]  
you

<https://www.inc.com/christine-lagorio-chafkin/security-artificial-intelligence-ambient.html>

Shikhar Shrestha has been building security systems since he was a teenager. It began as part obsession, part coping mechanism. He'd been traumatized when he and his mother were robbed at gunpoint when he was 12. The area of his hometown in eastern India seemed to have lots of security cameras—but what was the use? Help did not come while he was being threatened, and while his mother's jewelry was being stolen. He thought about that a lot. As a child, Shrestha tinkered with technology, including building homemade security systems for neighbors. Years later, he enrolled at Stanford, doing graduate work in electrical and mechanical engineering. There he met computer science grad student Vikesh Khanna—and the pair had a light bulb moment in conceptualizing the future of video innovation. "We had an idea that artificial intelligence and video technology were getting so good that in five years video tech and A.I. could look at a video more exactly than humans can," Shrestha, now 30, says. "If any camera out there can tell you right away when it sees something suspicious, that would make for a great security system." *Article continues after video.* The pair earned master's degrees, and in 2017 founded Ambient.ai, iterating on their idea with funding and support from the Silicon Valley startup incubator Y Combinator. They had a clear goal: to prevent every physical security incident possible. They developed a technology that combines A.I. and a computer-vision breakthrough, called computer vision intelligence, to understand situational context. It could, in real time, identify elements in a video from a human walking, to a car tailing another car, to a weapon being brandished, to a perimeter breach. The founders thought they had a straightforward problem to fix. With conventional enterprise security systems, video cameras capture an endless stream of video—which is rarely, if ever, watched in real time to actually stop, prevent,

or quickly respond to an incident. During his time in Y Combinator, Shrestha sent 100 emails a week to security chiefs at large companies, hospitals, hotels, and governments, to learn more about his market and its needs. He quickly learned that no one wanted a new security system—they already had cameras. But the meetings confirmed what he knew: "Everyone does security the same way. They spend millions of dollars on their programs. The expectation is that if something bad happens you rewind the video." In other words, it wasn't having the kind of crime-stopping utility Shrestha envisioned. At the same time, he was gaining confidence in his teachable video-scanning tool. It could identify when a human fell and got hurt, or when a weapon appeared. The software also could gauge how certain it was that a security incident occurred. Low confidence meant it would ping a member of Ambient.ai's small team of humans to verify what was happening in the video. In cases of high confidence, it alerts a designated authority, such as a security chief on duty or local law enforcement. Just because Shrestha trusted his technology, it didn't mean investors saw the point. "At that time, the venture community did not believe that physical security was an interesting space where you could build a venture-scale business," he says. There were dominant players already. Companies' budgets were allocated. But Ambient.ai's solution was complementary with existing security: It could be integrated into almost any camera-feed system, and customized on the basis of the security needs of nearly any business to detect threats in real time. Still, Shrestha says raising the first \$2 million for Ambient.ai required approximately 50 meetings over the course of two months. The company pitched its product where it saw immediate need. When a private school in San Jose, California, the Harker School, experienced a nighttime perimeter breach (caught on video that no one was watching) followed by an assault the next morning, Shrestha proposed his system could have prevented it by alerting the authorities immediately. Getting a paying customer seemed to set more deals in motion. While still in beta, the company slowly amassed a client roster. Investor confidence soared, too. When Ambient.ai raised a Series A round of funding, it took 13 days of meetings; the Series B took just three. After five years of signing up customers and building up its A.I. intelligence in stealth mode, Ambient.ai formally launched to the public in January 2022. It also announced it had raised \$52 million in a round led by Andreessen Horowitz. The startup works with seven of the top 10 U.S. technology companies by market capitalization, and its client list includes Adobe, VMware, and Impossible Foods. Most of the company's 100 employees are based around its headquarters in the San Francisco Bay area. Shrestha is hoping his company flips the surveillance model of security to be proactive, rather than reactive. He's also addressing concerns about the use of machine learning in security, which evokes concern over baked-in or learned prejudices and profiling. The Ambient.ai system identifies forms of objects and people, not their colors or traits. Unlike other video-monitoring systems, it does not use facial recognition. Nor does its system have the ability to recognize bias-inducing traits, such as gender, age, or skin color. "It's not looking for classes that can include bias," Shrestha says. "There's a huge responsibility of people who build these systems to build systems from the ground up to maximize privacy and to eliminate bias."

<https://www.youtube.com/watch?v=zeJ6bG0lcwM>

[Music]

hi I'm Linda Fox I'm senior reporter  
with Focus wire I'm here with Yan  
ozduruk and he's VP of marketing for  
natomi Yan welcome thank you very much  
Linda thanks for having me here no  
problem so  
um we're going to talk about artificial  
intelligence for boosting the customer  
experience yeah now why is it so  
important important generally and why is  
it important now it is very important as  
you guys all know world is changing and  
evolving rapidly so does customer  
support it's especially important in  
travel and Hospital space I think about  
that you just came from London and your  
flight was late right it was you don't  
want to wait in tarmac for three hours  
waiting to talk to customer support  
agents and traditionally this was done  
by human agents but recently a customer  
have so many questions there are so many  
questions there's overload of questions  
and they reach out from different  
channels you might be selecting to reach  
out from phone I might select from a  
social media younger generation about to  
reach a town from Tick Tock right they  
want immediate answers like even three  
minutes right and then to overcome come  
with the solutions with traditional  
human agents is not sustainable because  
first of all humans are expensive you  
have to train them and there's a big  
turnover rate and then  
um humans are not as efficient like we  
talked like for last one minute if two  
Bots are doing that conversation that  
conversation will be already over we are  
not as efficient but that's why AI comes  
into picture because AI is streamlined  
the process and increasing efficiency  
and I want to clear that AI is not  
replacing human agents AI is working  
hand in hand yeah so VR AI is taking the  
low hanging fruits where humans can take  
the more complex cases so working AI and  
human together we reduce the wait time  
we increase what we call cset customer  
subtraction score and we reduce the  
total budgets at the end it's a win-win  
situation for and customers like your  
yourself the brands and also the human  
agents as well okay so um  
just those people talking about it this  
being now the experience era you know  
everybody isn't looking for a holiday or  
travel they're looking for an experience  
so how is conversational kind of AI and  
what you do feeding into that which is a  
very good point so today if you're in a

relationship and then uh we customers  
like yourself vivance not only instance  
resolution but events uh connections  
with the brands we want right we want uh  
Solutions we want the connections  
authentic connections right and up to  
Brands like British Airways to create  
that connections with you so that's why  
we create our own natural language  
understandings it is patented and based  
on this needs of the upcoming consumer  
needs so compared to earlier traditional  
chat Bots our system is not rule-based  
rule based means that if these questions  
ask answer this way if these questions  
ask answer that way we create entire  
system that's why it's patented based on  
the semantic understanding of your  
interests okay so we use and weave the  
understanding in the context of the  
communication so that we create the  
Ultimate Experience so for example we  
understand not only yourself we  
understand 100 other languages we  
understand uh typos we understand  
dialects and most importantly Linda we  
understand the context for example let's  
say you want to say I want to buy an  
apple  
we understand that it's in the context  
of consumer electronics right so maybe  
understand you want to buy an Apple  
product but we understand that maybe  
it's the context of grocery store we  
understand you want to buy apple as the  
fruit or in the context of it is in  
fintech we understand that you want to  
buy Apple stock so that's basically we  
try to understand the the enhances yeah  
and presumably it's learning all the  
time and getting better all the time so  
that maybe I won't even recognize that  
it's a chatbot as opposed to a human you  
know there must be instances where it's  
almost  
um kind of on the fascism to say that we  
are mimicking human beings chatbot but  
seriously the first generation chat  
Parts unfortunately have a very bad  
taste in consumer's mind that's why we  
are trying to change that mentality like  
what it will be sure is much different  
than additional chat Parts Behavior  
think in early 2000s this is a different  
era this is conversational that's why we  
built our entire system based on the  
real understanding of the consumers and  
presumably that's why you're you're  
saying not artificial intelligence and  
authentic intelligence so just elaborate  
for me there yeah actually you are right  
we are pioneers in what we call  
authentic intelligence which is  
basically AI first uh telepathy which  
has which is hyper personalized and  
proactive Beyond human speed basically  
we augment AI with human intelligence to  
create uh conversations with empathy and  
has proactive implants okay so that they  
create the richest possible experience  
that a AI can do and that's uh how we  
Define ai we don't use artificial

intelligence we call AI is

consumers demands yeah so now if I go on  
a website and I engage with a chatbot  
that's great but maybe if I then engage  
in another Channel I'm going to get a  
different experience and they don't know  
my history and you know therefore  
my kind of trust in that brand kind of  
goes down so is there a way to link it  
all together you know and bring in all  
of the various channels and that could  
be the website it could be email it  
could be phone you know whatever how how  
do you sort of get around that so  
actually you have totally drives right  
because people don't always want one  
channel or or if you want to talk to  
build chairs you might want to use chat  
but if you want to talk to your retailer  
you might want to use phone so we don't  
uh specialize in one channel

we are Channel agnostic we built the AI  
engine and we let the consumers decide  
which channel they want to interact with  
the brands so can I start with one and  
continue with another you can't do that  
especially one of the areas that under  
um overlooked is that email for example  
after the pandemic Forster created a  
report an email is like it became the  
number one channel people want to talk  
to theirs yes I could see that yeah  
because first of all like email is um uh  
tried and true and all of us have email  
likes it's much easier to use it is also  
a single which means that you can start  
email directly and then you don't need  
to wait you can't go away make a cup of  
tea and come back  
can us

you are coming to Phoenix and you want  
to change your flight from 8 AM to 9am  
you want to upgrade from economic to  
business and let's say you want to rent  
a car to airport d right if you want to  
get let's say in phone or in check it  
will be a while you have to wait in the  
phone to talk to somebody but in email  
think about that you write all these  
three questions and we companies like us  
be resolved immediately like people  
don't believe but we can understand the  
entire email understand there are three  
intents and we resolve that instantly  
without you have to do the three  
interactions we resolve everything you  
must that's why we are so proud that we  
are serving our customers in all the  
channels especially email okay so just  
finally what do you see is the future  
and the future trends for um  
conversation customer support how's it  
all going to play out going forward I  
see I think one thing we are seeing  
continuously is that from our customers  
is that there is a proactive support is  
going underway rather than reactive  
other than that we are seeing that  
customer care is switching to a context  
area reasoning based on your profile  
your journey your recent interactions  
let's say talking about the airline  
specific let's say somebody is beyond AI

can understand the person is purchasing  
short-term figures in short amount of  
time that we understand that maybe it's  
a business Revolution so the next time  
that you are in the like trying to book  
a flight that we understand that hey you  
would like to switch to a business class  
similarly there's opportunity for use  
this Fund in an upselling operations for  
example let's say you come from let's  
say 13 hours from London to Phoenix uh  
in the future we if Merit is using the  
upcoming Technology Magnet will be  
reaching RPI and saying that hey you  
have a long flight and you already like  
don't use Killers you probably use your  
phone to check in but the value chicken  
they will probably tell you Linda would  
you like to take uh Marriott's Spa  
because you have a long flight that's  
what we are seeing the customers in the  
future based on hyper personalize  
yourself and all proactive okay thank  
you for joining us thank you very much  
Linda all right  
[Music]

<https://www.youtube.com/watch?v=DTghLFSUZ0A>

foreign  
you've had an exciting last 12 months  
including announcing this USB that I  
just mentioned also really is key  
Enterprise feature like auto-tune and  
just also launch your your own model  
so I'd love to talk about all of this  
and maybe starting with uh you know the  
the core what you do what is speech to  
text I guess and speech recognition yeah  
yeah so  
at the core of what we're doing right  
now is focusing on making these  
um AI models that can transcribe and  
understand spoken audio data at scale so  
we've processed almost 2 billion  
audiophiles through our system to date  
there's something like 100 million plus  
a month flowing through our system  
and these are  
a mix of virtual meeting recordings uh  
user generated audio and video content  
podcasts  
contact center phone call recordings  
like it spans the the gamut  
and who we work with are product teams  
that are trying to build features and  
products on top of the audio data that's  
either being generated or flowing  
through their system and so we're  
training and creating these AI models  
that can do that really well and  
reliably at scale  
with all the bells and whistles and  
features that product teams need to ship  
really quickly  
I think  
yeah I can stop there I can go more yeah  
yeah no that's great so maybe to double  
click on some of the things in terms of  
use cases so there's audio content  
there's video content there's virtual

meeting content

there is a conversation intelligence so

we'll just give us more color on

what exactly people do yeah so there's a couple of examples I can give so

uh we've got

um over a thousand customers uh tens of thousands a month of developers that are building with the API

and this is everything from

um

contact centers that are trying to provide insight into the like massive amount of phone calls that are coming through their contact centers uh that support agents and customers are are having so they can be analyzed at scale this is

um uh like video editing platforms uh adding like subtitles to videos like basic use cases like that

um we have hiring intelligence platforms that are recording interviews maybe you guys have experienced that and uh uh and providing like automatic notes

follow-ups

um uh like action items all based on the transcription

really what companies are doing there are some use cases that product teams are leveraging our models for that are just like you're you're automatically converting audio into text and you're displaying that as subtitles or your your displaying the transcript for readability or accessibility but where a lot of values created is you're taking the transcription and then you're using it as an input to do something else like I think of a contact center platform that's building automatic text message follow-ups that you can when you go into your UI

as a customer you can just click like send send and they're all automatically generated and customized based on the transcription of a voicemail or of a phone call recording that happened so it's transforming uh it's applications that are being built on top of the text on top of the like you're turning the audio and video into a more pliable format that you can build with

yeah and as I was prepping for this uh noted a whole list of really interesting features summarization sentiment analysis entity detection topic detection content moderation yeah maybe pick one or two of those that you think are particularly helpful yeah so I think more broadly what we're seeing is

um we've been the company's been around for a while but

there's just this insane amount of Demand right now and product teams are really trying to figure out how to leverage all this AI Tech to build new features to tell a story to their customers into the market that they're

um uh like Forward Thinking and they're leveraging AI and their products and there's a lot of exploration that's

happening

and I think similar to the comment that was just made like

um

product Market fit is a question you know like our summaries of a virtual meeting helpful is a transcript of a virtual meeting helpful is an automatic text message of a phone call recording like follow-up helpful there's a lot of exploration that has to happen and there's a lot of iteration that has to happen and so

our value proposition this comes back to your question about the models that we offer I think it's more about what we're trying to do is help product teams iterate very quickly to figure out what's going to have product Market fit and what's going to have

a commercial success for them create a lot of value for their end users for their customers and help them win and so what we think about is we're trying to help product teams execute 10 times faster and ship 10 times faster ship 10 times faster so they can figure out um where they need to focus and so to your question

where our customers have found product Market fit we then lean in and support those use cases with really tailored like expert models and so for example we have summarization models that are really good for two-party conversations and contact centers so if you have two-sided phone calls support agent and a customer we have summarization models they can do those really well we have a lot of video editing and video hosting platforms and podcast hosting platforms that use our models and we can create summaries that are really good for like automatic chaptering of spoken content so like really catchy titles really good descriptions of what happened within this like time coded segment and so where there's product Market fit we focus on creating

like tailored models for those use cases and then we also have

these uh like an LM that is more tailored for

um uh conversational data that is like not an expert but our customers can use and product teams can use to explore and see like what even works well and so we try to focus across the board like the reason why we spend so much time on our automatic speech recognition models is because there's a lot of product Market fit there

um and so it makes a lot of sense to like

be incredible at that and really help our customers Excel there and continue to deliver value there

some of these other things that are more exploratory

like we're not going to put a ton of effort into those until we see that our customers



the developers that use our API are actually able to find Value and create value with those so back to your original question today we have a number of different models around pii detection and redaction entity detection sentiment analysis automatic chaptering of content summarization of content we can detect sensitive content that's spoken so like hate speech um uh content that's sensitive that trust and safety teams are using to automate uh content moderation at scale when they're spoken audio in a platform so um it really runs the gamut but it's really all around transcribing and understanding audio with AI models and making that available to product teams and developers through our API that's really easy to work with and how do you think of the balance between building your own models and leveraging open sources the the fundamental value proposition is that hey you want to solve this problem uh and we assembly will bring the best state-of-the-art model to the task you don't have to worry about it or is the value proposition is like we will build the best model so this is where like uh there's so many you asked a question in the last chat like there's so many Market maps of like AI right now and I think it's really the picture is like fuzzy you know and I think people are trying to make sense of it just rather making all these Maps but like the picture is is still fuzzy and uh yeah I was prepping for this I think you had some tweet where you were like this is what an AI company is and and there's like Shades of Gray in between um not to put you on the screen I will record going forward like every speaker needs to read my tweets yeah exactly um so uh um what we'd like to go out and tell customers that we talk to and our our stance is like we're not a research lab you know we're not trying to just uh work on AI research and like um develop secret molecules we're really focused on helping create commercial like success stories like leveraging AI models so that's why when I talk about our customer our customers are product teams and yeah there's a ton of developers that use our API to play around to Tinker and ultimately build startups build projects that turn into actual businesses and then like the people that we end up working with there are the product managers and the the product teams because we're helping them ship products and ship features and so to your question uh sometimes we will train models from scratch when we need

to make something better than what's available other times we'll take something open source and we'll fine-tune it with a data set that we accumulate or we'll make modifications to it to make it faster more performant more scalable it really depends and so but we try to be very transparent about that so we shipped this conformer one model a couple of weeks ago it's this large scale go ahead sorry yeah you know I'd love to spend a good amount of time on conformer uh conformer one yeah yeah uh so which is your own llm so a lot of automatic speech recognition models yes yeah a lot of the models that you talked about so far and uh correctly if I'm wrong where uh pre uh llm wave you know all the way back to like early 2022 yeah yeah yeah so and but now you're in addition to this you're adding your own llm correct

um

uh correct so we think about our product we have the kind of these three categories sort of our uh if you go to our like product page or pricing page there's the core transcription so those are our automatic speech recognition models audio in text out uh asynchronously or real-time streaming over websockets and then we've got what we call these audio intelligence models and so this is what I was referring to earlier these task specific really streamlined models so pii detection and redaction

um sentiment analysis uh tailored summarization models for specific type of summaries these are lightweight so they're cheap to use they're cheap to host and run they're not these like giant models because they're just focused on specific tasks

um where our customers are finding product Market fit leveraging them within their applications and their products that they're building and then when there's more exploration happening we leverage

um

like large language models that can uh be applied at many different tasks with varying degrees of quality but they're flexible but back to the conformer one model

um

with that model for example we really wanted to push forward uh accuracy with speech recognition models uh particularly to make them more robust have lower variance just just be overall better

and so we took this neural network architecture called the conformers published by Google brain I think in like 2021 which was a speech to text version of Transformers right is that correct yeah it's a like Transformer based neural net for automatic speech recognition

Transformer in 2017 and conformer in

2018 you just said uh like um early 2021

I think like yeah yeah late 2020. I'm

not exactly it's around there

um

and we made some modifications to that

neural net like that was just a paper

like the the weights there's no like

model release there's just a paper but

we did a literature review and chose

that neural net for some specific

reasons uh we made some modifications to

it and then we just tried to scale it up

um so we trained it on like 60 terabytes

of audio data like labeled audio data so

it's I think something like 650 000

hours of audio data

um and our models prior and most

commercial speech recognition models

trained on like 50 000 hours this is

like order of magnitude larger

uh and then we're actually

training conformer 2 or what might call

it 1.5 but uh whatever this accessor

will be is training right now and that's

something around four million hours of

of uh labeled audio data so we're just

like uh scaling it up pretty

aggressively to increase the robustness

and accuracy of the models

um because that's our core like primary

uh

value proposition right now is our

automatic speech recognition models and

it's not just the model so we provide a

lot of features around it so if you go

to our API

um you can hit an API endpoint to get

like all the sentences split out you can

get the text broken onto paragraphs you

can quickly redact the text you can fan

out

audio files to process like a ton in

parallel you can real time stream and

get speakers annotated and labeled you

can get really precise word timings and

confidence scores there's like dozens of

features that we provide around the

model to make it really easy to build

with and work with and so

um that's really our Flagship model that

we offer today

and then the other models that we offer

around like summarization those are

really for

customers that are trying to

work with a single partner to help them

just ship really quickly so they can

explore and figure out how they're going

to leverage this AI Tech to build new

features

um

expand their customer base grow their

revenue like have a success story

um

that has product Market fit yep and over

QRS T4 conformer one how did you get the

training data is that internet data or

is that customer data presumably with

all the privacy and safety it's a mix so

it's a mix of data that is from the

Internet it's a mix of data that's been

shared with us from our customers so

some customers don't care and prefer  
um that we train on their data  
so for the ones that do  
um like I said we've processed uh yeah  
it's like over 100 million audio files a  
month that are flowing through the API  
and that's growing pretty quickly  
um  
and then there's a lot of Open Source  
data sets we kind of just like group it  
all together  
um and use a combination of that it's  
very interesting I'm a big fan of the  
concept of Data Network effect and you  
know always interested in examples of  
companies that work collaboratively with  
customers to pull data to help the AI  
get better and and it's  
yeah it's like  
um what we see with conformer one for  
example conformer two that will launch  
and there might be like a series of  
launches before we switch to a different  
neural network architecture  
um  
you can  
throw more data at the model and you get  
better robustness and it's like  
generally more accurate but  
proper nouns for example those are  
really important for  
applications that are built on top of  
automatic speech recognition models and  
the district like the the percentage of  
proper nouns in  
uh data sets is actually like low  
distribution and so you might see a big  
reduction in just overall like error  
rates but you might not have really  
moved the needle motion email addresses  
or phone numbers or proper nouns so we  
also  
look to focus on  
um  
making because we're focused on because  
we're not a research lab because we're  
really focused on shipping models that  
product teams can just like quickly go  
with and build with and like not have to  
deal with a lot of the headache  
and there are definitely some companies  
that want to like build everything  
themselves and figure it out and that's  
fine but our  
High our our opinion is that the tech is  
turning over so fast so if you're a  
company  
and you're like in the contact center  
space and you want to try to ship  
summarization in your contact center so  
that when like your customer support  
managers are logging in and reviewing  
calls they don't need to like listen to  
every single call they can just like  
boom quickly go through like some two  
three sentence summaries or like  
automatically have some calls flagged  
that are potentially problematic if you  
take six to 12 months to ship that and  
then there's no product Market fit you  
know that's a huge waste of time and  
resources and so our opinion is  
partner with a company like us you can

get that out in  
three months like two months three  
months depends how slow they are like  
you you can get that out quickly and see  
if there's product Market fit with that  
and if that's something you should even  
consider building in-house and bringing  
in-house but like right now companies  
have to iterate quickly if they're gonna  
stay competitive and if they try to do  
everything themselves and build  
everything themselves they're not going  
to be able to go quickly enough there's  
also a just like a big Delta in being  
able to do like train a a model on a  
single GPU and like actually fan out the  
experiments you need to run across like  
clusters of gpus and try all these  
different types of hyper parameters and  
groupings of data like that's like a  
whole different level and so that's  
really what you have to kind of commit  
to if you're going to start to take this  
stuff in-house because none of the tech  
is done yet right like state of the art  
automatic speech recognition still has  
like a 15 error rate on a lot of data  
sets  
and so if you try to build all this  
in-house  
what are you going to do  
as the tech like uh like continues to  
improve around you and you don't have  
the capability to keep up so that's what  
we try to offer as a value proposition  
like we'll be the expert  
we'll deliver all that to you so that  
you can just keep shipping  
um and so that's why we focus on not  
just  
how do we make like these uh  
we don't just focus on like vanity  
metrics but we focus on things like okay  
we want our models to be really good at  
email address right like they're right  
now not right so in the future versions  
they'll be better at email addresses and  
like domain names and and like these  
these uh like the long tail of things  
that are spoken  
yeah I really like the positioning that  
um you've explained very well which is  
to deliver to product people as opposed  
to developers you know for for  
Founders and and investors like me this  
uh read that question of how you build  
uh companies in the space that have uh a  
sustainable competitive advantage and  
and so presumably there's some  
competitive pressure from the cloud  
vendors who all have some kind of  
speech-to-text uh product with selling  
to developers  
um would it be fair to say like you're  
you're sort of The Last Mile that focus  
on the application layer and the no code  
aspect of this while so we do I mean it  
is an API right so like the developer  
has to do the integration but I think  
like you know like datadog right they're  
selling to like a VP of engineering  
right like you need to implement

application performance monitoring you

know lightning you're probably selling

to like you know a vpns the people that

sign our contracts are VP products

they're they're it's a different it's a

different

um

yeah it's just a different customer

profile but the developers are involved

right and especially in the long tail

and startups like

it is the developer is the product

person they're the founder like you know

back when I started assembly I was the

developer like and the CEO and you're

just doing everything and so

um

we focus on really good

we're trying to focus on really good

developer experience it's easy to just

like get up and running I actually don't

yeah like there's there's a ton of room

for improvement that we can

uh we still have to make but you know

we're seeing like tens of thousands of

Developers

register to the API like you know

um every month so

uh but to your point

because we're really focused on uh

really customer focused we're building

the features into the model around the

model into the API that just make it

easier to ship with and build with and I

think that customers feel that

developers feel that and um that's

ultimately why they choose us

um

in a way that like I just don't think

you know I'm surprised the big cloud

companies and apologies if anyone who

works there I'm surprised they can't

ship

you know better developer products but

it's I think they're maybe just too big

at this point yeah

great so um maybe as a last question

from me until I open up to uh folks um

I'd love to look

take a big step back and like talk about

what you find exciting in the space you

know whether that's products or projects

or companies or what do you see the AI

uh Drake song that was just yeah Drake

and the Weekender yeah yeah yeah that

was exciting um

I like so my wife uh

was using chat GPT over the last like

week to build a Chrome extension like

she's not a developer uh built a Chrome

extension it's like published on the

Chrome Store

um uh is now building like a whole like

python app with flask like it's crazy so

I think that

um it's just a really exciting space to

be in and it's a really exciting uh

it's really exciting time like

regardless of where it goes you know to

your question of like

you know how soon are we going to have

AGI right like I think there's a lot to

still figure out regardless I think

there's just a lot of really cool things happening I mean the fact that you can create images like that the fact that you like

um you should if you go to our website and you click there's like a link in the top it says playground you can just throw in like a YouTube link you can drop that in and then like pretty quickly get like a very accurate transcription and summarization of that

um there's just a lot of really exciting developments happening and I think for me that's just it's a cool space to be in and to just be uh like uh in that yeah

and by the way the website is particularly good it's lots of great content there like you guys seem to be doing content very very well thanks yeah

um all right do we have her questions

yep

thank you so I have a question if there are libraries like whisper from open AI which are basically free how do you compete against that yeah I mean

um

we we really like to look at it from uh uh from from like a zoomed out perspective which is like if you're just trying to Tinker and play

it it's great you can like pip install umaldi or uh there's a number of Open Source speech recognition models whisper is one as well we

um

looked at like creating a version of whisper and deploying that behind our API

um we actually I think published uh like made a contribution to Jax to make it like 10 times faster to train whisper

um

what we really are offering is to developers and product teams

um not just a model but like

uh

we're keeping you on this like trend line right so if this is an important part of your stack you can't just like ship it and forget it it requires constant maintenance like even if we were just deploying and managing whisper for you

um that still would be like valuable potentially because you don't have to manage fleets of gpus or CPUs you don't have to deal with like hallucination issues that models like whisper have

uh because it's a sequence the sequence model

um and like I said too even

um

so our our conformer model like if you look at our blog release uh we compare it against whisper or like other commercial providers and um it is more accurate but I think I don't like to focus on that because all these models still have to be improved they're all like 15 sometimes even 20 error rate and so when we talk to product teams and

we're like hey you're going to ship this

[Music]

um

and what what we're going to offer to

you is to keep it up to date like

constant improvements like I said

conformer 1.5 to Future models are

coming out I mean this is like like 40

people full time working on this you

know and you're going to get all the

benefits of that and then there's just a

lot of features around our API and what

we offer but I think like it's not an I

think it's all complementary you know in

my opinion so I don't think it's

um

uh like a binary decision I think

there's some times when like Whispers

cool to play with and use with and use

and there's other times when you need a

more like production ready service

um and that's what we we aim to be

all right one more question here

thanks a lot John I'm really uh

interesting to hear you talk um

it sounds like there are like three core

parts to like the differentiation the

value prop of the business part of it is

like really impressive models the other

part is abstracting away the headache of

managing all the infrastructure and

potentially stitching together multiple

models together into an easy to use

product and the third is like very

robust apis that are easy to use by

developers I'm kind of curious if you

fast forward five years into the future

how does the balance of differentiation

and value prop shift across those three

components like which get commoditized

which become more important for the

business yeah it's a good question I

think that

um

in general one thing that's overlooked I

think is like distribution and I think

distribution is really really important

part for any technology company so like

what we think about when we think about

our competitive advantages and what we

focus on a company there's like

certainly the technology but then

there's also the distribution right so

like people need to know that we exist

they need to know to come to us we need

to like there's so many twilio

competitors but like if I ever need to

go send a text message I still to this

day like just default to twilio because

it's just like in my brain is the tool

that you use when you send an SMS

um and I actually don't even know like I

know of some of the others but I don't

know like is twilio more expensive like

maybe I would find that out if I deploy

twilio at scale and then it became I got

like a hundred thousand dollar bill and

I was like oh I need to I need to

look into this

um

so we think about we really need to uh

work to become like the tool that's just

preferred in the technical community and



that's really difficult but that's like something that we need to try to try to accomplish and do that through really earning like the trust and respect within the developer Community um so that's and the broader Technical Community a big part of it when I think about our product I think you know um we'll definitely see uh like the cost for automatic speech recognition just continue to come down those models will get more performant people want to deploy them at larger scale and process larger volumes of content so we'll be able to do that at like a more a more efficient way um for large-scale appointments so like that will for sure come down and then I think uh like the reason why we focus on use case specific models once there is product Market fit is to be able to you know tell customers like hey if you just need like a summarization model for like title generation you don't need a you know seven billion parameter large language model to do that like that can be accomplished with something lighter weight so like we've got this API and this model that can solve that problem for you so yeah I don't want to go over my time too much but that's that's how we think about it broadly yeah cool we had one last question were you good or we're gonna keep it reasonably quick thanks so much uh so yeah just curious what um makes a successful partner in terms of the the teams especially in those operational use cases like trust and safety or I don't know maybe you guys do some copyright stuff I'm curious how you know having worked with those teams who do you who do you look to on the inside to make you successful when you're managing risk when we go and work with like Enterprises and product teams yeah I mean we really like to partner with um product teams I guess is really the answer like we when we go into a larger company and and we're selling into a larger company it's like uh you know helping them understand what use cases are possible like trying to understand um what they're trying to focus on what their priorities are and then how we might help them get there so I guess it's like they kind of qualify themselves maybe because if they're not uh if if we usually find they're pretty leaned in because we can help them go a lot faster yeah does that answer your question

like internal Ops teams yeah yeah  
we usually find there's like  
yeah they're definitely different than  
like your shipping user focused product  
but we have there's usually like um  
product minded people in that space like  
either even it's like a technical  
program manager or something  
um that we're usually partnering with  
from from the companies that we work  
with but it depends sometimes it could  
be like engineering managers it really  
depends on the projects I think right  
now larger organizations sometimes are  
like still confused like who's going to  
manage this AI project you know uh and  
uh so it does vary  
yeah wonderful thank you thanks yeah I  
appreciate it

<https://www.youtube.com/watch?v=pRwtv6Pxqo0>

[Music]

how many of you know someone who's been  
affected by breast cancer  
most of us do  
while I was finishing my phd at stanford  
one of my close friends got diagnosed  
with late stage breast cancer that was  
completely missed and we lost her  
this could have been prevented if the  
cancer was detected early  
I'm mariam co-founder and ceo by sauna  
health and we're enlisting the power of  
ai and ultrasound to fight breast cancer  
every year 1.7 million women get  
diagnosed with breast cancer screening  
and the numbers are rising over a  
billion women need breast cancer  
screening but the unmet big gap is that  
only 250 million women have access to  
breast cancer screening  
we need to change that  
access to breast cancer screening is the  
key to survival of breast cancer  
the current screening for breast cancer  
mammogram besides the fact that has  
radiation is very uncomfortable  
it the x-ray mammogram does not work for  
half a woman who have dense breasts  
that's actually 70 percent in asian  
women  
as a result one in three best cancers  
are missed at early stages that's one in  
three  
ultrasound is very sensitive and harmony  
is very scalable most affordable  
technology worldwide but the problem is  
that it's highly dependent on the  
operator skill so if you're in a city  
high-end hospital in the city versus a  
rural community hospital you get vastly  
different results also it takes about  
20-30 minutes so it's not really ideally  
from workflow and globally they're just  
simply not enough specialists for  
example in u.s there's one radiologist  
for every 12 women in india that's one  
for 200.  
there are a lot of efforts to make  
breast cancer screening more better and

more accessible there is companies that are coming up with more smaller more affordable handheld ultrasounds companies like gene siemens are making automated ones that are making it more use operator independent and of course there's ai technologies that help improving the diagnostic accuracies and as mentioned there are mri technologies that are coming up that are adding more than just the image and improving the diagnostic accuracy at our sono health we combine all these and more in one platform our system is a compact scanner that combines all the sensors and electronics in a very small compact form factor that fits right here in the palm of your hand we combine that with a positioning accessory that looks like a bra for positioning and repeatable imaging and of course we use deep learning technologies to help with diagnostic accuracy and better up the way it works is that with a simple press of a button you can start the scan without the need for a special operator and the scanner rotates 360 degrees and captures the entire breast volume in just one minute one minute compared to 20 minutes that with the current ultrasound system and here you can see an example of how it works and it connects to a tablet or laptop one of the important aspect of our system is that we can offer 3d visualization of masses especially captured in a supine position where the breasts in its natural shape this is really important for the physicians that are treating the patient like surgeons oncologists radiation oncologists and this is a feature that is really really valuable and you can see this is actually from a patient you can see the breasts in any angle you want you can set the set up 3d planes one of the things we offer which is very innovative you can look at the chrono view so these are some of the really visualization aspects of the system that allow for better localization of masses and as we're scanning in real time as was mentioned uh yesterday that one of the problems with ai and imaging is that the fact that a lot of times the ai is not real time what we do is real time monitoring for masses and identification of the regions of interest and beyond just looking at the 2d image one of the novelty aspects of our system is that we look at the entire 3d spectrum ultrasound so from that that means that from the raw rf data the higher frequency data we can extract acoustic biomarkers uh by that i mean things like density vascularity elasticity so our system even though on the surface is looks like a 2d image on the background we're capturing 3d data and we've done some clinical investigations with over 100 patients

and this is another one in 2018 and even though on the background we're capturing the 3d data on the front the doctor the physician is looking at an image that's very similar to what they're used uh to look at this really helps with the adoption of our system another aspect of system that i mentioned that is currently not available is the repeatability aspect of it we can capture really fast images that are repeatable over time so this allows us to not only capture snapshot but monitor changes and we see our platform uh initially starting for breasts and expanding to other parts of body as a platform for personalized care of the breast health and beyond our system has no radiation it takes just one minute to do the scan and you get actionable feedback with our web and mobile app that allows for better patient engagement enhancement and it's so easy to use it can be used in a non-traditional clinical setting and how we see this uh working is that beyond the fact that in a radiology setting our system can be used by a non-trained operator first initially in breast cancer centers but as we move forward we see this that the future of screening is in the primary care walk-in clinics employee wellness programs and eventually a home it's a system that you could use at home to monitor yourself and as we move forward we see the real value in the longitudinal data that we collect that will allow us for a more personalized and risk-based breast cancer screening because simply that today's technologies that is a one solution for all doesn't work it's expensive and we know with this technology we can make it better and faster and we're going to start with high risk women and expand to that to women and dense press and there's a hundred willing million women who can access this technology for breast cancer screening and i mentioned all the other technologies but i'd be remiss not to mention there are also other technologies such as thermography that are improving access to breast cancer screening in a low-cost fashion they're not clinically approved yet but they're working on it and overall all these different technologies and improving access to breast cancer screening where are we we've we've already developed the hard run software you saw the scanner this year we're working on manufacturing expanding our clinical studies we're working with some great clinical partners cleveland clinic texas medical center sloan cutting right here in new york and with the help of all these partners we expect to be on the market

next year and the year after is when we  
expect this is something that can be  
used at home for self-monitoring  
we have a fantastic team  
of rockstar hardware and software  
engineers and  
uh data scientists and we're also hiring  
so  
come talk to me and we also have some  
fantastic advisors and all of us  
together are really excited to change  
the standard care and bring  
five breast cancer and save women's  
lives so i hope you can join us thank  
you

<https://www.youtube.com/watch?v=nbxF69jUUW0>

hey everybody welcome back to the  
startup sense podcast this is your host  
Jonah Lupton hope you're having a  
wonderful day thank you for joining us  
so today's guest is Dylan Erb he is the  
co-founder of a company called paper  
space the website website is paper space  
IO company is based in New York City  
he's actually from Detroit and we had a  
nice little conversation before it is  
for both University of Michigan fans  
they've raised about four and a half  
million dollars in their seed round  
company actually went through Y  
Combinator in the winter 2015 class but  
the company was started the prior spring  
I think it was maybe eight or nine  
months before that uh and let's welcome  
Dylan to the show Dylan how are you man  
good good thanks for having me thank you  
so much so usually I try to give like a  
quick little overview of what the  
company does but since you guys are  
doing something pretty cool and somewhat  
over my head I'll let you do that you're  
you know yourself so just talk about  
paper space yeah absolutely so at a very  
high level paper space is a cloud  
computing provider focusing on making it  
really easy to access computational  
resources in the cloud so so that ranges  
from running your full desktop computer  
in a web browser to you know firing up  
hundreds of computers for very complex  
tasks so the general idea is to kind of  
open up cloud computing for everyone  
are you the only guys doing this or you  
only company actually doing computing in  
the cloud no no so close so cloud  
actually you know there are thousands of  
companies working on this they're big  
guys or the Amazons and googles and  
Microsoft's but really you know I from a  
high-level computation generally is  
moving into the cloud  
meaning it's less and less likely to  
happen inside of your office or at your  
place of business and so that's it  
that's a fundamental shift in how  
computing has been done and how  
computers have been used and I think you  
know it all there's a lot of money and  
time and sort of IT resources trying to

figure out what that looks like and paper space has one particular take on which is you know we still we actually will provide a desktop computing experience that runs in the cloud so you don't have to be a developer or a sort of DevOps person you can just be a you know any anyone with with kind of it's used a computer before can actually take advantage of some of the benefits that cloud computing has to offer gotcha okay so why did you jump into this I mean maybe tell us what were you doing before you found paper space and kind of how did that lead into this yeah definitely so I actually met Daniel the co-founder of paper space in graduate school we were actually in building architecture within building architecture we were both sort of on the technology side of that and after graduation we both wanted to go work for kind of the overlap of the engineering and architecture worlds and so I was working on a piece of software with an engineering research team doing building simulation and so building simulation is you know you have these really complex models and you need to run them through you know thousands of millions of computational cycles to make sure you know eventually that a building's not going to fall over although we were working on sort of a smaller subset of that problem and at the time we were we were actually Dan was working on something called Building Information modelling which is the idea that you can you know you build a hundred storey building in New York City you actually want to have a single computational model that represents that entire building so what we were observing is that architecture as an industry is moving was moving and still is increasingly to kind of the computational side where we're you know in order to make a decision there are a lot of things that that depend on that on any decision that you make so you know most of the software in the building architecture world was desktop based meaning I wanted to run my simulation and I had to go buy a actually the time I had to petition to the University of Michigan to provide me with a six thousand dollar workstation which took a long time to get and even on that workstation it took you know we can have to run a simulation so at the you know we started I kind of independently dan they were looking into how does this what is this whole cloud computing thing you know mean and we were playing around with Amazon and and we noticed something really kind of amazing which is that there's a you know on Amazon or Google and you can fire up nearly unlimited computing resources and pay per hour which is a totally different model than what we were used to which is you have to petition to a Dean to get 6,000

for a workstation that said what you know you had to be and still do or to really unlock that power you have to be a pro user you have to be able to you know provision public and private keys and you know understand the command-line pretty well and we thought that well here's the you know architecture just one of many universes where desktop computers are still very very important and sort of the desktop paradigm and GUI applications graphical user interfaces but they really don't take advantage of what cloud computing has to offer so we thought well you know how do we get a full desktop experience to to run on as a cloud computer and if so you know how do we what does the interface look like you know how do we get people to use this and why would they use that and you look at cloud computing there's a lot of advantages mainly you know you can pay per hour you can scale up you never have to think about storage again you know you you never have to think about really the the operating system itself it just works it's always there it's infinitely scalable and that's really exciting because of the exact opposite of how desktop computers work and you know we're still in the model from from the 90s where you buy a big old workstation and that you know sits under your desk and heats up your feet and it kind of gets in the way and we you know we kind of set out to to change that so who's the ideal customer for you guys is it someone like myself that spends all day on the internet using different SAS applications is it a student is it an engineer is it a developer is it something with an old computer you know without a lot of power to it definitely so the answer is actually you know it because the what we offer is just a you know a computer like you would buy from Dell or HP or something like that it just happens to live in the cloud you know the use case are very broad and just to give some examples you know we do everything from we do have students running Mac on our side windows on a Mac so they might have been using parallels or VMware and actually now they just run it through through our web-based Windows operating system and on the other end of the spectrum we have people doing you know machine learning where they're actually I'm using Windows but they're using sort of high-end Linux machines with GPUs that they can you know run their models overnight and not take up their local compute resources like not take over their entire laptop so you know that's that's kind of one that we have individuals we generally call them prosumers or people to have a somewhat exceptional need for a computer like that you know if you're just browsing on a browser you know you might be fine with a Chromebook and you don't need anything else but if you're

using a Windows application or something that you know might use up a lot of your local resources it in many cases actually makes sense to just run that in the cloud if we make it really easy to fire up a new computer in the cloud you know you might actually stand to gain quite a bit from that so that's that's one application the other one is is more traditional it's called virtual desktop infrastructure or VDI and there are a number of big technology players there that are better more you know more legacy their take on it has been and these are Citrix and VMware and there are a few other competitors and their take on it as you know for virtual desktop infrastructure if you're if you're a company and you're managing say you know 10,000 desktops you really don't want to give out a physical piece of hardware because it's you know it's costly you have to manage it it's very hard to do so instead you give your employees a virtual computer that you can manage centrally you know thus making it possible to really control and IT infrastructure that's really expansive without actually going and fiddling with computers at people's desk well so we operate in company sort of both both rounds sorry those those computers that companies are purchasing or probably going to be outdated within a few years anyways right exactly and that becomes you know a big problem for any company really it's that they're on the three-year refresh cycle things are changing and you know what we provide is we say hey we're going to run this cloud computer for you you want to think about upgrading it or downgrading it or everything like that it's just always available to you we sort of manage it we manage the servers and we keep them running all the time so that you can focus on kind of management piece of it or you know focus on the actual application that you're working on now do you guys run your own servers or are you running on top of someone else's yep so we you know we run our own servers we have two data centers currently one in East Coast of the United States one on the west coast although Europe is actually very soon we the reason for our own hardware is really that we can squeeze out more performance and on one end and on the other one is that we actually bring costs down substantially because you know we're we're optimizing for our particular use case and realistically what that means is you can actually buy a cloud computer that that you know costs about the same as one that you would buy from Best Buy or something which normally cloud computing is actually very expensive so we get you know we were able to bring costs down substantially in you a very high level that just helps us we think that accessibility needs a lot of things and



one of those is cost and cloud computing  
it is still very costly for a lot of  
people and if we can bring that down  
that opens it up to more people this is  
Jonah Lupton founder of Jewel and host  
of the start-up sense podcast at Jewel  
we help entrepreneurs and startup  
founders build launch and grow their  
companies by providing superior  
technology marketing and consulting  
services we help clients of all sizes  
budgets and industries we put our  
clients in the best position to raise  
capital grow revenues hire employees and  
maximize their profits for more  
information or to set up a free  
consultation with our team please visit  
our website at Jewel dot net that's Jay  
ool net okay so take us back to the  
beginning I mean she started this  
company in 2014 how the hell did you  
guys exactly hit started like what was  
the you know the first turn yeah  
absolutely so you know the person was  
sort of getting a lay of the land and  
sort of understanding the technology  
that would be needed to create a product  
like paper space and we were actually  
really fortunate I think one of the big  
kind of realizations early on was that  
there were a number of technology trends  
converging that really made this this  
type of thing possible you know to run a  
computer in the cloud for the first time  
no one had done it yet or at least not  
done it very successfully or with the  
performance that people would expect but  
generally what we were seeing was you  
know consumers were getting access to  
faster and higher quality internet  
meaning you know Google Fiber was it's  
no longer realm but but generally put a  
lot of pressure on ISPs to give people  
access the really high quality fast  
internet which is necessary for  
streaming out you know computer across  
the country web browsers we're becoming  
you know really serious platforms for  
protect an umber of technologies that  
were making that possible but for the  
first time a web browser could actually  
run a real application you know without  
any serious performance hit  
and then the other one was on the server  
side you know there was this big push  
for cloud gaming and out of that came  
new GPU technology that really allowed  
you to stream a computer or do  
high-performance video streaming you  
know at a speed that just wasn't  
possible a few years prior so we were  
looking at these things coming together  
and thought okay well what is it  
you know if the technology is converging  
at this point where it might make sense  
to run a computer in the cloud you know  
what what key pieces do you need so we  
actually the first thing we created was  
sort of a stand-alone application where  
you could we were running on top of  
Amazon and actually we're pretty  
agnostic it could run on a couple of

different platforms but you would click  
a button and it would just fire up a  
computer for you and do the complicated  
things like provision the keys for you  
set up the security do all of that and  
then just show you a picture of it in  
the web browser and once we kind of had  
this proof of concept we did sort of  
deep dive with what the first engineer  
that we hired a deep dive into the kind  
of streaming protocols and what the most  
modern technology was for for  
high-performance streaming and that's  
when we kind of that's that's really  
where the first demo came out we started  
shopping that demo around and showing it  
to people that were interested and  
basically non-stop talking about it and  
saying hey guys this is really amazing I  
have a you know look at this computer  
here it's running in Chrome and it feels  
just like you know the computer right  
next to it you can't tell which one's  
remote which ones in front of you  
so we were like this is cool technology  
this has a lot of uses and then of  
course as a start-up has to do you  
realize that you need to scale up  
engineers and resources and you can't do  
this alone so that's when we began  
seriously looking into sort of how you  
kick start a company and Dan and I  
neither of us had really had experience  
in the startup space but we had become  
familiar through friends and sort of  
associate and you know friends of  
friends that there were incubator  
programs that we could we could apply  
for there were grants and really we just  
tried everything and we applied for a  
lot of these things we you know would  
take a meeting with anyone or would try  
to get a meeting with anyone that would  
take one with us and eventually you know  
we we put together the application for Y  
Combinator and we heard back they said  
they were interested we went out there  
ended up meeting a lot of our  
our big current advisors people that we  
consider to be very important to paper  
space we met them at sort of through Y  
Combinator they said you know this seems  
like a good fit they really they  
understood the technology side of it a  
bit I mean at the time it was more of a  
technology demo with kind of looking for  
a business use case we knew it was  
potentially huge but kind of hammering  
that out was that you know it's an  
exercise for any startup to figure out  
exactly how a product and the market fit  
together so you know we decided assume  
that you know when I was offered me we  
thought it makes a lot of sense  
California is a very good home base for  
a for an early stage kind of technology  
company and we moved out there we just  
talk to you for a second so I mean again  
for the listeners you know we've we've  
had on other Y Tommy or companies before  
and I don't know if everyone appreciates  
how hard it is to get in know the  
acceptance rate is well below 1% you

know they get thousands of applications  
and they're taking less than 1% of them  
so what do you think it was about what  
you guys were doing that really you know  
attracted them well I mean for us it was  
it was definitely a pure technology play  
and I think that one of the big  
advantages of Y Combinator and and the  
kind of people that still run it is that  
they still they have a strong  
appreciation for cool tech and you know  
you can go too far with that and some  
technology could be too cool then it  
doesn't ever find someone to use it I  
think that you know they saw that we had  
a solid tech demo that was we were  
streaming a computer from from New York  
to California and saying like hey guys  
we just we were at that at the interview  
and we just turned the computer around  
said hey just do it this for a second  
and they were like you know cool so that  
was the that was most of it and you know  
we heard back that same day from Justin  
Kahn who was actually kind of he had up  
the kind of cohort we were in and he  
said hey guys like you know you should  
come out to Mountain View you should  
move out here and so Dan and I moved out  
in I guess I was January of 2015 and I'm  
sure if you talk to other startups have  
gone through any sort of sensible or  
incubator experience the idea is really  
that you move really really quickly to  
to establish you know who you know  
customers and market and technology and  
and take advantage of all that we  
sources being in a place that has such a  
concentration of Technology it has to  
offer so we worked on stopped at the end  
of that you know one of the things that  
you have as a demo day and of course  
from there the ideas that you are  
introduced to investors and and you can  
you know kind of begin to be able to put  
resources behind the startup and we were  
very fortunate we you know I think that  
um  
in contrast maybe a little bit to sort  
of East Coast investing definitely there  
is a strong trend for like you know pure  
tech companies in Silicon Valley and so  
we were introduced to a lot of great  
investors who eventually led to our kind  
of first speed round or our seed round  
which you know we after that we decided  
actually not to stay in California for a  
number of reasons that the primary one  
was that the biggest consumers of this  
type of product that paper space authors  
you know virtual desktops are kind of  
based in New York so we you know there  
are financial services insurance these  
are the biggest consumers of it and it  
really made sense we were out here  
enough with meetings that we thought  
this is actually the home base for where  
we should be as well as access to talent  
um there's no questions San Francisco  
has an enormous number of amazing  
developers but New York is I think it's  
you know very close up there from you

guys had 80 working product with some customers before you got into Y Combinator right okay actually broke up okay I just said just to confirm with the audience you guys had a working product with some customers before you got into Y Combinator correct correct yeah so we had you know it was it was still a very very early kind of hit like me we did a lot of things manually and I would say that are usually that the current prompt is not extremely different than the one we had going into Y Combinator it's just all the pieces that you need to scale up and that's what ends up taking up most of the time you know actually one of the biggest ones of course is running hardware like you asked about I mean the common knowledge is that you run everything on top of another cloud provider and I think that we bucks that in the sense that you know we couldn't find a way to get the power and the price point that we needed we're actually very fortunate we

we were introduced to a guy in New York who had who had helped found a company called digitalocean and he had you know he had some ideas on how you should run your own hardware and he basically made the case that digitalocean would not have been possible if they ran on top of Amazon and you know we we came around to that idea which was if we run our own hardware if we can figure out how to do this and you know it's taking on a lot for a company whose core competency is really in software you know if you can take this on that you have a number of key advantages that's a big investment that in the long run can pay off and for us today that means that it did take us a while to really get the scale I mean for a long time we've been we had been behind the wait list we couldn't we couldn't actually onboard enough users because we didn't have the couple of the computer capacity and but what that means now though is that we actually have a product that you know you can access our GPUs you know or our servers for you know a fraction of the cost of any other cloud provider in the world and so we you know that was an investment that we made early on and I think was really core to the idea that we can open up cloud computing to a group of people that normally would never have considered it his risk is your strategy right now called marketing strategies or sales strategy to go after individual consumers or to go after more of the enterprise's our kind of outbound sales effort is for sure a b2b your meaning that we are we're in contact with a lot of companies they either find us where we reach out to them and say hey we have this this product that might save you a lot of money that said you know it is important for us that anyone can go to our website and sign up for this product if they

have if they have a use case for it  
that's not everyone if you're just you  
know if you only need Facebook or you  
know you're kind of a casual computer  
user you probably don't need this  
necessarily right now but if you're  
doing After Effects or 3d modeling or  
and the list is really you know there  
are a lot of people that have what I  
would call you know somewhat larger than  
normal demands on a computer then it  
really makes sense to run in the cloud  
and we think that we could be a good fit  
for that so in terms of the sales effort  
it's mostly you know finding enterprise  
finding businesses that that can use  
this and really integrate but you know  
we also recognize that  
you know individual users have all sorts  
of use cases that we that you know we'd  
love to be able to provide how do you  
find your users I mean is it is it paid  
marketing is a PR is it you know doing  
interviews like this is it no I think I  
think the key thing is just getting in  
front of you know getting in front of  
people and we in and for us that's a  
multi-prong sort of strategy which is  
that we when people end up using it and  
trying it out they they actually you  
know they find use cases for then maybe  
we didn't even think of so what that  
means for us is just get it in front of  
as many people as possible we do a lot  
of we're actually investing quite  
heavily in our sort of our own contents  
and providing tutorials and articles and  
how to you know kind of get started with  
some high end computational stuff  
everything from setting up a 3d  
animation farm in the cloud which is we  
have a lot of people doing VFX and  
animation to you know a totally  
different vertical which is machine  
learning and we have tutorials and how  
to get started with you know how to how  
to use style transfer on a GPU machine  
in the cloud to you know make art and  
and you know we think that by and  
actually mostly they're sourced from the  
community we say hey you know if you uh  
if you're doing something cool let us  
know about it and we'll you know pay you  
to tell us more about it and actually  
formalize it into an article so we're  
doing that investing heavily in content  
and then and then the other one inch in  
a week we've been very fortunate we do  
get a lot of word of mouth and and  
referral what percent of your team right  
now is technical and then what  
percentage is non-technical we're about  
90 percent of technical right now and  
that and that's changing pretty pretty  
dramatically right now in the sense but  
you know the technology it's relatively  
very complicated I think compared to a  
lot of startups being all startups have  
very complicated problems to solve but  
in our particular case those were at  
least initially very technically  
oriented I mean we had to figure out how

to stream a desktop from you know one  
two thousand miles away and do that  
under 60 milliseconds that's a technical  
thing that we had to solve but you know  
the only we joke around that the only  
real competitor here is the speed of  
light and that's kind of a hard hard  
thing to beat

okay so that's you know our problems  
were very much technical we being able  
we wrote our own every single piece of  
our cloud infrastructure is we wrote  
ourselves for performance and for you  
know scalability so we have our own Club  
you know Club provisioning orchestration  
our agent that lives inside the VM our  
web-based receiver so there are a lot of  
Technology pieces there but that said  
you know we were very happy with where  
the technology is now and really the  
investment is moving into sales  
marketing you know and that in that  
area like it's good now let's get it out  
there and get people using it and really  
pushing it to the limits but what's when  
we're recruiting strategy how are you  
finding you know the right to join team  
oh man this is a hard one so for the  
technology side we've actually we are we  
need people who are and have needed  
people that are very good at particular  
tasks and I mean video streaming is one  
of them and and you know we've done  
everything that that includes being very  
president meetups - you know github is  
actually one of our biggest recruiting  
tools because we find people who are  
working on projects that are similar and  
we are very technical you know  
technology oriented we can you know we'd  
be well looking at code and and that's  
been I mean nothing that's been  
particularly scaleable I would say so I  
think you know the talent the talent  
problem is very hard for any company and  
we've been very fortunate to find people  
who who you know they hear about it they  
think borrow that sounds like a really  
hard problem which it is we tell them  
that they have to be the speed of light  
they say okay let's try it out and that  
attracts a particular type of engineer  
that we've been very fortunate to find  
so what the engineer is it made these  
people that we you know freelancers or  
they with your company looking to join a  
SAP you know a fast paid startup or what  
what type of people are they yeah I  
would say just generally you know full  
stack but with the particular expertise  
so you know just we have one guy who was  
at Microsoft for 15 years working on a  
number of different protocol projects  
another guy who's really been freelance  
his whole career and he's actually he's  
actually based in Europe and he's really  
really good at javascript kind of  
high-performance JavaScript tuning and  
so you know it runs the gamut I think  
the engineering sort of expertise is  
really the  
the common thread and you know for us  
there are so many pieces and be coming

from a technology perspective you know what we're building is a redundant high-performance distributed system and those are hard to do you can't really use off-the-shelf components and so you end up having to build a lot and that attracts the type of person that it wants to build you know build things from scratch instead of putting things together and that's not to say that it's better or worse issues in particular you know it's taking on a lot in it and it means that you know our technology stack has changed a bit we use lots of different programming languages we're not very you know we every piece has kind of gone through many iterations we like we wrote our own billing engine because we want to be able to build down to you know the millisecond for usage to really like you know build a billing engine that works for us you can't just use stripe off-the-shelf you know things like that that our big engineering problems ended up you know in know themselves and that becomes a certain type of person wants to work on that right no it is interesting I mean I can see where a lot of these like you said off-the-shelf solutions out there available to most on up don't necessarily apply to what you guys are doing do you want to build yourself from scratch yeah and the other thing is that you know things that we're working on might not even be you know sort of on the on the roadmap for some technologies and just to give one example you know we we early on and still very much want to build a web application so you can go to our website you sign up for paper space you open up your browser and then within a minute you go home business if you're there it's as you know say two GPUs in it and it's ready to go you can do 3d modeling most people go fullscreen you know they're in the browser and then it looks like their Mac just turned into a into a PC one one limitation though and we're you know very close with we follow very closely how browsers are developing one restriction is that you can't do hotkeys inside of a browser just to give one you know a little example if you type you know ctrl T it's going to open up a new tab and it's not going to send that command into the remote machine so for that reason you know we actually had to fork you know or create our own project that was very basically a web browser but it allows us to override the hotkeys and so we do have a native application and so you know that's just one example of where our ambitions for what the web what web browsers should be able to do isn't quite it hasn't quite caught up with where things actually are and their million reasons why but you know that is the way it is but you know the projects like Firefox and Chrome are huge projects with a lot of competing demands

and as much as you know we want everything to fit inside of it sometimes we have to engineer our way out of a problem that you know it's just not going to change it in the in the near term even though I feel very strong in the long term we will consolidate everything into the web browser and everything will be web there I'm sure there's been plenty of good days and plenty of bad days over the past three years but you know what is do you is there like a best day or a worst day and it kind of stands out yeah good question but days are definitely when we solve something that's been bugging us for a while and it could be a small win you know it's like I I can't think of anything right off the top of my head but but usually it's some small annoyance that we all realize within the software and no one took took it on themselves to fix it and finally they did and it's like haha you know huge win everyone's happy

um the worst days are really you know for us I mean we've had issues where we've had good types of problems we have too many people signed up at once and it and it kind of doesn't we were ready to accommodate that many people or you know other times when maybe the software didn't work as well as we wanted it to and we can't figure out why and so it's kind of you know ups and downs soft software's uh and I'm sure any sort of new venture is filled with the highest of highs and lowest of lows I think that three years into it now almost more than that now it's I would say the the biggest change is that now when they when the big ups and big downs come it's a you know they're much more tempered because you know that you know the highest of high can turn into the lowest of low pretty quickly and you're just like okay listen just another day we gotta we gotta power through it and and I think that's you know been an essential trait for the for the entire team yeah I think definitely want to be the key traits of good entrepreneurs to try to you know keep an even keel you know even when things look really bad or really good don't don't buy into it because they can change very very quickly the other way and my other thing well that would just be really quickly co-founders are really important yeah I think they they have an equalizing effect which is which is really important and I can I props to solo founders but I don't think that I don't think paper space would exist without without you know that sort of equalizing effect in terms of goals right where do you see this company in a few years that what what user number would make you really happy uh let's see I don't know I think computers generally are I think it's like a man six hundred billion dollar market for just all computers and only a small percentage of



them are in a cloud so I think  
converting a good percentage of those  
into cloud computers would be great  
realistically you know or a near-term  
it's really building out sort of the  
other things around a computer that make  
it really you know a killer use case for  
people so you know you could do things  
on paper space that it wasn't even  
designed to do right now and I think  
that building out the tool sets to make  
it easier for people will really open up  
cloud computing I mean I think that the  
ambition here is that if you're an  
animation studio and you know you're the  
only to two people you don't have the  
access to the same computing power that  
Pixar has or ILM or something like that  
you know we want to be the one-stop shop  
or you can click a button and you can  
scale up you know you you have got a big  
gig big commercial you can you can do  
this on paper space or you know very  
easily and inexpensively or if you're  
you know machine learning researcher and  
you don't have access to all the power  
that Google has in the universe you  
still you still can get that through us  
and I think there's a sort of  
accessibility thing where if we can make  
this product really usable and really  
good then a lot of people will find all  
sorts of interesting and amazing use  
cases for it that we could never you  
know foresee and we're already seeing a  
lot of those and they're really  
inspiring and then talk to us about  
pricing so I know it starts at five  
dollars a month you know which is kind  
of a storage fee again you guys charge  
per hour after that so how many hours is  
the typical user actually using this  
most I would think most people on sort  
of the the individual use case end up  
spending you know under \$15 a month for  
their combined usage and and that's  
that's a even the regardless of what  
type of machine they're using they're  
definitely  
options to that you know we have people  
who are opening sort of our high end GPU  
models non-stop 24 hours a day and and  
so we do have a monthly pricing which  
basically says hey if you're going to  
allocate 720 30 hours a month  
you know you should you should buy this  
one because much cheaper on average but  
the good thing about hourly is you know  
we have features that for example will  
automatically shut your machine down and  
things like that so that you can you  
know use it for as much as you need to  
use it and really not pay pay a lot of  
money for it  
not sure ok that's pretty much all I got  
for you me anything that we skipped over  
that you wanted to make sure you got a  
chance to talk about that's it it's  
super interesting yeah thank you awesome  
and you have any promo code you wanna  
share with us yeah I didn't make one \$10  
off get started tryout paper space see

If you can find your use case s 2017  
awesome ok I'll put that in the show  
notes thank you so much appreciate that  
and where can we connect with you online  
or if any of the users want to or  
listeners want to shoot you an email you  
can email address that you can share  
with us yeah the best one it kind of  
goes all of us at hello at paper space  
comm okay cool and I saw you on Twitter  
how active are you on social media the  
hello paper space is getting more and  
more active I'm sort of a I help out  
with that effort okay so that's that's  
that's where I would send people awesome  
appreciate it man really enjoy time with  
you today I feel like I'm a little bit  
smarter now that I was an hour ago so I  
appreciate that  
don't thank you very much take care you  
got it man talk to you soon take care  
fight

<https://www.youtube.com/watch?v=fhsHnkjPNiQ>

all right I would ask all of you a very  
simple question today you ready what  
would the world look like if every child  
in America or Africa in Asia or Europe  
Australia even Antarctica could go to  
school every single day think about it a  
world made true and and real due to the  
possibilities of technology and  
connectedness a world where right to  
education wasn't just a promise but a  
reality what would such a world look  
like would every single country become  
developed perhaps our more livable may  
be more peaceful give me a second does  
this have a calculator I'm trying I'm  
trying to read your minds and calculate  
what you're thinking right now so you  
need to open up a little bit okay um it  
seems like seems like we have an answer  
and I think most of you agree but I see  
some skeptics just like many of you here  
I would love this dream to come true but  
I'm not entirely sure that it would make  
the world a better place or a much  
better place but to understand why or to  
start asking the right questions we need  
to understand what it means to be  
developed this having more income per  
person make a country more developed or  
perhaps less inequality in the  
distribution of money maybe Nobel  
laureate Amartya sane argues that  
development happens when people have  
freedom or choices of opportunities in  
life when they can exercise the freedom  
to do what they want when they have  
additional capabilities in life really  
in simple words what would emerge the  
same is saying that people that  
countries are developed when all people  
not just a few all people are happier  
are more empowered and have a better  
well-being when they have the license to  
their own life's outcomes  
and it is this that gets us thinking  
about what would actually do what does

develop me and what actually gets people  
excited now the truth is money can't get  
you happiness  
even though happiness isn't and means  
for for development money can't buy you  
happiness but feeling empowered can and  
environment can as it turns out  
empowerment is directly related to  
feeling happy because one is happier  
when they can have relationships with  
people around them when they can reflect  
on where they are and what they need to  
do to be where they want to be and when  
they are physically and emotionally at  
peace  
would you agree great so if this is the  
case and it makes so much sense why  
don't why don't we all groomed and grown  
to be to be happier and more  
specifically why isn't why isn't our  
education kind of focused on making us  
more empowered I mean sure learning math  
and sciences and social studies are  
excellent for professional pursuits and  
rational decision-making and thinking  
but the 21st century demands true  
empowerment for local and global  
challenges not once whose answers didn't  
textbooks or teachers answer sheets well  
very unfortunately k-12 education  
systems today are far from this reality  
most of them are built on the residues  
of the Industrial Revolution and we all  
you and me happen to be clogs in this  
machinery trying to maximize the wealth  
of nations you see our education system  
so they have a very narrow focus  
particularly in the developing countries  
one of producing better college ready  
students and better workforces and that  
is far from the local realities of our  
society and the future needs of tomorrow  
and this is stifling the growth of human  
beings a cartoonist illustrated at best  
if Socrates was a life that end came  
down to earth this is probably what  
would happen  
but let's get out of the hypothetical  
let's take for example for hun a high  
school student in Dhaka Bangladesh today  
in his math class Ferran is going to  
learn about how to solve calculus  
problems we'll ask him how it's got  
anything to do with real life and he has  
no idea because all he cares about is  
how to score that extra grade in his  
exams in the social studies class 4 han  
makes the finest trust me the finest  
notes on the United Nations and the  
birth of the League League of Nations  
but feels powerless and clueless when he  
witnesses racism amongst his  
neighborhood kids because he doesn't  
know how to resolve conflicts heck all  
he cares about is the date of  
organizations formations in this science  
class for hun learns about chemical  
bonds in his one-seater desk but will  
most likely struggle to maintain human  
bonds several years ago later in his in  
his first job because the rules of  
competition an assessment never taught  
him how to collaborate or work with

other people in teams you see people  
who've learned socially not alone and  
perhaps perhaps his high schools will  
put him on the path to climb up the  
ladder and get on the Bangladesh  
equivalent of the American dream but his  
lack of social skills his lack of moral  
values as lack of his understanding of  
her illness or in his role as a member  
of the society will make him forget his  
responsibilities an individual being now  
this isn't bad enough his what makes it  
really worse the world for Han is going  
to inherit from the future generations  
demands that for Han have the answer to  
some of the most pressing questions he  
will face the world will face hiv/aids  
global warming the Palestinian and  
Israeli conflict rampant corruption  
gender inequality but fraon doesn't  
have the answers to these questions for  
hon hasn't been prepared to answer these  
questions what if I told you that this  
Lin just true of fraon in Bangladesh or  
Tezaab in Kenya but with hero2 and Japan  
and Susan in California it's true  
and it is this approach to education  
which is leaving us far from developing  
as a humanity so enough of a pain dog  
but I became really passionate about  
this problem I really wanted to change  
it and in 2012 that I realized that what  
we taught our kids in classrooms needed  
to change curriculum needed to change  
and that needed to change from being top  
down to being one that was truly  
democratic you see uncle today  
curriculum decision-making was something  
that happened in closed rooms by policy  
makers on the national state and  
sometimes on the school district level  
but to make it truly reflect the local  
realities of today of your society of  
your community and the needs of tomorrow  
you need to participate in it it had to  
bring together representation from all  
entities public and private parents and  
children advocacy groups most  
importantly teachers because that open  
and collective decision-making will help  
us make better decisions about the  
growth of our children about how to  
achieve happiness and this passion and  
determination made me ask a lot of  
questions now on a sidenote growing up I  
became a big fanatic of the the open  
source movement in technology and most  
importantly I was fascinated by the fact  
that it illustrates how groups of  
connected people from all over the world  
could come together and change a highly  
regulated and monopolized industry as it  
turns out the state of education is very  
very similar and that made me launch  
open curriculum an online platform where  
communities from around the world come  
together to produce better curriculum  
for their own communities today open  
curriculum is a nonprofit technology  
startup in California and our  
technologies allow departments inside  
schools schools inside districts and

districts inside cities to produce  
better curriculum engaging their  
community and it's really simple just  
anybody anybody can go in with your  
community and produce better curriculum  
in the subject or skill area that they  
want to bring change in and produce  
lesson  
and syllabus right there since 2013  
we've been really lucky and fortunate to  
work with some excellent groups who are  
two steps ahead of us in producing  
more innovative curriculum take for  
example this NGO in India hippocampus  
which is providing better reading and  
literacy opportunities to really  
affordable schools in India they work  
with hundreds of schools and the poorest  
of children to uplift learning access  
using open curriculum they're not just  
able to find better curricular content  
but also instantly able to engage all  
their librarians across schools to  
discuss better outside the class reading  
activities or consider stew voice a u.s.  
nationwide student network which is  
involving students in better  
decision-making and k12 opportunities  
and challenges around the country using  
open curriculum to voice students are  
able to engage in discussions about what  
textbooks and resources they prefer for  
problem and project-based learning just  
like these two organizations several  
communities from around the world are  
participating in deciding what they want  
their communities to learn what they  
want their children to learn for better  
citizenship this never used to happen  
before this brings me to my last point  
until today we have we focused on giving  
people what they need in a very  
imperialistic sense and in a giving  
sense when we don't know their needs and  
and our word demonstrates that we don't  
actually have the answers to everything  
we don't impose our philosophies on  
education on any group on what what is  
needed to make local individuals better  
and smarter and healthier and happier we  
realize that curriculum is different  
it's different everywhere it's highly  
local and highly contextual do schools  
within the same city in two cities  
within the same state have different  
needs  
heck two kids within the same classroom  
have different needs because of their  
cultural and educational backgrounds so  
we need to begin by humbly admitting  
that we don't have the answers and there  
is no one-size-fits-all there is no  
magic tablet there is no broadband  
solution but the lesson here is that we  
need to build bridges  
not theme parks and that if we provide  
what we call social capital to highly  
intention people from around the world  
to do things that were previously  
considered the responsibilities of the  
governments we can move millions of  
people forward much better than we are  
today and it all begins with the

cornerstone of human development  
education you see we're far from  
achieving our mission of complete  
openness and innovation in k-12  
education around the world but we know  
we've done something we've ignited a  
fire we have ignited a fire of not  
accepting the status quo of today's sale  
curriculum and you shouldn't either and  
so I ask you know actually I demand I  
demand that you participate and deciding  
what your kids learn what four hands  
because you have the power to change it  
raise your hand ask the right questions  
and change it change it because you  
don't want your kids oh I see a lot of  
students here you don't want your  
siblings you don't want your siblings to  
grow up to be people who are great at  
memorizing facts or live lives in  
isolation like several of us are living  
change it because you want your kids  
and you want your siblings to be  
creative like da Vinci and pathetic like  
Oprah have leadership like Ford  
responsibility like Gandhi and curiosity  
like Newton because I believe that every  
child every single child has that  
potential and if we work together and we  
help bring that potential to life  
happiness will be at the corner in the  
world of our dreams thank you so much  
you

<https://www.youtube.com/watch?v=iSis2Q47VD4>

[Music]

welcome to the virtual lounge today is  
friday february 11th and this is virtual  
lunch number 498  
our guest today is jay keller the ceo of  
case text and this is part of our  
continuing series on superior legal  
writing with brief catch jake great to  
see you thanks so much for joining  
good to see you again tell us about your  
background and  
the case text story so i actually began  
really as a coder first and so i grew up  
building software and building websites  
and  
to be honest i thought that's what i was  
going to do i almost didn't go to  
college because my dad didn't go to  
college he started internet business so  
why would i do that i was coding in here  
i ended up falling in love  
with law and policy through speech and  
debate  
so you can imagine how cool i was in  
high school as the speech and debate and  
coding guy but i ended up falling in  
love with law and policy and going to  
law school and having a pretty  
traditional legal career  
but in every single job that i held in  
practicing law and that's mostly on the

litigation side whether it was during  
law school internships at the white  
house counsel's office or working for  
governor deval patrick who's just  
awesome all those experiences i could  
not help but think every time  
oh my god walking into the law firm and  
using technology here is first of all  
like walking into a  
time portal that zoomed me back 10 years  
everything is slower i spent a lot of my  
time doing the things i did not go to  
law school to do trying to dig up cases  
or go through a lot of discovery as  
opposed to creative writing i kept on  
feeling like hey i think there's a way  
that the technology that i know how to  
build might make a big impact on legal  
in fact i thought there was cod that if  
i wanted to find a thai restaurant near  
me there's the best technology in the  
world for that but if i wanted to  
represent a client in a billion dollar  
matter then the interface i'd be using  
would be one of the worst and if i  
wanted to find something of importance  
it might take me hours and i might stay  
up till three or four a.m. that's a large  
part of why i thought okay well  
though i love being a lawyer and i'm one  
of those few lawyers turned  
entrepreneurs who did not run from law i  
actually really enjoyed the practice but  
i really felt pretty strongly that there  
is a way that we can apply some of the  
stuff that i had learned growing up to  
make the lives of lawyers better k-6 has  
actually evolved and grew over time from  
the very beginning the mission wasn't  
really around legal research and legal  
writing which is definitely what we are  
best known for today  
the real core mission what we're really  
trying to do is taking almost every  
single piece of the legal workflow and  
we're specifically and especially  
focused on litigators  
and trying to apply both  
automation technologies and in some  
cases artificial intelligence  
to see how we might automate certain  
things so lawyers never have to think  
about them at all  
and for the things we can't automate  
where can we support uh lawyers so that  
they could do a task that may have taken  
15 hours in five or three or one that's  
the long term direction of where we're  
going  
for those who don't know anything about  
it our core platform that most people  
know us for is around legal research  
writing and also general search and so  
some of these pieces will feel very  
familiar to folks who know tools like  
west law or lexisnexis or bloomberg law  
in that you can execute searches against  
a database of cases statutes rules and  
regulations  
you can do a lot of other functionality  
within it and at the same time there are  
some parts that will feel unfamiliar and  
delightful and due instead of searching

by booleans that you can do in the system you can also just write out the statement you wish was supported by law and it will understand what you mean and try to find a best site for that even if the judge didn't use any of the words that you used you'll understand what you mean and find a match for you and say here's what we think the best site is a feature called parallel search or even if beyond that there's a feature called compose that will help you essentially write the first draft of a brief in just a few clicks laying out the legal standard the framework for your jurisdiction with great support from case law and take a process that at least for me if i was putting together a difficult motion for summary judgment the legal research process of it may itself be a 20 or 30 or 40 hour piece it now happens a matter of minutes this is one of our newest and beta features called research and it's a beta feature that's currently only being used right now mostly by very very large law firms for a variety of these cases like the ones i mentioned that's going to be rolled out to all of our customers very soon on a self-serve basis maybe it's no surprise i end up in legal research and litigation as i've grown up as a both a lawyer and entrepreneur you see that there are many more sides of it i do think that there is a substantial place for tools that help you with the administration of your law firm for example to help organize your internal documents that help do things post filing for documents to help on the transactional side it wasn't until i was an entrepreneur myself that i really respected and understood what transactional attorneys do and i'm on the phone with them at least once every week and really respect and admire their work if you are working with a lawyer with access to a lot of human capital a lot of human resources and a lot of money to get the best tools research technology and e-discovery technology they can at times present a much better case than the lawyer who does not have as many resources in terms of people and money to spend on the best tools and i felt as a clerk that there were obvious moments where for example somebody was facing deportation so they're up against the government which has pretty heavy resources and they are represented by oftentimes great lawyers but who just are representing people of relatively low income themselves can't charge high rates and therefore can't put together a team of 10 associates to research an issue to death and i felt as a clerk that if i didn't do a bit of the extra research to really get to the bottom of it that the government's position in many of these lawsuits would feel a lot



better and it's not because  
it was in fact what justice demanded and  
where the truth lies because they had  
more resources to better represent  
themselves what i believe you're going  
to see across the industry is the fields  
of machine learning and artificial  
intelligence  
really challenge what we assume  
are the things that are necessarily  
human as part of the workflow and push  
the boundaries of what pieces can be  
done on a semi-automated basis by  
machines which is to say  
i'll get into this a little bit but it  
will never be in a place  
i believe where the human lawyer will be  
taking complete out of the loop for  
almost anything specifically what parts  
are going to be continue to be  
necessarily human versus the parts that  
will be automated or semi-automated the  
main places where technology will make a  
major impact are on information  
retrieval so  
looking up cases looking up information  
in an e-discovery set reviewing a  
massive database of contracts technology  
would get better and better at doing  
things you ask it a question  
and it won't just find the right  
responses for you it will actually draft  
a response to your question as if it was  
a human writing a memo we're going to  
get there over the next five years based  
on what i've seen so far the problem  
with what sometimes called retrieval  
augmented generation of text is that  
sometimes it hallucinates so we'll make  
up facts that sound right but are wrong  
so that's obviously unacceptable for a  
professional standard right you get in  
the next five years a third year  
associate quality first draft of a memo  
a responsive to a question for example  
can you please find me all the emails  
between these two people that discuss  
the topic of the price of metastock  
we'll just say here's all the emails i  
found technology is going to take some  
of the even more rote aspects of  
formatting your brief for a particular  
court on the litigation side similar  
things around execution of contracts and  
checking the contracts all those things  
will be more handled by machines the  
place that will be more human includes  
strategy the machine can tell me  
arguments i can make which arguments  
should i make  
persuasive writing and putting in a  
voice that matches the what you think  
will be persuasive to a judge or do you  
think will be more clearly understood in  
a contract  
strategy from an element not just a  
writing element but from an overall case  
perspective not can i file this brief  
but should i file this brief not can i  
put this term in the contract but should  
i from a business perspective and there  
are also going to be some pieces of the  
client relationship obviously obviously

you can't outsource that and then  
finally they're going to be parts of  
more traditional oral advocacy that and  
deposition taking so it could be  
assisted but actually choosing when to  
object how to object what to say in your  
opening statement or closing statement  
all that stuff i believe is going to be  
within the realm of the human and all  
that stuff i don't think is going to go  
away from technology a lot of the firms  
we work with for example have very big  
banking clients and though they are  
using our technology for uploading  
million documents into it and running  
these ai searches against it it needs to  
be on-premises or else they just can't  
use it  
and it's not in the cloud yet they're  
hyper concerned about any information  
leaking from even just their documents  
to the outside world technology that  
enables lawyers to win and represent  
their clients better ultimately wins  
over there's two forces right there's  
the conservatism and the concerns  
about privacy and of course representing  
your client best is  
by definition  
not leaking all the information online  
by accident jake hello everybody  
thank you for having me  
that was a great conversation thank you  
so much for joining us thanks so much of  
course to briefcase for supporting our  
series on superior legal writing and  
great to see everyone i hope you have a  
fantastic weekend

<https://www.youtube.com/watch?v=MXR-RPCPEFI>

[Music]

all right  
so like i said my name is sarah hill and  
i am with target  
and i have had the pleasure of getting  
to know these lovely people on the call  
of me today  
um to the target accelerators program  
which you can learn more about  
at target accelerators.com which i won't  
go into too much today  
actually won't go into at all um  
primarily talking about the capabilities  
and technologies  
that they are working with so we have a  
spencer with radar  
alex with rapidson and jake with  
listener  
joining us today and we'll be talking  
about activating the physical store  
in which they are all doing very in very  
innovative ways  
um through their technologies and  
capabilities  
so they'll each present um quick kind of  
four-minute overviews  
um of their um technologies  
and their companies and then we'll dive  
into discussion and q a  
um before we do that i want to

put another little plug in um for some  
alternate sessions that are happening  
this week with eight  
additional target technology accelerated  
alumni  
that are diverse in both the types of  
companies that they run as well as the  
demographics of the founders  
so um i encourage you guys to attend  
those that are happening on both  
wednesday  
and thursday it just so happened that um  
the ones the presenters today are three  
white male founders which are great  
um and wonderful and i love them very  
much but i hope that you recognize the  
lack of diversity and that you hold me  
accountable  
for future discussions that um the  
representation  
will be different in them in future  
sessions so  
i want to call that out and we can  
definitely have discussion and  
conversation around that topic  
in and of itself but um i want to start  
off and do some quick  
kind of soft introductions of our  
speakers i'll actually probably just  
kick off  
to introduce jake um and listener  
so listener came through the 2019  
tech accelerator program um and the  
first time that i heard about  
listener and their capability and their  
technology uh the founders actually had  
to repeat it back to me twice  
so their capability is that they  
transfer secure data over ultrasonic  
audio  
again because it had to be repeated to  
me twice  
that's secure data through ultrasonic  
audio wings  
which is pretty remarkable and today we  
have jake who's incredible and svp at  
listener  
to provide a quick overview and some  
insights into what they're working on  
jake do you want to take absolutely  
thank you sarah can you hear me okay  
yep here you are very good  
well yes it does take a minute to get  
your head around exactly what it is that  
we do  
but hopefully in the floor that sarah  
has given me i can get everyone up to  
speed  
and i'll start by saying that uh we are  
actually a minority company  
um i don't represent that with this  
accent 100  
but my boss and my boss's boss uh both  
minorities and doing  
particularly well so um i'll consider  
myself to be representing someone  
outside of a boring old white male for  
now  
so you've got a slide that hopefully  
everyone can see right now that's our  
two founders chris and rodney  
uh back in 2012 um they started this

business

in a much sexier way than we've taken it  
in recent years

they started with the swedish house  
mafia sending really small  
packets of data via the pa system to  
everyone's devices uh in the entire  
audience

this allowed for people's mobile devices  
to sync with the light show

when one then went on to the who at  
wembley uh

jay-z uh at budweiser made in america  
and we're really just doing some pretty  
sexy stuff

then the likes of myself came along and  
said hey why don't we do something as  
cool as like banking and payments and  
retail

and um clearly uh we've gone in a  
slightly different direction ever since

um now the important thing to do at this  
point

is to get a quick level set on the  
actual tech because it does sound a  
little bit overwhelming to begin with

but the way that i um i first  
allowed the penny to drop i was thinking  
back to the old modems and the old facts  
everyone remembers or those of us that  
are old enough can remember  
what it was like to use dial-up modem  
now i'll spare you the sound  
of that but often enough i do play it to  
remind everyone

that was data over audio so that's  
exactly what we do

um at listener now the main differences  
of this

that was audible um so what we've done  
is we've raised it up to the ultrasonic  
so you don't have to hear it that's a  
good start

now the other thing we do is we do it  
through the air as opposed to doing it  
through a copper wire

we do it from device to device uh  
through air these days everyone has a  
super computer sitting in their pocket  
which allows our algorithm to do the  
error correction in a way that just  
wasn't available back in the 90s

so if you've got that concept you've got  
a pretty good idea of what our company  
does what our underlying technology does

um it's also a good place to uh sort of  
level set

because we're not sending video files  
through this uh this is small packets of  
data

probably more what you would send  
through a qr code um and if we did try  
to send photos it would go along the  
screen

like the internet did in back in like 95

so this is actually a spectrogram uh and  
it shows down the bottom if you see that  
green line

um that's literally what dial up  
internet looks like um

that big fuzzy bit if you look up right  
at the top um the listener logo is sort  
of covering it up but

at about 20 000 hertz there um you have  
our signal um so this is well above  
human hearing  
um human hearing is actually more around  
a normal telephone conversation  
everything will happen at 4 000 or less  
um even you know animals can hear some  
animals can actually  
pick up our tone but essentially it  
means that um you know no one can hear  
it and  
uh it appears um it appears  
automatically  
so if you understand what the  
underlying tech does  
uh where it is anything with a speaker  
anything with a microphone can  
communicate with small uh small pieces  
of data  
um this makes us similar to bluetooth  
nfc or qr code um  
probably we find ourselves being  
compared most often to qr code  
because we're controlled at the device  
level um so nfc bluetooth  
both through the handset  
which has pros and cons um but it's  
certainly more limiting especially when  
it comes to how you choose to use  
um nfc in particular so we're most often  
looked at as an alternative to qr code  
and and when we are um there's specific  
things that make this a little bit  
different  
the ability to control distance  
obviously a qr code you have to get  
pretty close to be able to scan that as  
with nfc  
um with ultrasonic you can actually use  
volume on the devices  
to determine how far you want that  
signal to go um  
so we support use cases anywhere from 12  
inches  
through to clearly the size of the  
stadium but these days were normally  
between 12 inches and around 6 to 8 for  
some of the covered cases  
full duplex so just the ability uh to be  
able to send information back and forth  
on a really basic level this just means  
a qr code especially if you're in an  
offline environment like you might be  
in some of our developing countries that  
we work with um you're not going to know  
that that payload has gone through  
full duplex simply allows an  
acknowledgement to come back to the  
original device  
so both devices know that that  
transactions happen successfully  
and finally motion controlled so the  
ability to control  
ux to control payload to control  
everything  
our sdk will allow you to choose what  
token you want to be sending  
um what data um at all it's all um  
free tax that you can send as you need  
to send so  
what does this mean when it comes down  
to retail uh these are the use cases

that we spend most of our time

um i guess finessing um

and we spent a lot of time on mobility

um and honestly was taking probably the majority of our roadmap

up until the start of coven um we were live with rideshare partners around the world

bus companies just as a ticketing alternative much quicker getting people under the vehicles

uh using ultrasonic versus qr code which was the alternative

but specifically and to drive at home what um

we've been doing uh with target um is both

use cases uh and most of the work has been around the drive up use case and seeing if we could

create a better way of authenticating that person as they drive up

um sending the you know the required payload uh to make sure that's a secure transaction

and sarah may tell you that her job is particularly glamorous but what she won't tell you is she's been testing out technology

in the middle of a minneapolis winter in a parking lot

um with the use case i'm about to highlight next

so this is actually a video i'm hoping it's going to come through i'll wait for a thumbs up from sarah to make sure i can hear this okay these days

simply going to the store has become a lot more complicated

but it doesn't have to be thanks to listener contactless pickup has finally become a true reality

listener is the leading ultrasonic data transfer company

listeners ultrasonic data over sound technology

enables proximity verification and contactless transactions

for merchants financial service providers and mobility companies

this type of technology is a game changer for both the customer and the retailer listener's contactless data over audio solution

enables retail companies to seamlessly authenticate a curbside customer at a distance of up to six feet that's not possible with qr codes and other dated technologies

it's as easy as lining up your microphones and letting sound do the rest

what's great for retailers is the ultrasonic data over technology can be customized to work within their existing contactless transaction flow

what's great for the customer is that technology is reliable and safe

welcome to a more seamless and secure commerce experience

this is listener

okay there's my four minutes

awesome i love that the video came

over well there you go um like i  
mentioned in the  
the chat please feel free to drop any  
specific questions that you have we i  
have some  
questions kind of pre-loaded for all of  
the panelists today but um  
i think in the meantime while you guys  
are thinking about questions for them  
and we can kind of get into our q a  
um we can introduce spencer who's the  
founder and ceo of radar  
and spencer is working on a really  
proprietary novel approach to what many  
of us  
in the industry have thought as kind of  
an antiquated technology  
which is rfid it's really incredible and  
he's pairing both rfid and computer  
vision  
um to create this really interesting  
approach to inventory management and  
amazing other additional use cases that  
um  
he can tell you about now it looks like  
your deck is  
loaded great awesome  
um thanks sarah so as mentioned my name  
is spencer hewitt i'm the founder and  
ceo  
of radar and what we're building is a  
fully integrated rfid and computer  
vision platform  
to automate different functions in  
retail which i'll get into  
but overall what we're really trying to  
do at radar  
is tell you exactly what is in your  
store  
and precisely where it is  
and the reason this is important uh is a  
few things  
so one is that if you don't know what's  
in your store  
you end up having a large amount of loss  
1.1 trillion dollars of lost revenue  
every single year across retail due to  
out of stocks and overstocks  
just over ordering or not having the  
right things in the right place at the  
right time  
the way this might have manifested for  
some of you uh  
is you walk into a store and you know  
10 to 25 items that you're looking for  
are not actually on the sales floor  
uh just because they don't know that  
they're sold out or you order something  
or buy online pick up in store and you  
get there and you're told that  
unfortunately  
it's actually not available and you have  
to order it online or  
go somewhere else and when this happens  
to customers  
about 55 of them leave the store  
immediately don't give them  
the retailer a second chance so this is  
where  
and as mentioned what we're focused on  
is helping to automate or augment these  
different use cases so fulfillment

number one

inventory analytics and autonomous checkout

and the way we do this is through a combination of sensors and software so at the heart of our solution is a proprietary sensor this sensor has the ability to read and locate rfid tags in three dimensions

more precisely than any other system as well as use its four cameras to observe the environment and locate all people in the store uh within 3d as well so we're able to understand uh what someone's picked up so that when they leave with that product we can charge them automatically we're able to measure things like team member productivity etc and service all this data through our api to our mobile app and store dashboards so high level the first application we've built on top of the platform is the radar mobile app so this is something that a team member in a store would be using to find products to do their job more easily so they can search for any item like they would on search for a restaurant in google maps and they can see that locations update as they move this also helps them with a key use case in these times which is order fulfillment and curbside pickup so instead of hunting around the store for an item or not even knowing if it's actually in stock they can know for sure exactly where it is and pick it more effectively

and then lastly it helps them understand what's missing from the sales floor in real time so they can keep the salesforce stocked perfectly so when you walk in you can find what you're looking for and leave satisfied so kind of just skipping ahead a few things that differentiate us significantly from the market are the following so number one is our location accuracy on the rfid tags so other systems will achieve on the order of plus or minus 10 to 15 feet in location accuracy so they might tell you what it something in maybe we can tell you exactly where on the shelf it is uh so we achieve accuracy that's on the order of one foot and we do this not only in x and y like other systems but also in z so we get the three dimensional position at all times and the problem uh the reason this is hard is because you know as probably uh jeff will know um



the reason this is hard is the following

so inside of a store

there are a lot of walls there's a lot

of objects that are metallic there's

floors

ceilings and what's happening is you're

constantly seeing reflections from

the rfid tag off of these walls floor

ceilings

and these reflections cause the signal

from the tag to take an infinite number

of paths back to the reader

and typically uh systems try to figure

out

okay which of these infinite paths is

the one line of sight path and that's

that's very hard to do

so they end up getting you know an

answer where it's okay we know where

this thing is within

you know plus or minus you know 10 to 15

feet

um and and we've really come up with a

unique algorithm

that has allowed us to completely solve

this issue

and get a reliable location no matter

what's happening in the environment at

any given time

and once we solve that the next thing

was okay how do we actually

get these locations quickly so the other

piece we've done is we figured out a way

to get the location on a single read

instead of needing tens

hundreds thousands of reads to converge

on the location like other systems might

and the third and you know piece i'm

going to uh

end on is the most interesting thing for

me is kind of how you combine this

modality of rfid with vision so

um one of the things that we're doing

here at radar is

as we locate a product we're able to

cross reference that location with what

the camera is seeing

so uh if you go and you pick up a teddy

bear

in a target for example and there's an

rfid tag in that in that teddy bear

as you move that teddy bear around the

store we can gather tens of thousands of

images of that item

because the tag can tell us where in the

camera's field of view that that item is

and as we gather those images from

different angles different lighting

conditions

we can then teach the camera to

recognize that product

by sight over time so you can imagine

the application of this

over the next several years will become

quite interesting so

um that's super high level we're working

on it radar uh if we have time later i'd

love to

show a quick kind of sneak peek of our

of our demo dashboard um

but i'll let out go ahead

thank you spencer um super amazing

thanks for saying that

you can purchase that teddy wear at  
target

um but no it's incredible what you guys  
are all working on and

i feel like i want to comment on all of  
your technologies and how i've seen it  
and how it's all

anyway um i will turn the floor over to  
alex

who is uh the last founder presenter  
today

and then we can hop into the discussion  
and dialogue but

he's actually based out of munich  
germany so good evening to you alex

rather i think it's probably what like 9  
p.m

um in germany right now but uh rappertag  
has developed a

unique high-tech solution in combining  
both bluetooth capabilities  
um paired with cell thought  
self-checkout

um for an assets protection use case tag  
or tag use cases

so alex i don't see your video  
then i have to restart after the  
presentation

i try to share the screen

note if it's working

yep looks good perfect yeah

thanks sarah uh i'm alex um and

uh edward pack developed a lot  
platform which combines contactless  
self-checkout  
and anti-theft protection um

fat and this topic people want to talk  
about

important but let's talk a little bit  
about

uh self-checkout i mean in the past um  
self-checkout

the goal was to save time and improve  
the customer experience

um and this is still not important but  
the new

message between customers and employees

right

in a good scenario which means scan the  
product barcode on qr code with your  
smartphone and pay mobile

the shrinkage the theft increase and  
explain these new times where the  
customer faces are covered

um but we need more contact less  
solutions in retail at all so

self-checkout

um losses to self-checkout went up five  
times

and these are only the numbers of  
pre-corona i mean already everything  
around one percent is a big loss if it  
grows to five

that's insane today left in us retail  
means an annual loss of  
around 50 billion dollar that are  
14 billion dollar every day

our solution fits perfect  
products and fashion and these are  
categories

that have already anti-theft tags i can  
show some later if my camera works again

um and and these fix market decades  
um but the tax itself they don't fit  
today's shopping behavior and so we  
at rep attack brimlink to the next level  
tech is replacing these established  
asset protection tax  
and turn them into connected iot devices  
to offer fully customized and  
every security tag has a unique device  
identification and we call it internally  
the offline  
this turns every product basically into  
a contactless point of sale  
and we have four simple checkout  
the tabs will wrap attack with the  
smartphone and you don't have to look  
for  
barcode or qr code or whatever  
we use bluetooth so it works on every  
smartphone  
solution like like nfc so  
close the smartphone next to the tech  
a mobile plus app our sdk just get  
integrated into that and that magic  
attack opens automatically the customer  
can remove it in the store  
and you just drop it in the bin before  
he exit and then  
the cust just walk out through the  
existing security gates at the exit  
without any cue  
invent it this way we reduce  
the friction in the customer journey or  
in a self-checkout journey when it comes  
to  
protect  
faster faster than existing solution so  
we speed up already the normal checkout  
when you go to a normal  
checkout counter and want to pay cash we  
read labor costs and save time when the  
cost  
then the employee have to remove it  
we tested our solution already with  
several retailers across europe and we  
had no shrinkage  
and surveys showed that customers and  
employees  
headed back to the solution which  
we developed basically the one of the  
world's cheapest and most  
precise indoor bluetooth tracker so like  
pre  
like radar we know exactly  
store and we can use that information  
also for contactless state support  
um so we allow the customer to check  
nice and this really benefits  
in a pickup or drive  
because at the moment um  
the picker has to remove the anti-theft  
tag  
but he's not allowed to do that  
target the stars of the future and we  
already heard today that in the future  
these stores are small distribution hubs  
for same lady  
so the picker can find the product very  
fast  
and then he removed the anti-theft deck  
without any support from the team member  
or

and so we can increase the number of  
pick products per hour and the delivery  
pro  
and this is another use case what we  
could also do  
we could also protect the way from the  
store to the customer's home  
you can store but deliver the tech  
product and let the customer remove the  
tag at home  
with a smartphone so everyone involved  
in the last mile can be sure  
deliver receive so contactless  
checkout asset protection in the secure  
way improving retail processes  
that's rapid tech  
awesome thank you alex i said spencer  
thank you alex  
um you can i don't know if you i'm  
perfect  
perfect sounds good okay so we only got  
one question  
um throughout your presentations but i  
think it's actually something that we  
discussed as a team um prior to this so  
i think that  
if we dive into this um question that  
was directed at you sent it so i'll let  
you kind of kick it off but i think it  
would be really interesting to hear  
um the perspective of both jeff  
jake as well as alex as well and talk  
about  
your choice of using rfid instead of  
going pure  
vision and i think the respective  
technologies that you guys have worked  
in  
and kind of like why you continue to  
pursue that path and also weave in other  
technologies um throughout your  
development of the your  
companies and technologies and  
capabilities yeah absolutely um  
so it's a very good question basically  
the way we look at it is i guess like  
vision is something that makes  
perfect sense for like autonomous  
vehicles right because you have  
you know a car that is moving through  
its environment it's going to interpret  
its environment as it moves through  
um and it has like a fixed set of  
cameras and like a relatively  
fixed set of compute to do that um when  
you try to  
then look at a problem like autonomous  
retail  
um the space is much much larger  
and there are many many things you need  
to be tracking simultaneously  
and the margins are also quite thin  
so basically the solution  
requires a modality that can cover  
a large amount of space with relatively  
little cost per square foot  
um so if you look at an amazon go type  
solution they're going to end up putting  
a camera every three feet in the store  
there's a large amount of compute behind  
each of these cameras  
they're also putting weight sensors on  
every shelf

um so you know one of the properties of  
like visible light is  
you know it doesn't travel through solid  
objects unless they're like glass or  
like  
you know see-through right um whereas  
the radar  
it travels through you know shelving it  
can travel  
through walls um and the coverage  
area is much much larger so you're  
looking at uh  
you know the potential to cover a store  
you know with several thousand square  
feet with a single sensor  
uh as we scale up with radar um whereas  
with visible light you're always going  
to be subject to occlusions of  
people and cards and then putting  
objects underneath  
their jacket et cetera um so you end up  
needing to increase the infrastructure  
to counteract that  
which then increases compute which then  
increases the cost  
so our estimate for what an amazon go  
would cost on a per square foot basis is  
on the order of 400  
per square foot whereas you know with  
rfd and radio frequencies primary  
modality  
you can get down to on the order of two  
dollars per square foot  
um so it's you know order magnitude  
difference  
or sorry multiple orders of magnitude  
difference um  
vis-a-vis vision which is why we made  
the decision to  
use vision as a supporting and secondary  
modality as opposed to the primary one  
i love it i think a lot of this kind of  
topic that's at hand of like  
the store of the future or the the role  
of the store and how it's evolving i  
think a lot of it comes down back to  
like this  
benchmarking to what everybody thought  
is this like  
is going to be the future of this amazon  
go store and we've seen a lot of  
retailers that have  
rolled out this concept of scan and go  
autonomous check out whatever the kind  
of name for it is and then roll it back  
for a lot of different reasons and i  
think you guys are kind of  
living that um which is really  
fascinating  
to see how you're providing some of the  
capabilities to provide that seamless  
checkout experience but um  
the concept of just one store that can  
do that immediately right now i think  
spencer you brought up a really good  
point of just the cost to that is  
ask very high don't say astronomical i  
guess it's all relative but  
um alex do you well actually i'll turn  
it over to jake first do you want to  
talk about kind of how  
you guys are pursuing the path with

ultrasonic and

also including a few other kind of capabilities and technologies

as a solution yeah absolutely um

so we obviously have a bias towards uh ultrasonic as a communication layer

um considering that's what we've been doing for around nine years now

um but we've become very good at identifying what ultrasonic is

the best modality um and often we advise our customers uh to use qr code if that's more appropriate or nfc if that's more appropriate

as a matter of fact in our sdk we have a failover to qr code

um for scenarios where a device might be broken or something like that so

um for our workers we often work alongside

um you know companies like spencer's or alex's um

and provide one component to what they do but

it comes down to what ultrasonic data transfer

does best uh which is the distance factor bi-directionality

um and also it will not go through walls

um

so as opposed to radio frequencies obviously uh the wall may as well not be there

um this will stop at a physical barrier

um so that does actually provide um some advantages for certain use cases

and alex do you want to talk about uh why you guys use bluetooth for your specific use cases

uh yeah i hope my video is now working

yeah it looks great

um so yeah we had the decision of how we can transfer data and we didn't know about listener as we started in 2015

um so we thought okay which is on every smartphone working so it was the time where

um nfc got with apple pay into the market

but first of all only apple pay at that moment was not

in the market yet so um we thought okay bluetooth is on every smartphone nfc is not

we didn't know about um listener audio that would be cool too

and qr codes we don't like qr codes because it's always a break in in the journey

because um the qr code itself it can't

speak yeah it's only a one-way direction of communication you only can read the qr code and

send data back to the qr code and so

we decide okay we need something that works like

nfc um but it's faster than

or better in the communication uh than qr codes

so we decided to to use bluetooth but we are not limited to that our

um technology is that the tag when you pay for a product that the tech opens automatically that's our solution it's not the data transferring awesome thanks and jake i think i i like kind of the what you guys said i think jk said well of like there's instances where you encourage your customers and clients to be using different modes of um technology for fail-safes and i think that's something that i've seen with each of your companies as you've worked with target and the other customers kind of the journeys that you've been on of like really understanding what that problem is the problems are that like you know our associates are facing or our team members are facing and then like what is the scenario and how many best like you utilize all of these capabilities and technologies to really create the most seamless kind of experience which i think is something that is the strength of all of you guys and um why you're doing well in the market um there's a couple of additional kind of questions in here there's a um spencer for spencer question do you wanna i don't know if you took a look at that yet spencer but do you wanna answer the question in terms of the real-time time inventory tracking yeah um absolutely so i think um it's a good question about how you can leverage rfid pre-store so yeah i think there's a ton of value in rfid pre-store both for vendor vendors and the retailer we're actually looking at multiple use cases you know in the distribution center for example just because it turns out distribution centers are also not perfect um there is a significant amount of error that can accumulate uh in the inventory they think they're sending to a store versus what actually makes it there um and if your baseline of what you're you know when people receive inventory from the dc typically they're taking them at their word and face value that it's it's accurate uh and that creates you know these downstream problems for the end customer um so pushing the technology back into the dc into the supply chain does make a lot of sense because it allows you to have real data coming out of that so you don't have that degradation of inventory over time so that's definitely

something we're looking at

uh doing in the near future

um i think the most value can be driven

however from

the in-store use cases because

ultimately

uh that's what the customer experiences

um and you

know by having the ability to understand

what's in that store and where

it is you can correct those issues

uh with good communication with with the

rest of your supply chain

um i don't know if that answered your

question though

so feel free to put in the chat if

you're asking something else

i think it did so i'll just keep going

okay okay expensive

just the spencer um matrix or not matrix

inception going on um i i want to kind

of

tap into some some of the things that

i'm kind of pulling out

even from earlier today when albert from

home depot was talking about

some of the success factors and testing

and pilot

piloting and one of the things that he

mentioned was a kind of

um key success factor is

the experience of the associate at

target we call them team members

but that experience and can you guys

talk a little bit about when you're

built

when you guys were building out your um

solutions and capabilities and even

companies

how much of this was focused on the

guests or

the customers versus now i think in your

journeys

how much of it's focused on the team

member um alex do you want to

start yeah sure good question i mean

um we always started with the customer

point of view

um i mean we are in the in the asset

protection field it's all about

preventing

theft so it's a little bit negative

and reacting about something which is

already happening

and we thought okay we need a process

for the cust first because if the

customer don't use self-checkout for

example for various reasons

the solution will not pay off and later

i would say two years we found out that

we also value for the team member or the

shop assistant

because it's also saving for him for his

daily work

in the end in the b2b business like all

of our solutions are b2b

both we need the end user and we need

the

employees

jake you want to take a stab at that as

well yeah absolutely uh let you know

sarah like a lot of what we

ended up realizing is um we do offer a



significant amount of value from a security and user experience standpoint but at the point where you might have to train up 50 000 staff members on a completely different flow through the store operations team um that value becomes somewhat diminished so in everything that we build out um you know in the case of the um the use case that we showed earlier with driver um it's making sure that it's very clear to the team member what they need to be doing um and if you can do it in one um screen or less to show what you know used to happen what happens now you're in a good place if you're ever thinking that you might have to train up um a large group of an organization like targets you're probably not going to get past the oc um so we spend as much time thinking about the team members experience as we do the guest experience love it spencer do you want to um uh yeah hey sorry yeah i think the impetus for the company was 100 customer facing because i was super naive to the retail industry i was just in a store i was like oh wait in line is annoying we should figure out a way to eliminate lines um and then later you know a couple years later talking to actual retailers um i started to realize oh there's like all these other kind of business facing problems um beyond just you know long lines that that this could help to solve so i think that was kind of an evolution but it didn't necessarily start out being like an inventory focused uh it was definitely autonomous checkout focus from the beginning and then kind of inverted the order i think on that each of you guys have gone through and all the companies that come through the accelerator programs at target i think originally kind of um pitch or you know describe their solutions as very guest focus which is great because target's very guest oriented but i think by the end i think look at the stages that you guys are like understanding that a lot of times like store operations and supply chain and you know the functions that are actually going to be implementing this and rolling it out are like a huge uh case if not the key stakeholder and a lot of these decision making um or a lot of retailers because it's so

critical that like you said jake if  
you're rolling this out to hundreds of  
thousands of  
uh team members or associates and it's  
causing a little bit of friction that's  
not going to be an enjoyable experience  
okay so um one thing i do want to  
mention because i think that this is  
something a topic that  
comes up with a lot of the high tech  
capabilities and solutions i think  
especially with anything relating to  
vision  
but i think every single one of the  
conversations that i've sat in  
either internal to target or otherwise  
um with each of your companies has  
brought up something around the the  
topic of security  
of like regardless of i think probably  
you guys have experienced this anywhere  
you're pitching  
there's like these hairs that go up on  
the back of their necks that are like oh  
this seems too good to be true or like  
it seems like this is amazing but like  
this can't be secure what is what  
security protocols are you guys going  
through or  
um can you guys talk a little bit about  
um your journey through that and then  
how you're taking as all of the security  
measures that you possibly can  
um when developing at your companies  
jake you want to start  
yeah absolutely um so we've approached  
this in a number of different ways and  
to be honest  
uh visa is one of our larger customers  
and backers  
and the uh the hoops you have to jump  
through  
uh to to be able to be um a commercial  
partner of visas  
uh pretty uh dramatic and one of the  
parts we may go to is in fact an open  
loop solution where  
um you'll be able to you have credit  
card transactions  
uh via listener technology in that  
particular case  
um yeah we we need to uh we need to be  
as secure as anything else that's out  
there if not more  
um actually based on what we're looking  
at more now in the case of our specific  
work with target and some other  
retailers  
um we are uniquely secure in that it's  
very hard to pick up  
and intercept this frequency  
um and if you look at the basic way that  
um  
2d barcode or qr code technology um  
uses rolling code to mean that whatever  
token whatever payload is being sent  
is only good for a moment so  
in the case of target the rolling code  
approach they have to their 2d barcode  
is something we could jump  
right on top of um and so essentially  
we took something that was already very  
secure and made it more secure

because you take the opportunity to have  
a screenshot out of the equation  
altogether  
um but if a bad actor wanted to try  
to get in  
and intercept that they would one have  
to use a unique version of our sdk  
to have to record it first then they  
would have to play it back then they'd  
have to use a unique version of our sdk  
to turn that into something that was  
useful  
and after all this effort they would  
have a long string of numbers and  
letters  
that would mean nothing to them so we're  
actually remarkably secure on that and  
you also do have  
first movers advantage in that the bad  
actors haven't had a chance to  
uh really um problem solve on it yet so  
um we're we're pretty well positioned  
from a security standpoint  
um and it does take up a good amount of  
our roadmap and  
an hour's spent but um it's always fun  
talking security  
so you're saying there's a chance it's  
just a very very very small chance  
you've given everyone the steps yeah i  
um  
i like this that could be a good  
hackathon  
no break it actually that's crazy  
spencer has talked about  
he actually works with like a hacking  
group um  
in germany that is like a bunch of these  
really  
as you could imagine intelligent people  
that he like i think people submit  
things like that to hack isn't that  
right spencer i mean alex  
yeah we had the biggest european hacker  
community in our first pilot store and  
they tried to hack the the tags itself  
and uh we already were aware that  
bluetooth is not the safety data  
transmission protocol  
so we made the hardware itself as  
secure as possible so as jake  
said if you read our bluetooth signal  
that means nothing yeah the tag itself  
has to encrypt the data  
coming from the server and if you  
know what what's in between um that's  
that means nothing yeah  
um so after they to hack us  
they invited us on their meetups to show  
the  
um yeah our solution to a wider  
community  
and then we had some kind of hackathon  
because we showed them what we did and  
we got a lot of feedback  
from them how to improve both the  
hardware and the software  
i still can't wrap my mind around like  
this group of hackers i just  
picture that what is the one show that's  
like hackerman  
anyway they don't wear a mask

uh maybe maybe today because they have  
to in germany but  
um yeah they were normal guys working  
for bmw which has the headquarter here  
in in our city and they are  
a normal job for example they are  
working on the keys for  
cars or on the security for the  
infotainment system or on stuff like  
that  
um so that were just normal guys and  
we are just wondering why they with a  
laptop  
in in the store doing something but it  
was an electronic  
uh store so a consumer electronic store  
so  
somebody with a laptop doesn't is  
obvious  
so but we know that  
after they called us a few days later  
that they were there  
that's so amazing and intriguing i want  
to know so much more let's have a  
different breakout session on that  
especially  
yeah i mean i think this has been a  
learning experience for us uh  
some people well me in particular uh so  
i would say like for us we don't really  
uh our main function is  
you know providing data to the retailer  
right that they don't have today uh so  
really it's like securing our hardware  
uh making sure that we're you know only  
sending data out  
you know a few ports et cetera so um  
yeah we do some we do some measures to  
physically secure the hardware so no one  
can like  
you know override  
you know what's already gonna be booted  
up and install their own version  
um but you know right now  
i would say i wouldn't say we're doing  
anything crazy fancy in security  
because it's not really like our  
our uh differentiator it's more like our  
a checkbox that we have to make  
well i think you you gave me a little  
nugget too to kind of pivot a little bit  
um of this discussion i think  
a lot of the things that you guys are  
talking about in your solutions are very  
high tech  
um of like you know you're able to do  
ultrasonic audio and these like very  
proprietary new  
ways of transferring information and i  
think that there's an aspect of retail  
that you know as we've listened both  
yesterday and today  
um the competitiveness competitiveness  
of retail has essentially kind of become  
who can fulfill things the most  
efficiently like who can get things to  
guess fastest and the cheapest  
but i think there's this kind of  
alternate um  
aspect that is the the information and  
the data gathering that you're getting  
in a safe way obviously um and fully  
opted in

but the information that you're getting  
to be able to build out an  
understanding of who your guest is and i  
think that that's something that's  
really compelling  
for each of the companies that you guys  
are or each of the things that you guys  
are working on is that it's not that  
you're just providing a capability is  
that like oh i can  
send something from here to here more  
efficiently it's that  
along with that you're also providing a  
more robust view of the guest  
and you're also able to you know tell  
target or any other retailer um  
it can provide them either more data or  
better data  
um that they have can have actionable  
insights into as well  
so do you guys want to talk a little bit  
about kind of the the actionable  
insights that  
the technology is one aspect but it's  
kind of creating that  
more um holistic view of the guest and  
customer as well um  
jake do you want to start yeah um  
so it's very much a driver for our  
customers  
in that there's been a push for at least  
the last few years and i guess it  
comes under the omni channel umbrella  
but to replicate the e-commerce  
experience  
in the physical store or if you want an  
even worse term  
fidget do you like that um  
let's not make that a thing um so it's  
going to be  
digital um we like if you think about  
the way that it uh comes through right  
now as gen z are very comfortable with  
using their  
i mean the first thing they bought was  
through a mobile device uh millennials  
first thing they bought was online this  
is actually for a lot of large part of  
the preferred shopping experience is the  
ecommerce experience  
now obviously you can't try and you  
can't do those sorts of things so  
our customers in general terms are  
trying to break it down in a similar way  
so they've got a funnel  
um that they can perfect the same way  
they have their e-commerce funnel  
if you look at something you can do with  
listener to begin with um it's just  
checking into a store  
um and being able to receive that unique  
store id so you know  
specifically where that app owner has  
been all the way through to checkout  
um and that means as you uh as someone  
goes through their journey in store  
you can be sending appropriate messages  
um you can have in aisle messaging uh  
coming through for certain promotions  
etc  
just by having little packets of data  
now by the time you get this not only do

you have

an experience that is preferred by gen z

um but you also have this data that can

allow you to be better

um you know with merchandising etc etc

um so that's you know we spend a lot of

our time working out how our technology

can help make that

we say seamless versus frictionless

because um

sometimes you want a little bit of

friction uh you may want to say hey stop

we've got a coupon that we'd like you to

uh consider

so we're all about seamless uh between

ecom uh and in-store and

um and not so much frictionless

i wanna talk on the friction aspect

a little bit later but um i think this

is something that

we've actually spoke on recently um in

some of your internal discussions at

target about this

additional insight and information that

you can gather

yeah i i mean data everyone is talking

about data but in the end um

nobody's really understanding the the

whole topic or what that

doesn't mean um when when you

talk to a retailer or potential customer

for our solution

first we have to prove that there's a

return on invest

we save time we save uh processed

costs we save money whatever but we

we have a real value and then we have

additional

um collection of data i mean uh

like like reader uh how is the product

in movement how is the customer and

movement

um how often the customer grabs a

product and he don't buy that

or he yeah did something else with it

yeah put it in another shelf

all this this kind of data and it's

important for the retailer to know that

and in physical stores

most data would actually exist is

here in germany i'm i'm not uh to

want to i don't want to talk about the

us because they have a little bit

um an other and other view on on data

itself in germany it's

predicted to collect data about

customers so in germany the stores

normally have how many entered the store

and leave it

and how many products get sold and

that's it

so you don't know who's your customer

which group

of which target group um you don't

basically nothing and then you have the

e-commerce and they know

everything about the customer and that's

the major uh problem in germany or in

europa retail

right i think you know there's probably

trends of us adopting some of those

similar tech our um viewpoints and

stances on

um data and security and privacy and all  
of that but  
um hi spencer we'll come back i don't  
remember if you heard the question but  
um i think it's particularly relevant  
for radar right now especially in  
what you guys are working on is the  
additional data that you're gathering  
outside of just the pure kind of  
technology and capability  
of rfid and computer vision um  
and i you're gathering so much more i  
think you  
you probably even the most out of the  
three here  
of the insights that you can glean with  
the um  
information that you're gathering  
can you is your mic working  
okay he just slapped me and said he'll  
be right back  
i actually don't know exactly what time  
this ends so i think that we can just  
keep  
chatting until maybe that there's not  
um nobody else is here so  
so much that everyone just it's so  
leaves  
for people that they just hug but anyway  
if you guys are still  
hanging around please feel free to drop  
questions in for the group  
and uh we'll keep addressing those but  
um  
once while spencer joins uh rejoins  
um the other kind of topic that i wanted  
to to talk about is a little bit  
about the concept of friction and jake i  
think you've brought up with something  
that's really  
interesting and compelling i think it's  
really easy for people that say we want  
to be  
frictionless entirely and i think to my  
example before of  
there was a bunch of retailers that that  
rolled out these scan and go and they  
have some friends in the industry that  
um were joking and calling it scanning  
or  
not scan and just go or scan and just  
not  
pay go take and leave um and have since  
rolled them back  
but do you want to talk a little bit uh  
what you mentioned before is that a  
little bit of friction is actually a  
good thing  
yeah i mean you bring up uh for loss  
prevention um  
there needs to be some element of  
friction uh now it could be  
uh minimized dramatically uh but there  
does need to be a point where you can  
intercept  
someone that may appear to be a bad  
actor or just have made a mistake it's  
new technology  
um but more of what we focus on is  
the opportunity to interject um into  
that buying journey when someone's in  
the store

now if you look at an e-commerce experience for a long time they've been recommending things to you um they've been saying hey wait a second we're not going to get you to the cart as quickly as possible because we think you can have this um so there are ways of intercepting that shopper and increasing cart size that by their very nature at a certain amount of friction so we go for seamless because we want to say that the experience should be both the same as the one that they see the e-commerce experience the m-commerce experience um but not necessarily frictionless you just need to choose when you want to include the friction and what the benefit is um if you can get an roi out of that and it's not unpleasant for the user then um there's there's probably a relatively large upside if we all got to a truly frictionless world um you know retailers have kind of commoditized themselves to an extent so the experience itself when you're in store um should be considered beyond just let's get people in and out as quickly as possible i couldn't agree more i think that's such a good point target frequently says like we differentiate our selves or i think a lot of retailers would say this probably too is the differentiation becomes the experience that you have in store and so i think that that is like maybe a collection of the like components of friction or like an experience is somewhat of a friction or like it something's happening at that point in time but it has to be probably what the guest wants at that particular time so i think that's such a great point jake alex do you want to add into that given that that's like i think he could have probably said that for you um a vp of asset protection told us once that he loves friction because for asset protection friction is very important i mean if you want to buy an headphone and it's in in one of these boxes it's friction because it's harder to steal the product um it already that it's there it's already preventing theft um so as a protection manager a lot of friction and now we are coming and say hey we have a frictionless solution and that's a in their mind it's totally changed it's not the retail itself it's just particular asset protection inside of



retail so

for us it's very hard to find arguments

why

an asset protection guy should have an

frictionless checkout

because in the last decade everyone was

told them

you need friction to prevent theft so us

frictionless is a huge topic

yeah i mean i that that's kind of crazy

though right like people are like oh we

need to put friction in front of people

giving us their money

right and it's friction from step it's

also friction from sales

so i mean you look at these stores you

go in and there's barely

anyone working there right so then not

only do you need to

like look for the product you also need

to go hunt someone down to unlock it for

you so you can buy it

and if you look at like the stats of

people leaving when they can't find what

they

want you know that also applies to ap as

well

so i think like you know i think when i

first started

pitching radar someone told me oh well

the goal is to keep people in the store

as long as possible because

that increases sales as long as they

spend the more they're going to buy and

it's like well that may be true in that

one instance but they may also not

return

ever again or they might frequently

because

it's not an easy experience to go in and

out so i think as you increase

or decrease the friction i think you'll

see an increase in sales

you'll probably see an increase you know

in trips

and you might see a decrease in the

basket size per trip

but i think like the jaw like i think

retailers have gotten themselves into a

tough position by trying to dictate

what how the customer should shop and

what the process should be

for them instead of just letting the

customer decide the experience they want

to have

choose your own adventure retailer yeah

just

allow me to buy the things that i want

to buy when i want to buy them at the

rate

and i want to interact with them before

i buy them it's pretty simple

i don't know it's a very complex thing

to solve

um jake do you see that there is a

question about listener

in the mobile app and when wi-fi is low

like well not had to leave yeah there we

go

um yeah absolutely so

it depends a little bit on the flow here

but our technology works

entirely without the need for wi-fi  
bluetooth any other protocols  
when it comes to sending that particular  
uh payload  
um in certain circumstances if you know  
you're likely to have a low wi-fi area  
and you maybe want to bring up a  
multi-media experience  
you have that pre-loaded onto the app so  
we send through a smaller packet that  
triggers that experience  
but there's no need uh when using our  
technology to have  
any other sort of data transfer methods  
and a lot of the work we do is actually  
in developing countries where this  
becomes very relevant  
um but yes no need for uh for wi-fi  
what about like sir i guess  
the other question i had is are they  
asking like oh  
could you use listener to replace like  
the wi-fi connection  
in certain areas that was kind of how i  
interpreted that question  
um i mean the shoulders would be no  
because that throughput is nowhere near  
uh a wi-fi um sort of throughput you're  
looking at  
maximum we have to production right now  
is 2000 bits per second  
um so this is very very quick in our  
space um  
never been done before but it's very  
slow for wi-fi um  
you're not going to be moving image  
files or anything like that um  
probably 250 bytes is about as big a  
payload as you want to send through  
so there's certain things you could  
definitely do to personalize that  
experience let's say there's no wi-fi  
you wanted to send you know a paragraph  
worth of text yes  
but if you want to send an image that  
wasn't already pre-loaded you didn't  
have wi-fi  
then um that's not a good use for  
ultrasonic data transfer  
um yeah i think that that's a really  
great point and we've  
talked about some use cases and things  
where listener could have come in handy  
when  
um target or other retailers have some  
outages  
um for their internal systems and how  
that  
if you could even just exchange kind of  
a payment token or  
do a um check out via mobile device or  
like an e-commerce transaction and then  
pay and store  
um some different use cases that um  
kind of accounting for every technology  
um  
to get out at some point in what could  
be a good feel safe um  
i think listeners pretty cool in that  
regard  
and then i think one other thing that a  
nook followed up on  
of the wi-fi outside um is a little bit

tricky

we've done a handful of tests and i

think jake you can kind of chime in here

but

though the guest wi-fi and even the

store wi-fi is at target is pretty

strong

surprisingly um and so the associate

slash

team members um didn't actually

experience any issues i don't know

i imagine obviously the farther that you

get away from a target store

that you might run into those issues but

we didn't have any

yeah i mean most of the flows that we're

involved with the device

can have low connectivity um you know

because you can pre-load a lot of things

um a lot of the decision can be done at

the app level

um so you don't need a constant flow of

data coming from the wi-fi

um and also there's most devices have

lte

um so that means that you know it's we

don't come across

problems with our technology in limited

uh wi-fi scenarios

with use cases that we address

awesome okay i think that we are 10

minutes over time

but like i said we can continue to chat

about kind of the future of retail

um one thing that i i wanted to kind of

bring up and something that

both alex and spencer learned a little

bit about

was some of the asian markets and i

think when we talk about the future of

the store and

fulfillment distribution um

a lot of benchmarking is done with

what's happening in

the markets in asia just because of

their efficiency of

getting things to people is a lot

quicker than the us markets right now

um and curious at what your guys's

thoughts and i knew that

i mean or alex you're working in

germany that i think is actually

probably maybe a little bit behind the

us but you probably have your own but

in terms of benchmarking kind of other

countries or where you think

uh the future of retail is heading in

how your technologies can complement

that

um what are you guys predicting in terms

of like what the future of the store

will look like

obviously your technologies and

companies will be part of that

but um what are some of your kind of

predictions of what

the us can expect us we've seen kind of

this rapid acceleration with the

pandemic

i mean i i guess the one kind of like

big call i want to say

like if you look at i think a lot of

what people are looking at what's  
happening in china  
right um i think it's a little bit of an  
unfair comparison  
because there's a lot different in that  
market from like  
you know cost of living to uh  
uh cost of labor for doing anything  
right so  
um you know with houma they can deliver  
a product within 30 minutes right they  
can deliver your groceries within 30  
minutes  
um to do that in the u.s would cost  
significantly more  
for providing the same service so i  
think basically  
it's indicative of where it's all going  
i think like  
cost of living is going to increase  
wages are going to increase in asia  
in the us technology is going to uh help  
to level the playing field i think  
they're you know  
but i think it's going to take some time  
for the us to catch up just because  
there are certain things that like we're  
going to have to do with robotics  
because they're cosplaying  
that uh china can do you know with  
team members so i think that's a big  
difference there  
and we're kind of seeing them leading  
the way  
first um so i think yeah it's like  
how does technology make these things  
efficient so  
um that's kind of  
what we're seeing um  
starting now especially with with the  
way shopping's changed so  
i just want to call that out but no i  
think that's great  
one thing too i think in that in that  
same regard as some of the  
things that we've seen is like it's  
still one thing that i think remains is  
that it's still kind of rooted in the  
experience of the guest  
of like even if it's you know super  
robotic or very like  
very autonomous is that like there's  
still these like  
experiences that the guests can go in  
and get their food cooked  
like when they're shopping or you know  
like these very  
um personal experiences that are  
happening as well so  
i don't think thinking about what we a  
lot of people predicted the store of the  
future would be  
versus kind of what it's morphing  
into me i think that there's going to be  
this  
interesting combination of things  
yeah just quick i think in terms of the  
us catching up there's obviously certain  
elements  
through aipac that might be a little bit  
more advanced from physical  
shopping experience right now i look at  
2021 as a

pretty unique opportunity for retailers  
to  
reconsider their user experience um in  
that right now  
people are more tolerant than we've ever  
seen to inefficiencies  
uh you know people are lining up six  
feet apart for hours  
and they're like well this is this is  
the new normal well it's the new normal  
for a minute  
and on the other side of it they're  
going to expect real efficiencies  
um and they're going to expect like  
purpose is not going anywhere  
um this is the opportunity for retailers  
to nail it while they have this little  
window  
and on the other side of it when things  
start to go back to a version  
of normal um whoever has um you know the  
most seamless experience  
whoever's taking advantage of this to to  
shape customers experience like people  
have to be taught how to uh  
you know alter their shopping behavior  
and this is a  
you know a unique opportunity for  
retailers to to embrace  
um whatever the story of the future  
looks like in their eyes  
[Music]  
the other irony of this whole thing is  
like i think focus  
is kind of what like retail has always  
been where it's like you go to the store  
and you pick it up  
except you pay for it before you go  
there so i think that it's kind of like  
a godsend for  
retail because the highest margin way to  
deliver  
or sell product is by having the  
customer go and do the last mile for you  
right and that's what focus basically is  
so they've gotten  
customers like oh yeah like i'm doing  
focus and for free  
really what you're doing if you're doing  
the job of like postmates or ship  
right for yourself and you know you  
don't pay them obviously but you're  
paying your gas etc to go  
so i think that's all good because it's  
really picked up and it's bringing some  
strength back to physical retail  
um and like ecommerce was really hard to  
do because this whole last mile problem  
it's expensive  
to manage the inventory especially if  
you own and buy the inventory yourself  
on like amazon so i think it's actually  
been kind of like a godsend for the  
traditional retailers  
and i think you're seeing like this kind  
of plateauing  
or like this balancing out of you know  
e-commerce eating away like so the  
faster e-commerce gets  
the more and more demand there will be  
for e-commerce right but it's going to  
reach a point where it's like okay you

can't get that much faster  
and it might not get to be within an  
hour without you know  
the last mile problem which becomes  
expensive so then i think you're getting  
this like  
equilibration of ecommerce demand versus  
like urgent demand where you need it  
today  
where as ecommerce gets tapped out so i  
think um  
it's gonna be interesting so you're  
seeing like amazon obviously opening up  
more and more physical stores  
because they recognize this issue um and  
then the question is can they get  
you know same hour delivery for  
everything  
and then i think physical stores are in  
real trouble but um  
saving that you know it's gonna i think  
be a good  
year for the traditional retailers  
i don't know if that made any sense it  
made that perfect sense i was like  
allowing alex to chime in if he wanted  
to  
to give some insight from a other  
country i mean here in germany the panda  
the great operator for mobile payment  
for example or for  
cashless payment at all um one and a  
half years ago  
eighty percent of all retail payments  
were in cash  
so their stores in germany were  
allowed to pay with a cart when the  
value is below 20  
so you have to spend 20 more than 20  
and then you can pay uh with a credit  
card for example  
and then depend us and um  
everything changed and now everyone  
everybody wants a contactless payment  
we uh nfc we're using apple pay  
we're using an apple watch and stuff  
like that and now it works and before  
everyone was in in retail was saying  
no that will never happen um  
germans love to pay cash they need the  
money in the hands they need the money  
in the pocket  
under the the sheep in the bed i don't  
know um  
and and now it works yeah and it took  
three months and every retail has a  
contact less than the credit card  
payment  
in their store so the pandemic  
from from this perspective was an  
accelerator for a trend which was  
already in the us  
in asia now it's in in europe i mean  
even in europe it's different uh in the  
uk for example  
it's like the u.s and when you go  
france or germany it's completely  
different the the retail or the customer  
behavior at all  
but it will change it it always changed  
in the past  
um but the pandemic i would say speeded  
yeah speed it up beated it up

um i i like love what you're touching on  
there i think consumer behaviors will  
consistently change  
there's like this weird fear that i have  
sometimes in my job of  
you know going out into the innovative  
ecosystems that i work in and meeting  
with  
you all and being like wow there's only  
so many things that can be solved  
and i swear i've seen like after you  
guys  
get integrated into target like there's  
nothing else to be solved  
but  
it's out of fear but i think that  
there's like this aspect of  
consumer behavior that can that  
consistently shifts  
um i think spencer what you brought up  
of like how guests are like  
violin pick up in store how this is all  
of a sudden it has a name and we're  
talking about it how do we address it  
when it's like  
it's really the kind of very basic  
aspect of what retail has always been  
but i think there's even a shift there  
we had a company in the program  
a couple years ago that was doing more  
of like a  
uh like crowd source delivery type of  
thing of like  
it's a friend social group and so if  
you're like hey i'm going to target  
oh i'll also pick up your order for like  
pennies on the dollar compared to  
shipped or these other um delivery  
platforms but i think  
just i think in that sense consumer  
behaviors just continue to  
shift and that's probably the most  
unpredictable thing that we're all  
working against of like  
wow all of a sudden people are buying  
things on  
um i don't even know platforms that i  
am not on obviously tick-tock and all  
these other things  
um that's not that far out for me but  
i'm very  
interesting yeah yeah  
no it's it's super interesting like also  
like d2c and like  
how that impacts like a retailer like  
target right because now it's okay like  
i can market directly to my own customer  
base i don't necessarily need  
like a platform to do that anymore um  
because there are other platforms right  
that can facilitate it so that's  
interesting  
like how does that you know affect your  
relationship with like a png over time  
it's like a huge part  
of yours um and then  
i guess i don't know one of the things i  
think about with  
the focus thing is i  
think part of it's like wanting  
confidence that if you're going to go  
there the product's there

right so like people have had this  
experience of going there many many  
times and  
not being there and if that's the case  
then they should they'd probably  
want to know it's going to be there or  
they're going to buy it online right so  
it's interesting to see if that will  
change  
if like bopis will become less important  
if  
you know inventory accuracy is higher  
and you know they can  
have confidence they always have stuff  
or i don't know anyway  
i love just the thought  
um because feel free to hop in at any  
point here i'm gonna um address  
a nook's question here um we talked a  
little bit earlier in the session about  
how um target as well as in each one of  
the startups here are focusing  
their capabilities or how they were  
building their companies um to focus  
those  
both on guests as well as um  
the team members or the store employees  
and how they're equally as critical  
um so hopefully i mean we can  
probably touch a little bit on that if  
we wanted to but i think that that's  
just  
equally as important um now as it was  
when we discussed it but  
focusing on guests and then and i think  
this  
actually kind of makes me go down a  
couple of different paths here is that  
target has said this for a while is that  
our team members that are in the stores  
we want  
obviously to pay fair wages or very  
competitive wages  
um i think probably at that point the  
highest in the industry but then  
um so that they can really be  
specialists in store so they're helping  
you find the products that you want in  
what you need  
and i think thinking about consumer  
demand or what we're seeing now is  
it blows my mind sometimes when i go on  
to an e-commerce site  
or even target and you see some you see  
products that have  
tens if not hundreds of thousands of  
reviews  
of like that is insane and i don't think  
i ever imagined a world  
in that i would look at a product and it  
would have a hundred thousand reviews  
like what is the hundred thousand in one  
comment or like review even helpful at  
that point like  
it's really not gonna affect the star  
rating it's not gonna really do much so  
i think  
even like the aspect of what do reviews  
mean now  
um i actually think it kind of shifts  
the  
appeal of like startups especially in  
the cpq space



even more so of like you can buy a  
product that  
millions of people have tried and liked  
but it's kind of  
maybe more compelling now to try  
products that are new or innovative or  
have a social mission or  
you know are more aligned with what  
you're working on  
um i'm just talking now so so feel free  
to fill the space  
i think we will cut this off at 1 30 so  
um  
feel free to get your last questions in  
i'm not totally understanding the  
question from kevin and  
i am concerned about some of the word  
permits i'm not going to answer it  
um but i will maybe try to rock my brain  
of  
um how those two things compare  
um i mean i don't know did we touch on a  
nuke's question yet  
the the i think it's really just  
fulfillment  
and how it can help store employees so  
guests versus store employees  
or in my reading that not yeah i think i  
think like uh  
i don't know i think that  
one of the things that we envision over  
time is like  
a job that can be done by  
a computer is like maybe that of the  
transaction completion at the cash rep  
right um a job that can't be done by a  
computer is like helping the customer  
and providing expertise and knowledge as  
you said sarah so  
i think you know it would be awesome for  
like targeting other retailers if  
they could actually have more people on  
on the sales floor helping customers  
more people fulfilling you know orders  
which is also something that  
you know computers can't do  
um and actually impacts the experience i  
think  
i i i predict that yeah you're going to  
see a lot of shift from like  
cashier rolls over to fulfillment and  
uh you know customer service  
in particular yeah from the retail point  
of view  
a cashier is not bringing value to  
anybody it's just collecting money  
so if these people uh could consult or  
fulfill or whatever do a real value for  
the company and the customer  
um say that's the shift i don't i don't  
think that we see in future  
that um we we get  
rid of the stuff or um real amazon go  
i mean even in the amazon go are more  
people working  
uh than a normal supermarket from the  
same space because  
during the fresh the potting  
there in the background and this will be  
also in the future that  
we need the human in in the in the chain  
as spencer said not from unnecessary

tasks

like collecting money

yeah i think that's a good point in

terms of it always frustrates me when

the scripted line of did you find

everything you wanted today happens at

checkout

because invariably if uh if i haven't

it's too late in

certain places where someone's gone no i

didn't find x

how the entire line is gone it's like

you know in this case it's grocery

they're not set up to actually if

someone says i didn't find it no one

knows what to do

now if you can get that associate away

from the register and out actually

helping someone

you're going to differentiate in the

experience and you may increase cut

sides

um certainly much more likely than the

throwaway question

someone checks out

yeah imagine if you're in the checkout

line

and the cashier says a nice trouser if

you took a belt you get 20

off going out of the queue to take a

belt

right absolutely

i love it thank you for the

clarification kevin

um yeah i think when i was mentioning

watching some of the asian markets i

think

that their um aspect i think expensive

touched a little bit on this of their

some of the capabilities that they have

to deliver groceries in less than 30

minutes to

to guests or um some of the customer

experiences that they have in store

i think are in some ways ahead of where

the u.s market is at or they've

you know had alipay for now for probably

close to 10 years i don't know probably

not in my mind as close to 10 years

um so i think that that's something that

we've looked at as kind of like where

are some trends heading but um a little

bit

that's all kind of the connection that i

was making there

this has been so wonderful and

um i'm super excited i think that there

was

okay cool perhaps you could drop details

and tell people where they can meet you

thanks jeff

um yes i think jake spencer alex please

feel free to drop your emails or

whatever

best form um to connect with you guys is

that

i will also drop my email in the chat as

well as

feel free to go to target

accelerators.com you can learn about

we have a tech accelerator we're

constantly evaluating

technologies that might help improve the

value  
chain for target as well as some  
accelerator programs that are designed  
for cpg companies  
so getting products on the shelves um  
but thank you jay thank you spencer  
thank you alex you guys are delightful  
and wonderful and i appreciate you  
we talk regularly i think i talk to each  
one of you probably once a week  
so i will talk to you next week  
um but very much appreciate you guys  
thoughts and presentations  
we've been talking like every day these  
days  
yes spencer watched me brush my  
daughter's hair last night  
because we went about a demo call  
when i do i'm like these people are my  
friends i like  
that's that's the type of friendships  
i think i've done probably the same if  
not i'll say worse but better with both  
jake and alex as well absolutely  
thank you everyone yeah thank you thanks  
[Music]  
guys  
you

## <https://rosenmaninstitute.org/blog/healthtech-leader-of-the-month-nick-damiano-co-founder-zenflow/>

For the October installment of Healthtech Leaders of the Month, we sat down with Zenflow CEO Nick Damiano to discuss his career, lessons that rising entrepreneurs should learn sooner rather than later, and the power of patient-first design.

The Power of Patient-First: Why Zenflow is Unique  
About half of men ages 51 to 60 suffer from enlarged prostates, the technical term for which is "benign prostatic hyperplasia" (BPH). For patients over 80, that number climbs to 90 percent.

Unfortunately, BPH treatment is often invasive and painful, even when it's an outpatient procedure. According to Damiano, patients are often offered the choice between drugs that may not work and unpleasant-sounding procedures, which makes them less likely to seek treatment. "The current procedures just don't appeal to patients," says Damiano. "In our initial patient interviews, we were amazed how many people were holding out for a better solution." Side effects of surgery can include sexual dysfunction, pain, and incontinence.

Enter Zenflow. Founded by Nick Damiano and Shreya Mehta in 2014 as a result of conversations with urology patients during the "needs finding" phase of the Stanford Biodesign Fellowship, Zenflow seeks to address the gap in the BPH treatment market by offering a novel, minimally-invasive therapy. Zenflow's technology, the Spring System, is designed for better patient comfort, faster recovery and durable results, says Damiano.

So how does it work?

"Our goal was to prioritize the patient experience," Damiano explains. "Instead of cutting, burning, or stapling, which other procedures all do, our Spring treatment gently expands to prop open the enlarged prostate, relieving symptoms while preserving the anatomy."

"The less invasive nature allows for treatment in the doctor's office with rapid recovery. Most of our patients have gone home the same day without a catheter and felt better within hours versus days or weeks as with in other procedures," says Damiano. One can see the appeal.

The Zenflow Spring System  
The Zenflow Spring System props open the enlarged prostate.

From Leader to Leader: 3 Lessons Learned  
With decades of healthtech experience and two original companies under his belt, Damiano has some advice and lessons learned for entrepreneurs just starting out:

#1: Be ready for the long haul.  
Damiano always tells companies and founders going into healthtech the same thing: they have to prepare for the long haul. "There is this conventional wisdom that it takes twice as long and costs twice as much as you think it will," says Damiano. It may be a cliché, he admits, but it's a cliché for a reason.

"You should expect to spend at least 10 years working on the product. There will be setbacks and it may not move as fast as you expect," says Damiano. "You want to be aggressive, but also have your expectations tempered so you don't end up burning out."

#2: Don't let the extremes get to you!  
The extremes can affect you either way, but certainly it's worse on the low end. "You will have bad days, but it will get better," says Damiano.

"Unfortunately," he adds, "as exciting as the highs can be, they don't last forever either." To mitigate this, he advises keeping sight of the horizon rather than getting caught up with the day-to-day rollercoaster of startup life. "Just try to keep even-keeled and stay in the middle of the road as much as possible, all while staying focused on your mission."

#3: Make sure you hire your A-team.  
"For startups, team is everything," says Damiano. "It's really important that you surround yourself with the right people: ones you really enjoy working with, who bring key skills to your team, and who share the same values."

"We've interviewed people who had a phenomenal skillset, but they weren't a cultural fit, and so we turned them down. Sometimes you have to do that. It's a challenge when you have a technical problem that needs to be solved, but you really have to focus on assembling a team that is well aligned and works well together."

Damiano did just that with his own team at Zenflow. "We have a set of values that we try to embody," he says.

His team's key value? "Patients first." They even have it on company T-shirts.

Onwards and Upwards: Final Thoughts  
Part of Zenflow's success through COVID, says Damiano, is due to his team and their shared values. "It was tough for a lot of companies like us when the pandemic first hit. There was so much uncertainty, and the situation kept changing, but we took it in stride. "I'm really impressed with our team's resilience, and it confirmed for me that we hired the right people, seeing how well they've navigated this tough situation."

As they emerge into a post-COVID world, Damiano and his team are moving towards FDA clearance and commercial prospects. "We just got our pivotal IDE approved and treated our first patient in the US. We're enrolling over 200 patients in a randomized study, which is very exciting. We've done lots of studies to date, but this is the big study that we expect will get us FDA clearance and allow us to launch to market," says Damiano. "We're really excited to move on to the next stage and bring our treatment to more patients."

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You're not alone in your mission to bring better health technology to patients and medical professionals. Now more than ever, connecting with a global community of entrepreneurs is an invaluable step towards realizing your goals within the health technology world.  
Receive invitations to free and paid virtual events with healthtech entrepreneurs, payers, and service providers when you subscribe to our newsletter.

## <https://www.youtube.com/watch?v=U1iR6SAhodI>

saying i'm a venture capitalist an angel  
investor i've invested a lot in fintech

sas

both the us as well as abroad  
um you know rajiv's company every is one  
of the companies that i got really  
interested in from a venture capitalist  
perspective and they're accomplishing  
some really cool things so  
let's have rajiv introduce himself and  
let's begin  
first thanks thanks so much for having  
me i'm excited to be here sounds like it  
looks like a really fun event  
um yeah my name is rajiv bahara i'm the  
founder of every um and what is every  
every is a bank for startups  
you've probably heard that before  
there's mercury there's brex there's svb  
but you know our core differentiator is  
we're built around a corporate treasury  
that gives you a three percent yield  
because right now it's really key  
philosophically to extend your runway  
with like the vc climate and kind of the  
stock market where it is today  
um so you know what what can you do to  
like make sure you have enough runway to  
get to your next goal for that fundraise  
so we're really kind of philosophically  
focused on that  
so rajiv every is not your first company  
how did you end up becoming an  
entrepreneur uh so i i'm i'm old folk i  
turned 60 a month ago  
uh now i'm 40 but uh  
i think of myself as old as but uh  
well  
back 20 years ago when i came out of  
college young people didn't start  
companies it was like older people so  
like i didn't think about like i wanted  
to start a company but i was like i know  
i can't do it now  
um so i i try to like just get as much  
experience as i could so like and i  
thought like what are the two things a  
founder needs  
literally the two the only two skills  
a founder needs is product skills they  
need to build a product  
and they need marketing skills they have  
to market it find the product market fit  
position it those are like the key  
things like you don't really need to  
know sales  
you don't need to know customer success  
you'll figure that stuff out so i spent  
eight years on marketing i spent three  
years running product teams  
uh most recently i was at  
most recently 12 years ago  
i was at disney and i i started their  
first free-to-play mobile gaming  
studio and it was like when mobile game  
when iphones were brand new and disney  
didn't think mobile was going to be a  
big thing and obviously it became a big  
thing i started that group with like  
five people me and four other engineers  
and um two years later we had 22 million  
in revenue and i had 85 people working  
for me so that was my first start in  
product  
thank you thank you and then uh then i

got my first check from that someone  
from disney gave me a check and then  
they said hey you want to start a  
company and i was like yes  
now's my time so then i i started  
reflective that was that's kind of my my  
journey  
and reflective was scaled to 250  
employees  
and also got um 100 million raised in vc  
led by andreessen  
what were your biggest learnings in  
terms of like fundraising and scaling  
while you grew reflective  
yeah lots of big learnings lots of  
mistakes right like i don't know if you  
guys are first time second time  
uh first time there's so much anxiety  
trying to figure out what you should do  
um  
and like you know at the very beginning  
it's all about finding product market  
fit right like you you keep talking to  
customers you come up with a product and  
hopefully something hits right as soon  
as that thing hits you're just like  
gonna go on that journey wherever it  
goes right like you're gonna have some  
like potential for that company it's  
gonna be either it's gonna get to two  
million total in revenue ten  
twenty fifty a hundred but it is what it  
is like you're going to have a curve  
right you're not going to change that  
curve unless you pivot  
and uh really like you can get yourself  
to like 10 million in revenue just by  
like you hammering it out yourself but  
after that it's really your team right  
like this has been said over and over  
again your team matters but like  
actually executing on that is really  
really difficult like a lot of my  
learnings are actually about like how to  
execute on that  
so like how do you create a plus team  
well like how do you hire like when you  
first start you hire people you know so  
you already know they're good because  
you know them or your co-worker knows  
them and that de-risks that whole thing  
but as soon as you scale like i  
reflected we went from zero to one  
million in arr one to five million in ar  
five to twelve and like 250 people in  
those three four years kind of thing you  
hire people you don't know and it's hard  
to interview correctly and like know if  
someone's telling the truth because  
anyone can say they do anything right so  
like how do you actually know like if  
you're just a good interviewer  
or if you're actually good at what you  
do you could say you're hard working and  
sound like you really are hard working  
and then come to the job and not work  
right so like how do you figure that out  
i felt like the biggest hack for me was  
back channeling people  
so like  
i mean i tried all the things try to  
figure out like all the like the

questions you should ask how to do it  
behavioral interviews technical  
interviews and then the best like silver  
bullet for me was like okay who did you  
work for who are your peers and i would  
just reach out to them on linkedin and  
talk to them i'd verify what they said  
basically like most people say hey i was  
head of blah blah blah and then you  
talked to their boss and like yeah  
they're one of the ten people working on  
this  
and you kind of figure out like what  
actually happened and you get the truth  
out of it so that was one of my hacks  
that worked really well  
um  
there are other other things there like  
my biggest thing that like my mentors  
have taught me is just follow your gut  
in an interview right like even if  
you're like not exactly sure why like  
someone makes you feel off if you feel  
off by anyone you're talking to  
just ask it like say no it's not it's  
not gonna work out and every time i've  
had like some bad feeling about someone  
it's just not worked out  
um so partner tiring the other part  
actually which no one really talks about  
is firing  
right like  
you're not gonna always make the right  
decision you're not always gonna hire an  
a plus person  
and you can't have like a lot of b  
players  
for one reason like a players don't like  
working with b players and then they  
just leave so i've had a few groups  
become b groups because like they got  
infiltrated with too many p players  
so like i think what you actually have  
to do is have the guts to fire people  
and i didn't have the guts at reflected  
to fire people but it was one of my  
biggest learnings from that company  
where i had a few groups that just like  
weren't the best groups like a lot of  
groups that were eight players but some  
groups were not  
um so like at every pretty small team  
i've  
unfortunately had fire with like five  
people already and i probably have not i  
probably didn't even fire five people at  
the whole like during the whole seven  
years at reflective  
but like you just got to do it it's  
you'll never want to do it it's not a  
fun conversation  
but like when you do it your team  
actually respects you more because they  
know like hey that guy that guy sucked  
like i did not want to work with that  
person and uh it ends up just making the  
company a lot better and it  
that's what you need you need an  
excellent team to do well  
thank you that's really good advice um  
what was your inspiration for starting  
every and like tell us a little bit  
about whatever is and your you know your

target customer what you're building

yeah oh we forgot to go over um

fundraising

yeah we can talk about fundraising now i

mean i feel like if we devote time to

talk about like fundraising in this

market it might go a little bit longer

but yeah we can touch on it

okay well there was a question about

fundraising i'm sure like what are what

are your biggest fundraising tips

and what are your biggest fundraising

tips and i guess like advice

in surviving in a downturn market

oh great question

[Laughter]

yeah i mean fundraising

there's such a big difference between a

a founder who can fundraise and what can

and can't and it's all storytelling like

literally like

life is about storytelling right like

even if you work at a company the

difference between a manager a director

and a vp like half of it's storytelling

the raising money

it's storytelling do you have a good

story

um

so you obviously have to have a really

easy simple story people can follow but

besides that you have to have a really

good process too

so like my everyone has a different

process my process was

based off the philosophy that vcs are

cheap

right and like people have talked about

this like

what makes a vc move

one piece the biggest thing that makes

one vc move

is another vc moving

right like

because it kind of makes sense if you're

seed stage a stage company you don't

really have any traction like even if

you feel like oh i have a million in ar

that's not really traction even if you

have 5 million in ar that's not really

traction because like real companies

have like 100 million 50 million in ar

right so like

it's hard for vc to know what's gonna

actually work

so they go off what their friends are

saying like they literally are on

telegram telling each other like

hey i saw this company and the more

telegram hits they get the you know

you're gonna get deal heat out of that

but like if you i think the goal is you

want to get to create deal heat like how

do you

get everyone interested at the exact

same time so they're all talking about

it at the same time so really it's all

about timing so what i would do is uh

at least this is my how i did it i would

i would just do coffee dates with people

first

with a ton of vcs and i would do it

without before i had a fundraise because  
as soon as you have to fundraise and  
you're selling a vc  
they don't trust you right like if a  
sales guy comes to your door do you like  
trust the sales guy no he's just trying  
to sell you something right  
as soon as you're like in sales mode  
trying to raise money  
you probably know the species like don't  
trust you because they know you're like  
you're gonna half of what  
you're saying because entrepreneurs  
that's like half of what makes  
a vc job hard  
um so like you meet them like when  
you're not raising money when like  
you're a person to them and not an  
entrepreneur  
and then like you can have a good  
conversation with them and you can  
actually relate to them and they'll like  
get comfortable with you half of it is  
them them being comfortable with you  
so you do all that and then you do that  
until you have enough people interested  
and then when you have enough people  
interested where you think you could  
like get a herd of sheep to like get  
started with you then you like push one  
over the edge  
and then when that person's over that  
you email all the rest of them you say  
i'm close to getting a term sheet do you  
want to take a look sorry this happened  
so quickly and then and then everyone  
just moves really quickly because  
fomo is like how you get a vc to move  
forward but you have to create the fomo  
if it's one person and there's no one  
else in the herd  
they're not gonna follow  
i'm not sure how much i appreciate vc is  
being compared to sheep  
but i will say that not you  
present company i will say that the vc  
fomo thing is completely accurate and  
that is pretty pretty good advice like  
i mean i've definitely heard of like the  
companies are being hyped and everyone's  
talking about it maybe on telegram maybe  
on twitter but no that's i think that's  
solid advice um do you have any specific  
advice about dealing with  
the downturn in the markets right now  
and you know valuations being compressed  
things like that like what sort of  
advice would you give to founders who  
are now afraid that  
they're essentially going to be  
lowballed the next time they fundraise  
yeah i would say well uh my wife's a  
partner at yc so i listen to like what  
yc tells people and like what they tell  
people it makes sense to me actually  
they tell they tell their founders make  
sure you have enough runway for two  
years  
there's a good chance you will not raise  
in the next two years  
um so  
map that out and do the math for it  
right which means



raise enough or if you have money you're  
not raising more see how much you have  
excuse me and then

look at your burn rate  
cut your burn and like get get to the  
make sure you can last for two years and  
do the spreadsheet exercise  
and that means like if you do have those  
b players now

like now you have to cut the b players  
you it's gonna force you to do it  
um so you have to do stuff like that you  
can't overspend on things  
um be super focused on like your core  
market to get revenue to help with your  
burn right

um

and just like streamline your processes  
like your your operational processes  
really matter now you can't be like a  
hey we're cool we're not we're not  
organized but we're cool and we're gonna  
have this cool product no you actually  
have to be a well oiled machine and your  
internal processes have to be really  
tight and you have to be really  
efficient

so i think that's kind of the key you  
want to save money and um and that's  
that's why that's one thing that like  
we're focused on at every we're trying  
to help people with extending their  
runway but i think that's kind of one of  
the key things that needs to be focused  
on

yeah i'll say like the post seed funding  
gap and a lot of companies do  
you know need like seed extensions and  
extension rounds and that happens quite  
often

um it's a tricky market to have that in  
so if there's any way to extend your  
runway cut your burn reduce those yacht  
parties and those summer picnics um if  
needed uh now would be a time to do so  
okay so i think this is a natural segue  
to like talking a little bit more about  
every and kind of like your inspiration  
behind starting the company and what you  
guys are up to

yeah after i sold reflective i sat on  
the sidelines for two years and i  
i had a kid and then just kind of hung  
out with my kid for a while and then  
coveted hit

and then i just saw like boom like tech  
just started going freaking nuts right  
like you see like earnings calls for  
facebook and google and  
everything's just like kicking ass and  
then you start seeing private companies  
raising like billions of dollars at  
billion dollar evaluations and like  
worth 50 like coinbase was worth like  
100 billion at some point or something  
like that

um it was like tech was exciting like  
a long time ago like there was this like  
quote from a16 mark andreessen saying  
software is eating the world  
and like yeah maybe a little bit back  
then but then like during cobit it was

to me it was like wow it actually is  
like the future and if you think about  
like the us economy it was like it was  
it was basically like supported by tech  
right like the stock market would have  
completely collapsed if it wasn't for  
like the tech giants and like tech  
companies  
so i'm like tech is like amazing for  
like the us  
and so i just wanted to get involved  
with tech again  
but i didn't want to be an investor for  
reasons stated previously  
um so i was like how do i like how do i  
support founders and like when i look  
around the room here it's like  
you know there might be like five  
billion dollar companies in the making  
here like how cool is that right like  
i love supporting dreamers like who are  
willing to like have the courage just to  
like try it because it's hard to try it  
right like most of the time you're just  
gonna fail and you're gonna you're  
hoping you're gonna have to fake it till  
you make it but it's a hard landing when  
you fail  
um so my goal basically is like how do i  
support you guys  
and like i wanted to build i didn't want  
to invest but i wanted to like create i  
know everyone wants to build a  
best-in-class startup so like my goal is  
like can i set everyone up with like  
all their processes so that they can be  
a best-in-class startup and  
basically take over their hr and finance  
and all of that stuff  
and and build it with awesome processes  
so that they can focus on i want you  
guys to focus on product market fit like  
product customers that's it like not  
like all this admin stuff so like that's  
going to be the best way to do it  
because i spent so much of my time on  
that stuff i would say like 40 of my  
times like chasing down random tasks  
and like odd jobs i was like the odd job  
guy like i don't know if you guys are  
like this but as ceo like if you don't  
have every role built in your company  
you do that extra role you're the  
kitchen sink  
right like you do like the crap work  
like if no one if no one's building the  
desk you get in you build a desk if the  
printer's broken you fix the you fix the  
printer right like that  
you have to do everything so  
so like if i could make that a little  
less painful that's that's the goal  
and  
you know i hesitate to ask this but  
why every over companies like or  
products like brooks svb gusto bill.com  
what makes you  
different and better  
[Music]  
we're way better than all those  
companies  
uh well we're  
we're basically all in one right like

and we're built with best practices so  
like i took all the stuff i learned at  
my last company i'm building the  
processes into these products and not  
just like the products basically so and  
we're building a ton of stuff  
really quickly so we started with the  
banking we launched we launched a full  
gusto competitive product like uh  
payroll onboarding next month we're  
launching incorporation for companies  
who haven't incorporated three months  
after that we're doing spend management  
to automate all your quickbooks stuff  
like we're just going to build  
everything but we're going to build  
everything like best in class  
so the goal is like it's all just in one  
place you fill out one thing and it's  
done everywhere but uh i mean in general  
it's like we want you to build a  
best-in-class startup but we also want  
to extend your runway and we want you to  
grow the funding you do get and give  
yourself more time for the next round  
um  
but you know it's a tough market  
there's a lot of good companies out  
there i have a lot of respect for those  
companies um so they're all great  
well awesome and just last question  
which is a bit of a fun one  
who is one entrepreneur that inspires  
you  
i would say like my  
my like the guy like i put on a  
pedestal the most is probably jeff bezos  
the amazon ceo or a form former now  
amazon ceo  
um i think about like what amazon did  
like you know like most people say you  
get your wedge and then you expand a  
little bit  
his his wedge was like nobody remembers  
his web it was like books i think i  
think it was a kindle  
and then like his then he used that  
books to like take over the internet  
basically right  
and like  
and he the shitty belt was so hard to  
build like if you think about like  
building facebook  
versus building amazon facebook is like  
a simple social like app with like  
nothing else besides like  
the software super simple to build  
amazon has all these crazy ass supply  
chains and  
and like all these completely different  
verticals and they like solved like this  
crazy like warehousing like thing where  
they have warehouses ever like isn't it  
crazy you can get anything you want in  
two days  
like that is  
way harder than like how do i optimize  
my news feed right or like the stuff he  
built was just so next level and his  
wedge was just books and then he just  
did everything else so he's my guy i  
would have said elon musk before

everything happened recently  
[Laughter]  
but uh you know  
thank you well thank you so much um for  
coming here and chatting with us and you  
gave really good advice and i hope  
everyone goes and looks at every dot io  
and they have a really cool product i  
know i was poking around and signed up  
and told my friends to as well so  
hopefully it helps some of you guys with  
your startups thanks again  
thanks everyone take care have a good  
night

<https://www.youtube.com/watch?v=08anpbwye30>

all right thank you so much for joining  
me today in this podcast i'm really  
excited to have you here and talk more  
about your work with Betty AI i wanted  
to start up asking you how are you doing  
today i believe yesterday was a huge day  
for you  
yeah honestly really excited yes it was  
an amazing day we launched our product  
and we got about 300 uploads overall  
yesterday uh we're trying to get 500. i  
slightly let down of that as soon as we  
launched i went around San Francisco i  
went to the cafes and i started people  
about my product and launch and i was  
demoing my product so that was really  
exciting we've got a lot of traffic  
since somewhere i think over the last  
two weeks we've just been getting every  
morning we wake up and our Emperor's on  
fire so that's a nice feeling we're  
trying to fix this but overall not  
getting a lot of sleep because China  
constantly fixing for and update the  
traffic that are able to think i've been  
testing since yesterday and i've also  
tested just before this call i did see  
that  
so you have a background in computer  
science and you've worked as a software  
engineer at coinbase what inspired you  
to co-found Betty AI  
yeah so a couple of things when i was at  
coinbase i was initially like i was  
working on blockchain integrations i  
worked at point-based custody and  
through that a lot of that is  
interacting with different API docs and  
very AI started off as clerk Pai  
actually so clerk AI was an AI debugger  
that existed in your terminal so anytime  
you get an error it'll tell you how to  
fix that and i was inspired by that so  
my co-founder Chris she's my roommate he  
started working at clicky AI and he  
started that and that idea was just  
stuck in my head like i keep on running  
into these errors and i need to like  
read API documentation i just wish i  
could use the power of gpt3 to fix my  
problems right so that's how we started  
off and through this process of 30 what  
we would do is we would schedule the  
most and we put people and short product

right these are Enterprise users and what we noticed is that when we were building 30 we would have this working Google collab which is like a gpt3 like application right it works on a Google collab and then we noticed that it would take almost five to six hours to move from a collab just to a work website and API endpoint that can actually work right so I feel like why does this problem need to exist there's banana Dev there's all these tools that can help you go to production right so that's how Dairy started where we would wake up at 4am just to go from a Google app to a working API endpoint and a chat app for these gpt3 like applications and we initially started off Berry which is this one click deploy so you could go from Google collab to a production endpoint just with one click it's a one cell record

can you tell us more about Berry AI and the unique solution it provides for the ones who haven't explored very AI yet yeah so very AI is a platform for developers to programmatically create custom chat GPT instances now custom chat GPT instances mean that you can create chat GPT for your own data source right so let's see you have a knowledge base of PDFs notion documents CSV files SQL databases those would be custom chat GPT instances so you can ask questions against those instances and then you can also customize the problem so you can say you are a customer support agent you're an AI agent you're meant to help someone with access right so those two metrics really allow you to customize it beyond that very allows you to further customize so you can specify the user intent so if you want to do data analysis you want to do customer support we give you the tools to create those applications and the overall berries inspired by me and Michael funder like we love the space we love large armored models we host hackathons every two weeks every constantly work with developers and help them spin up these charge GPT like applications and we want to make this process really easy for anyone to spin up because we see the power of large language models and chat qct and we want to help people bring that into Enterprises

okay so I believe it's a B2B solution correct exactly yes this was not in my list of questions but I'm going to ask you this I know there is a growing concern in the Enterprises and organizations with the data privacy with open AI the way how they see as confidential information is not the conventional way how SAS vendors see do you ever consider those things when you're building very AI regarding how pii information would be manifested behind the scenes that's a big concern for us we want to make sure our customers their privacy is maintained and we don't want customer data leaking

right and if you think about it actually  
it varies helping solve this problem in  
a couple different ways one is we allow  
you to create these custom chat GPT apps  
so think of a future where you have my  
notion so I have a notion document and  
you go to the notion document right and  
what I really want is if I ask a  
question against mine ocean document to  
really answer that question from my own  
understand document for example I could  
ask it what are ishan's goals for today  
it should answer  
not yours but it should not leak that  
information to me so that's step one of  
what Barry allows you to do where it  
allows you to create these custom  
chat instances for all your end users  
so you don't have this data leakage from  
right that's step one of how to solve  
this the other concerns are having your  
data go to open AI or like having your  
data stored with the area right so if  
you're an Enterprise that doesn't want  
to store your data I would vary then we  
allow you to do on-premise hosting so we  
allow you we give you a Docker image of  
what there is you know you can post the  
platform on your own infrastructure  
right and then you can create these  
applications on your own infrastructure  
and then beyond that if you'd like to  
not use open AI we actually allow you to  
select what large language model you'd  
like to use so if you'd like to spin a  
fly on T5 on Google Cloud you can  
basically specify that it should use  
that large language model which is your  
own hosted version of these open source  
large language models so very really  
allows you to create these large  
language these applications for your  
enlargement models you can think of as  
this middle layer between like open AI  
or any of the large language models and  
then the other layer is your data right  
and we allow this interaction to happen  
and bring these use cases to Enterprise  
cases it's more like a plug-and-play to  
whichever large language model we the  
customers wanted  
exactly yes so this is a tricky question  
very AI is backed by vocabulary right  
ICS acceptance rate is two percent how  
did you convince them  
so we got in on the second interview  
Michael founder actually did the first  
interview by himself and they told him  
to find another co-founder and get paid  
users so after that interview we worked  
really hard to like iterate on this idea  
and we went through many cycles really  
at the course before getting to what I  
see we would we had the AI debugger tool  
which is 13 and all we did there was we  
tried to get it on calls with as many  
new developers as possible and we try to  
really create something that developers  
wanted it and I did this by like  
reaching out to developers I worked with  
and Chris Richard to all developers he  
worked with and through that process we

were able to get about 33k users by the time we did our second interview so we really worked very hard on iterating our product and truly building something that people are looking for because we started off not actually solving the problem an interesting anecdote here is that initially quickly it started off with just answering one question but then we found that people want to go back and forth right like when you debug your code if you give a suggestion you should actually have the ability to say no I actually want to do fix my code in the display right so you only discover these kind of things when you talk to users and that's something that's for at Berry also like anytime we launch feature we talk to our users instantly and like that's how we're doing feature development currently also that's really interesting you Sean so you've previously found that an online education platform called technology how did your experience with Luna G influence your approach in building very AI

yeah I think it's very different I learned a lot of lessons from my first experience with lunargy some lessons that I learned was if you're building and you come from a technical background you can almost like get really sucked into constantly building and building the best infrastructure right like you can get started and get like five database tables you can build this Auto scaling infrastructure and then I think after like five to six months of the building then you push this out into the world and you realize oh no one's actually going to use this right so I think that's a big learning that I've taken on to very we literally launched within the first three days of the idea like we wanted to test this out so right now we prioritize just getting off localhost as soon as possible so you're saying from the Genesis of the idea to the product into the market it took what three days I want to say less than three days like literally the first test we did was a one hour test where we built a demo video and we put that out in the world and saw if that actually is solving a problem that people faced so that was the first test we did and we built that video in less than like one hour right we didn't actually build the entire product that point but there's just this video that we wanted to test is this a problem that people have from there then we saw that this resonated we were created then we found that oh data ingestion is the place where people were stuck on so then we further put on our barriers and now you can see very today where we handle the data ingestion part of this and we hope you spin up multiple instances of chat GPS that's awesome the interview with the Y combinator you had this idea you interviewed this you present it to Y

combinator what's the timeline like how long did it take for you to present it and make this product available in the market I think once you got into IC we were doing in customer interviews and trying to like understand this ai bundling space but then I spoke about the problem that Chris and I were facing where we were waking up at 4am and we were like you should probably build something to solve our own problem right like I don't we don't want to keep on waking up at 4am just to build this demo to move from Google collab to production endpoint so basically after that we decided to solve our own problems and I spoke about how we tested out this problem right we wanted to test so we build this demo video and we'll see if it resonates with other people but I guess from the time we had the problem so when we went to Market it took one day to where we just had this demo maybe out into the world and then from there took about another three to four days to actually build out a very Bare Bones MVP so that was another three to four days so we moved very fast and very like once we have an idea we just want to test it out get that out the hands of people as soon as possible that's very valuable because you can start talking to users once you have a product out into the world and you can watch people interact with your product and get feedback very fast that's quite a journey so very is focused on building llm apps in minutes not days right can you tell us more about the challenges that you faced in building Berry AI and how you are working on overcoming these challenges yeah so I can talk about a couple things so as soon as we launch Barry AI within the first seven days we had about 2 000 apps built on our platform and that was an unexpected amount of traffic and we were like wow we really need to figure out how to manage this traffic right so we had 2 000 chat GPT like instances built on top of berry and they're like we need to build this infrastructure to manage all these instances right so then we built about this logging infrastructure where we're looking at the queries right so we can see oh something went wrong here or the opening AI endpoint is down right now that's what we're getting so we built this alerting mechanism so this really helps you manage the split of GPT instances that you have besides that we added the ability to fine-tune so what that means is that if the instance that you've created does not give you a good response we added the ability that thumbs down or thumbs up and give feedback right and then you get into the intricacies of how do I do this for every single instance that I have right and we've built out this infrastructure to do that so essentially once we launched we had 2000 applications built



and then we got bunch of feedback from  
all our users and then we built up this  
infrastructure to manage this Fleet of  
activity like instances so we've gone  
through this process facing a problem  
and then solving our own problem and now  
the companies that we're going to and  
trying to show this are people that are  
trying to build these custom chat GPT  
instances for all their end users and we  
have the infrastructure to manage that  
now and allow you to really get to that  
unlimited scale of applications where  
all your users have their own custom  
strategic instance  
that's great do you see any businesses  
signing up with very AI yeah we have a  
couple businesses I won't say mandates  
for their policies but uh you do have  
businesses working the ideal customer is  
actually someone working in MLM data  
science so they're the tech lead of that  
company and they already are interested  
in getting to their company or they want  
to get those capabilities those are the  
types of customers we work with and  
there is a developer tools for technical  
people and it's an API endpoint that you  
can create these custom chat gpt  
instances sure what are some of the  
biggest trends that you're seeing in the  
technology sector today and how is very  
AI positioned itself to take advantage  
of these these trends yeah I mean in the  
technology sector I think AI is  
everything Everyone is always talking  
about now Christian I both think that  
like large language models and gpt3 gpt4  
extremely powerful right and we think  
that time is right now and we want to  
enable people to build using these  
platforms right we think it's key to do  
this right now and we think this is a  
major wave and we definitely want to be  
a part of it and really enable people to  
build this another thing we think off a  
lot is this risk of there's so much hype  
in the space right and  
what might happen is that we might see a  
lot of applications that stand the risk  
of not being actually useful right so  
with all these we call this Hive like  
you're just very simply called an open  
AI endpoint do some prompt fine tuning  
figure out what the best prompt is and  
then try to get your answers what are  
some of the key metrics that very AI  
uses to measure yes and how do you  
ensure that you're delivering value to  
your customer  
we're trying to make sure that something  
we're building in Berry is generally  
useful to people do things right one is  
the number of queries that users are  
getting and we want to make sure that  
we're giving people ability the ability  
to spin up these multiple instances of  
China GPT right so we want to measure  
that if one user so this is like one  
user from one company they're actually  
spinning up custom instances per user so  
run and measure how many of those are  
doing and then for each of those

instances we want to measure how many queries they're getting and we want to make sure that it's not just one query because then it's not actually useful to the end user so let's talk about a broader spectrum of artificial intelligence so how do you see artificial intelligence evolving in the next few years and what are the implications do you think it will have for businesses and society as a whole yeah to be honest I'm still discovering that myself I actually don't have a good answer to that question I think what's exciting when you're just working on your own startup in a space is that it's like I talk to people all the time that are interested in using very right and are very common question I get this so how is this useful to me explain this like I'm a grandma right and I think something that we think about that Barry is this problem of like querying and searching for your data has always existed right like the previous way we saw this was through search or you can manually look at your data but I think that this problem with data querying can now be improved when you have is chat GPT instances and your large language models right and what that allows you to do is more effectively look at your data search through your data and query that data right it could be structured or unstructured GPT and large language models are really enabling the efficient data retrieval and finding those answers besides that you can also use a Content generation so let's say that I have a book that I've written right and I want to generate content in the sky look for my writing or the style of my book then I can use that book to write content tweets and LinkedIn posts in that style that's very AI has any competition today in the market yeah I think at least for competition until we're making a million dollars in Revenue ARR annually we're not big enough to compete with anyone right until we get to that point I don't think we're even looking at competition or just heads down on getting to that point even from a capability perspective you don't see anyone in the market that's competing with their AI I think we're not even considering competition because if you think about the AI space there's so much hype and if we were to go on Twitter and LinkedIn there would be a new competitor coming out every three days right that's that's essentially what's happening and I think Elisa Berry is something that's called priority for us is just making sure that we're building something that's useful for people and a good metric for that is just the revenue that we're making right because people would pay for something that's actually useful and I think like until we get to that scale of getting that Revenue we're not even looking at

the competition because they're too small to even consider competition some words of wisdom here so what advice would you give to young entrepreneurs who are interested in starting their own company in the tech industry you think a couple of things just do it that's the first thing like I swear coinbase and the fish asked me to come on board for Barry I have a lot of respect for Christian disregard like he was in Microsoft before and he had a fever dream when he had covered and he was like screw it I'm just gonna do it you know and his both of us are fairly young we graduated from college about a year ago and yeah we just went after it you know this was something that we've always wanted to do so we just started building in the space and started testing out ideas besides that get off work like that's key or like if you build something just make sure you're putting in the hands of people so Step One is like build something and then the second step is get people to show up to the thing you can build right so you need to figure out those really two things and you're good it's essentially just that right build something and get people to show up to what you build and then talk to them obviously get feedback yeah so what are some of the important lessons that you have learned from your own experience as an entrepreneur I'm going to talk about again this idea of moving fast and getting your product into the hands of people right I came from a very technical background where I was building these complicated distributed systems I worked at coindeer again like I needed to ensure that the quality of these systems is high enough such that like it's not going down right so it's very easy to get sucked into this idea of getting into Perfection with your product right and then telling people oh come to my product and I think a metric that I measure now is that when I build something I should feel slightly embarrassed about what I built and putting it out into the world and I know okay I'm moving fast enough so that's the new metric that I use where I'm slightly embarrassed and this is kind of the MVP of something new and that's a good test I can see people using it get feedback on it and a lot of the times what happens is I think people want something or they want X teacher but they come back to me once I put it out and they want something totally different right okay my next question is related to the first generation immigrants who are into the industry who are building you know companies how did you overcome things related to the immigration immigration as such like you know H1B and student visa all that stuff that was challenging because I were both on the opt stand Visa but yeah basically we have to work bypometer was useful they did try to advice but really

Christianity to figure this out for  
ourselves also what's next for Berry AI  
I think again like talking to users  
priority for us like we're trying to  
talk to as many heads of machine  
learning data science and companies and  
they're trying to understand their  
problems and we're trying to really  
solve for that we want to show them the  
value proposition of what Barry is and  
it allows you to spin up these custom  
chat GPD like instances So currently  
your talks again with these types of  
people and we want to reach out to as  
many of those types of people and really  
show them how this can be applicable for  
their business and their use case  
perfect I'll be mindful of your time  
ishan thank you so much again for taking  
time to speak with me today it was truly  
pleasure learning more about your  
background and work that you've been  
doing with very AI before we go is there  
anything else you would like to add or  
any final thoughts you would like to  
share  
yeah no final thoughts that was it I  
really enjoyed this thank you

<https://www.youtube.com/watch?v=C3Zebd54oQc>

[Music]

welcome to  
mastering the attention economy podcast  
i'm your host ari lewis  
human attention is a scarce resource  
that millions of companies across the  
globe are fighting for  
once a week i interview entrepreneurs  
executives and industry leaders on how  
they earn attention for their brands  
using social content and media  
to learn more about my work visit ari  
lewis.com and subscribe to my twice a  
week newsletter on how to earn attention  
for your brand  
today's guest is stu fortier stu is the  
co-founder of compound writing  
a community-powered writing workflow  
driven by some of the internet's best  
writers editors and experts  
in today's episode we discuss starting  
an online community  
the importance of writing online and  
turning membership into a habit  
i hope you enjoy hey all right honored  
to be here thanks for having me yeah so  
you know big fan of of what you guys  
have been doing with uh  
compound writing i've been you know  
following it from afar  
um and you know i wanted to spend today  
talking about  
what you're doing building a community  
and building you know a writing  
community but i think  
it would be appropriate to start with  
how you began writing online  
and i was really interested in hearing  
more about the story  
but you sort of created a uh

onion for the tech industry so  
you know can you talk about your first  
foray  
into into writing and creating your  
first newsletter which was you know  
essentially the uh the onion for tech  
yes this is a  
top secret project that uh our  
identities are rarely revealed  
but um maybe like three years ago or  
something i had been a big  
fan of the hustle and what sam par was  
doing and actually got to know a lot of  
their team  
and was generally just kind of amazed at  
the leverage  
that a great high quality engaged email  
list  
can create um emails i think now with  
sub stack the rise of substack people  
kind of realize this but  
even just uh you know two or three years  
ago i think people were deeply  
undervaluing email as one of the most  
kind of  
intimate engaged channels if you tweet  
something  
to 300 people you're probably not going  
to get much of a response if you send an  
email to 300 people you are virtually  
guaranteed to get some sort of outcome  
so kind of one of the first experiments  
that  
i ran was like okay could i could i make  
just kind of a niche publication  
i just want to have fun with this i  
don't really have any big ambitions of  
making it a business  
but like what would be a fun newsletter  
that i would love to subscribe to  
and maybe if you follow vcbrags on  
twitter or like you're in the tech  
twitter sphere uh there's just a  
completely unhealthy amount of  
you know smugness and hype and whatever  
in the tech twitter sphere i actually  
think it's gotten much better with  
with people being called on it but  
anyways i kind of  
hit up a couple writer friends and was  
like we should we should create the  
onion for  
tech and make it a satirical you know  
weekly newsletter that just makes fun of  
tech news  
and makes fun of kind of tech memes and  
we launched this that we created a  
fictional  
ceo you can go look him up on uh on  
linkedin  
he has a profile carl cantana uh who's  
this madman  
former entrepreneur who started this  
this media empire  
uh that we called tech love so anyways  
once a week we sent out it was like the  
hustle but fake  
we sent out satirical news stories and  
the engagement was amazing people loved  
it  
we ran all these user challenges like we  
we realized that garyvee in all of his

videos had the airpods with wires in it  
so we started a gofundme to buy him  
airpod pros like  
you know the new airpods where he could  
actually cut the wire and we literally  
had strangers on the internet  
donating five or ten dollars for this  
ridiculous gimmick we became the lowest  
rated company on glassdoor which was  
another  
initiative we started so anyways we just  
had a bunch of fun grew to like a few  
thousand  
kind of engaged subscribers but that was  
my first foray into  
uh you know seeing the power and kind of  
the fun frankly  
of creating and writing online hey stu  
that was a great answer really  
love that and you know obviously i i  
follow vc brags and sort of see some of  
the  
the parody accounts of folks like naval  
and and whatnot um  
so you know i think that's sort of a  
good segue into  
you know you started compound writing  
which is an online writing community  
and i think what's really interesting  
about this is it's such a competitive  
space right you think about writing  
there's tons of old school books out  
there about writing  
you know there's there's tons of you  
know no offense to you more established  
writers out there as well right you know  
you haven't ridden a new york times best  
selling off bestselling book or anything  
like that  
so what made you say hey you know what  
i'm gonna  
i'm gonna go into building this online  
writing community and i'm also gonna  
make sure it's differentiated enough  
from what's out there already so that we  
can establish  
a foothold in the market and be  
successful it's a fantastic question  
because  
i think we had the same kind of doubts  
and questions ourselves when we started  
but the long story short and maybe long  
story  
uh you know hopefully not terribly long  
when as the internet has just continued  
to permeate  
more and more parts of our lives and  
really transform  
media you know media any any industry  
where information used to be costly and  
expensive to move  
are going to be the industries that the  
internet first disrupts so  
media is just i think above all else  
uh the industry that the internet  
disrupts and what's  
kind of puzzling to me is that we've  
brought a lot of our thinking  
from 30 years ago online so when  
information was costly to move  
it made sense to buy books buy  
newspapers  
right like there was a certain amount of

labor involved to get  
you know the words on the page and into  
your into your brain  
um so that created all these business  
models publishing books  
um you know obviously buying a  
subscription to a newspaper and with the  
rise of sub stack  
and i think a lot of the hype around  
starting a paid newsletter i'm convinced  
that's just for the vast majority of  
people who are writing inclined  
the wrong conversation i think i do not  
think a paid newsletter  
is a realistic or even frankly desirable  
product for a lot of writers to to  
create and the second thing i should  
clarify is what a writer is  
because in compound we certainly have  
some folks who are  
full-time writers they have they maybe  
they have actually published books  
um they're very successful as you know  
writing is their thing  
but i think the majority of people who  
end up joining are people who have  
writing as a craft that they're  
dedicated to but it may not be their  
first thing  
they may be the ceo of some cool startup  
you know working on this really  
interesting  
technical challenge and they use writing  
as a way of like  
conveying really interesting expertise  
of building their credibility in a  
market  
of attracting and recruiting the people  
that they want to work with  
so they use writing as almost like this  
solid number two in their life and it  
does require  
it does have to be very high up on your  
priority list but it doesn't necessarily  
have to be number one  
it can be this critical skill as a  
knowledge worker  
that helps you be more effective in  
whatever else you're kind of doing  
so that's the other point of  
clarification with kind of what a writer  
is which to your point  
um i think it's like yeah why hasn't you  
know a james clear type  
writer you know a fairly established  
well-known person in  
our circles you know where's his writing  
community there might be a lot of  
reasons  
might not just be his goal you know for  
lifestyle reasons it's a lot of work to  
launch a community  
but certainly the credibility is there  
right and you know again to his credit  
he's done a lot of online writing  
um but that's his thing you know he is a  
core  
to his core he's writing full-time  
whereas i think a lot of folks writing  
is a multiplier it's this really  
amazing leverage point for them so  
that's why i think like

you know i felt comfortable like i felt  
like i  
understood this market because i have  
been in my case  
co-founder and cto of a bunch of  
different startups have had the busy day  
job and use  
writing for me really is more of a more  
of a hobby like cr  
you know creative expression thing i've  
been publishing consistently for years  
on my blog  
um and i think i just i i see the use  
case much more clearly  
for people like me who maybe have the  
busy day job but also  
view writing as a craft that they want  
to keep investing in because it has  
these wonderful spillover effects  
into their career and other things they  
do so  
that to speak a little bit to the  
different differentiation point  
that's kind of who we're targeting and i  
think a lot of like the writing advice  
books and stuff that have been out there  
they're certainly still useful and i  
think  
they're invaluable to anybody who's  
writing inclined  
but i think they tend to skew towards  
people who really  
want to make it as a writer want to get  
a book deal  
want to be the new york times bestseller  
list i think they're a little bit slated  
towards what i can  
what i view a little bit as like old  
world publishing though it certainly  
makes  
still a ton of sense in many contexts  
today but people who really want to do  
it full time so that's  
maybe i'll pause there but that's um  
that's kind of who we've built this  
thing for  
and how we kind of have positioned it to  
date uh as we've you know started to  
grow  
yeah it makes a lot of sense like one of  
my favorite books is stephen king's on  
writing but like  
you know when reading it it's not a book  
first off the book was published in 2000  
you know online writing wasn't really a  
thing  
yeah you could write a blog but it  
wasn't as simple as what it is today and  
i think you know  
that makes a lot of sense is that you're  
sort of building this community for the  
next generation of writers  
um i think you know i guess a follow-up  
question to that  
is how important do you think for  
writing online is  
optimizing for writing online and  
thinking about audience development  
you know you brought up um someone like  
a james clear right he's a writer  
and yes he's done a great job of  
building an audience but of course he's  
a writer and



i think one of the things that people  
don't understand about the sub stack  
is is that you know all these  
journalists aren't entrepreneurs they're  
not small business ceos  
they just want to focus on content  
creation and they're not thinking about  
audience development  
is that something that goes hand in hand  
in your writing community because  
um obviously it sounds like many of your  
writers are thinking about not really  
just about writing but writing in order  
to build an online community  
or an online audience yeah it's a  
fantastic question and you're absolutely  
right it is the i don't know if it's  
necessarily the number one thing that  
our members are you know talking about  
thinking about at least peripherally  
becoming more aware of you know the  
importance of  
kind of intentional audience building um  
but our angle is actually  
it's not necessarily unique to us but we  
certainly  
uh have a somewhat strong opinion here  
that  
almost always when people have a  
challenge with growth  
they probably have a challenging with  
positioning or quality and that that's a  
far over simplistic statement because  
like there's absolutely very talented  
people who  
uh if they put a little bit of more  
effort into audience building and like  
quote-unquote marketing um they probably  
would be more successful so  
it's certainly not like a blanket rule  
but i think in general what we've  
discovered we actually host  
very often these distribution  
brainstorms with uh  
folks like steph smith from the hustle  
who just know she literally wrote the  
book on online distribution  
uh this year and as we kind of talk to  
her about specific  
growth or audience building challenges  
that a lot of our members have  
really at the core we end up we end up  
realizing you know what this is actually  
just like a positioning problem you know  
what are you trying to say that's unique  
and interesting  
uh this is like a quality problem you  
know i don't think what you've said has  
has quite reached its potential like i  
think if you wrote something that was  
really punchy  
you know that's how you end up on the  
front page of hacker news and get  
you know a nice influx of subscribers  
so there's um it's there's definitely  
not like a one-size-fits-all solution  
but  
at compound what we're really obsessed  
with is the quality piece how do we  
solve  
the quality challenge i loved a comment  
you made about

a lot of these journalists who were  
going to go launch their sub stack and  
subscribe to their credit i know is  
working on a lot of these periphery  
services but  
one of the core things you get working  
in a writer's room  
and working at a like say a news  
organization for example  
are great editors and not only that but  
like our great peers who are  
who can give you constructive input on  
your work and  
actually a lot of great stories a lot of  
great writing certainly  
is a result of peer collaboration and as  
a result of like  
getting input early and often in a piece  
of writing and like really  
frankly like at a deeper level the idea  
formation and that i think is what most  
people publishing at sub stack lack  
they're sitting there  
on sunday and god i know this because  
this is what i've been doing for years  
and you know you've got a three hours to  
yourself  
and like you've got a publish date and  
you are sitting at the blank page like  
all right  
time to ship my weekly newsletter and  
you know sometimes  
that that's fine like you do just have  
to crank stuff out but to really write  
great stuff we're convinced if you can  
write something that's great  
you will get traction with kind of some  
reasonable level of marketing effort and  
audience building  
effort the challenge is how do you write  
great stuff so for us  
that's why we built the community we  
think it's there's no better way to  
accelerate  
you know the quality of your work and  
therefore the the speed at which you  
grow  
uh than to write better stuff and and  
the way you do that is by getting great  
peer feedback  
so long i don't even know if i answered  
your question but  
long answer no that's a that's a great  
answer and i i i suffer from those same  
problems  
i mean um you know i've written probably  
60 000 plus words online this year  
and um yeah sometimes you just have  
those days  
where like you just don't want to  
publish and you just got to fight  
through it and it  
didn't it would it would definitely help  
to have a team um in order to do that  
and i think there's so much  
that can be said about having people  
around you that sort of are motivating  
you  
to write um you know i guess on that  
on that note how do you ensure that  
there's sort of that collaborative  
effort within the community  
i think that you know a lot of these

courses or communities you know that's  
like one of the biggest issues  
is right creating a collaborative  
community  
and um you know the other thing and i  
don't know if you've had this problem  
yet  
is you know and i know it's a bit  
different but i think of like hacker  
news where  
um now they've grown so large they're  
yeah they're there's a very active  
community but it's it's so  
vile in some regards right and i'm not  
saying that will happen to you guys but  
also how do you think about  
not just creating a collaborative active  
community but  
collaborative active community that's  
that is positive  
and constructive rather than just  
negative what uh what an amazing  
question because this is the  
i think fundamental like uh  
uh i don't know if advantage is the  
right word that might be a little  
generous but  
the the fundamental difference when  
people  
are having a conversation with the  
intention  
of producing an artifact of work uh is  
very different than people kind of  
scoring points for their team  
in the comment section like or you know  
on twitter or whatever  
um i think what we've discovered in  
compound is that the reason anybody is  
interacting  
is to produce a piece of writing and  
like is to push forward an idea into a  
piece of writing  
now at a certain scale there's there are  
always these risks of like  
people who just want to shoot the idea  
down and you know certainly there's  
there  
still could be some of these challenges  
but for us we focus on doing the work  
so like if you're in compound it's a  
workflow we call it a community powered  
workflow we don't even call it a  
community necessarily  
and the whole point is like you submit a  
rough idea of the next thing you're  
thinking about writing about  
um and other people help you improve the  
clarity of the idea to help you improve  
how you might be able to communicate it  
and the intention at every step of the  
way  
like the members kind of gain status  
by their contributions to your ideas in  
the same way that like stack overflow  
rewards the best answers compound  
rewards the best editing  
and rewards the best like thought  
partnership so that i think is a  
fundamentally different  
driver than something that could you  
know  
it's funny hacker news i think i have

such mixed feelings because i think they  
i think oftentimes there are pretty  
interesting productive conversations  
that happen and like interesting nuance  
that gets  
fleshed out and like you know i would  
take the hacker news comment section  
over  
most subreddits you know most of the  
time uh and most honestly most tweet  
replies too  
so they've you know there's a good  
culture there but the incentives are not  
quite  
aligned in the way that producing a  
piece of writing together is  
so we think this can apply far beyond  
just writing like that's certainly just  
our focus but  
any conversation where the pretext is  
like you will be rewarded  
if and you will gain status if you are  
able to help move this idea forward  
and like produce a better piece of  
writing at the other end you'll even be  
credited with your help  
at the other end they'll thank you as an  
editor um that  
leads to very different discussions than  
i disagree with you  
and i want to score some points for my  
team so that's kind of one  
you know maybe insight that we've had  
yeah i mean and this maybe is  
is a selfish way to think about it i  
feel like one of the other benefits of  
being part of these communities  
is that it helps grow everyone's  
following  
there's sort of that fomo that begins to  
develop where like  
you know i've seen this a lot with  
people's writing where they're like oh  
i'm thanking this person this person  
this person on twitter  
and you know i'm part of this community  
and then like everyone wants to be part  
of this community  
wants to be a part of that type of  
initiative so i feel like that's another  
thing that  
probably you know when maybe you guys  
realize this maybe not that  
that keeps people going because it helps  
them go like oh this is a way for me to  
grow my following is by doing this with  
others who  
i'm invested in them and they're they're  
invested in me it's just a theory not  
sure if that's  
necessarily true or not yeah i do i  
definitely think there's some  
aspect of that and something we're  
thinking a lot about like i  
you know i certainly think um yeah one  
plus one can equal three  
with with online writing if you can kind  
of create some tight-knit groups of  
folks who help each other out and shout  
each other out  
you know it certainly is can be a great  
way to  
get a nice little boost in your your

audience um and like your your general  
attraction

um at the end of the day to grow to any  
meaningful scale though obviously you do  
just have to produce great work

and um the people you know in our little  
echo chambers on twitter

you know i'll see people get tagged  
repeatedly and like i kind of know who  
knows who

and it's you know it's fun i'll interact  
with them i kind of know them

but if i wasn't in that like inner  
circle i'm really just going to judge  
the work by the work

and like i'm if this person cannot  
produce interesting stuff like i'm just  
not going to follow them i'm not going  
to read their stuff

like i'm just going to turn out so there  
is this

like i think it's a great way to find  
the motivation to maybe develop a habit  
it can be a great way to maybe get some  
early traction on

specifically on audience growth but i  
think as a from the writer's perspective  
the only real way to win long term is by  
producing quality work consistently over  
a very long period of time

um you know speaking in generalities  
here and so it does taper off at a  
certain point of growth where like you  
know to get the next 10 000 subscribers  
frankly they don't give a like who  
your friends are um

so that's one the other thing with the  
contributing the motivations of the  
contributor

that's a really fun one because i think  
you're totally right some folks it may  
be very motivating because you'll get  
a shout out you'll see like your name in  
a big newsletter where you actually  
helped

add some ideas and be constructive but  
the the thing that i think we're trying  
to figure out and we've already seen  
start to happen

is like is there a world again somewhat  
similar to

stackoverflow maybe there's some  
similarities to yelp here

where you kind of become a um uh you  
know local reviewer i don't know

the yelp elite or whatever um you gain  
status by your contributions to the  
network by the value people find i think  
there's people

who write amazon reviews you get some  
pleasure out of doing it uh but you  
you get you gain status as someone who  
uh reliably

contributes and adds value and as a  
result people kind of seek out your  
opinion more

you build a reputation on the quality of  
your thought contributions to to a piece  
and that's a little and actually i think  
to some extent that happens on twitter  
right you want to follow the most  
interesting thinkers

you know i think naval is has a big  
popular account a because i think he has  
a lot of real world credibility but b  
yeah he just tweets intriguing things  
and like i routinely  
if even if i don't agree with him i  
there's clearly a level of clarity of  
thought  
that is like intriguing to follow so you  
know some sometimes that happens on  
twitter people are rewarded for their  
quality of thought but  
like where do you get rewarded for your  
quality of contribution  
like where yeah where is there is there  
a place and is there a way  
uh where you can build status for um  
the quality uh and degree to which you  
can push ideas forward with other people  
and be constructive  
and i think like that's actually will  
become a motivator for people and we  
actually believe in investing in that  
even though it's not necessarily super  
obvious yet  
because it doesn't necessarily convert  
to more email subscribers right now  
we think long term it could have big  
impacts on people's career  
how they make relationships they're just  
going to be sought out as a thoughtful  
person  
so those are those are a few rambling  
thoughts again hopefully i kind of  
answered your question  
no you definitely did and one of the um  
you know a couple a couple thoughts on  
my end is you know i do think one of the  
interesting things about writing online  
is that like it makes you an expert  
without having to be the expert  
and that you know you publish 20 000  
words about some niche topic  
even if you have no experience in it  
people will just start thinking you're  
an expert  
through association so you know talking  
about some of the things that you said  
definitely reminds me of that  
um you know a question that i had though  
related to what you said  
is you talked about you know not  
necessarily following writing  
where like you read it and you turn off  
pretty quickly  
how do you ensure that there's a good  
onboarding like  
maybe you see a writer come on and he's  
just like a bad writer  
and maybe bad is not the right word he  
he he hasn't uh refined his writing well  
enough yet  
or she hasn't refined her writing well  
enough yet you know  
what what do you do to make sure they  
stay motivated  
so that they continue to write because  
like  
i remember when i started writing and my  
first article was horrendous like i  
don't even know you could find it online  
anymore  
but it was really bad and i kept writing

and now like people  
tell me i'm a good writer i don't  
actually know if i am but some people  
think i am  
so like what do you do to make sure that  
you know that writing which like you  
personally think is bad  
that you're going hey like i see some  
promise like here's how you continue to  
stay motivated  
like how do you keep that person from  
from going you get them  
to edit other people's stuff and this is  
a really big  
mindset shift that i think is actually  
kind of hard to sell people on  
but once we do they kind of never go  
back it's like taking the red pill or  
whatever  
um and this is i think the fundamental  
insight that  
we don't think the world has caught on  
to yet that we're certainly excited to  
keep doubling down on which is  
if you as a right oftentimes it does  
happen maybe someone joins compound  
they're seeing kind of the caliber of  
other people in the group and they're  
thinking to themselves  
oh like i'm not as good as i  
thought i was and not even close  
frankly um and that's very intimidating  
and so  
one one way to get over that i think  
which you alluded to is actually just to  
keep showing up and keep writing you're  
right i do think  
keeping up a practice inevitably leads  
you to become better  
at it maybe somewhat against my you know  
counter narrative to a lot of what i  
believe i think can get you pretty far  
even if you don't get feedback  
just getting a baseline practice in  
place will go a hell of a long way so  
that's one  
but i do think a lot of people have been  
able to do that and still feel like  
they're hitting a wall  
and this is where i think our core idea  
around and this is just the core  
activity of the group is like when you  
feel stuck when you feel like how much  
more can you progress  
go into another writer's draft add your  
two cents start to identify  
where things don't really make sense for  
you where things lose a lot of momentum  
was the intro too long like leave a  
comment to tell them it felt a little  
long  
and what you'll notice is you'll start  
to develop this mindset  
of like the engaged reader and you'll  
start to really see  
writing through the lens of somebody who  
can has a chance to interact with the  
ideas has a chance to help construct  
them  
has a chance to refine them and as a  
result when you then go  
right your next piece you'll be able to

shift into this modality of like

i what does the reader's experience

actually like and you'll start to

develop almost this empathy

for that experience which will translate

into better writing

and you will find yourself starting to

be a little bit more thoughtful and

tactful with

how you craft ideas and how you share

them that make them fundamentally more

interesting to read

make them you know much more clear make

them much more entertaining frankly

which is another

undervalued part of writing making it

entertaining and fun um

so that's our opinion you know opinion

if you will that's what we see is like

for the people who feel stuck how can i

get any better i've taken some courses

i've been shipping consistently we're

totally convinced it's like start to

flex your editor muscle

it's really hard to flex on your own

writing you have to kind of kind of use

it on

other people's stuff because you can be

much more objective

you will start to immediately notice all

the things that

could be better about their writing that

also could be better about your own

so that's one answer again that's that's

certainly our kind of

slant on this on this problem so a

question that sort of ties a lot of the

you know the past 20 minutes or so the

conversation together

but what does the funnel look like for

for you all at compound writing you know

how does someone find you um how does

someone

decide like i'm going to join the free

newsletter to i'm going to become a paid

member

to i make sure that they're onboarded

correctly to making sure that they're

retained correctly

you know do you have a formal process

is it more informal

i guess you know tying our whole

conversation together like what does

that

funnel look like from audience

acquisition all the way to audience

retention

yeah totally we don't have um i don't

think we

we're i think we're still in the stage

to where we're figuring out what

channels are most effective to attract

the best writers and to find the best

folks um thankfully by kind of being a

very community oriented

business and now kind of product um

referrals have been great

we started off with some great folks in

the group they've referred other

writers who are very talented who have

then referred you know one or two folks

they know

so referrals have consistently been a



very

you know a wonderful um source of new leads for us

the other thing has been just like kind of like cut and dry content marketing to put it plainly but

but really trying to salt write about you know do interviews around the topics that we think are most common for uh the folks who we want to attract so it's

again content marketing 101 but it was all kind of new to me

but you know we got together with a former editor from the new york times who's also in the group former managing editor at the hustle and we like put together a short simple guide of like

how to edit well and we i put that in a tweet like hey

you know dm me retweet this or dm me if you want it and it just exploded i think that added like

200 250 people to our wait list just from that one tweet and that one piece of content

and it was just like the bat signal for finding the right people

people who want an editing guide written by a former new york times editor that's who we want in compound most likely so that's um those are the two things referrals and some content marketing stuff that have been

uh great for top of funnel and fairly consistent um

what happens when they actually when someone joins the compound wait list like majority of people do not get in we accept

i guess it's variable based on the the quality of

uh some some kind of pieces of content attract more or less

you know serious talented writers or whatever but probably averages out around 15 or so

percent of people who actually apply get invited to do an

interview we actually interview every single person who who joins

um i don't want that to discourage anybody from applying you would just be surprised that

a lot of people apply having never actually published stuff and

there's a lot of reasons to reject folks so we have some criteria of who we look for

minimum amount of things that they've published do they have interesting subject matter expertise

are they just fun to read are they just a good writer a little you know a little subjective

um and then we will proceed to an interview where we literally my co-founder or i will get on a 30-minute zoom call

check that they actually match up with the stuff they put in their the waitlist

form

uh understand their writing goals and  
what they want to do then we'll share a  
little bit more about compound  
and what we do is by the end of the  
month we typically kind of have a we  
call them a cohort even though  
this compound's not really an  
educational product yet it's not really  
like a

you know a boot camp or something we  
for that month everybody who's  
interviewed who wants to join who's paid  
to join

uh they'll be let in the first of the  
following month where we do a couple of  
onboarding meetings  
to get them kind of familiar with some  
editing skills  
familiar with the culture of compound  
this is a place where we contribute to  
each other's work

we don't really have water cooler  
conversations about writing tips we  
help each other actually produce writing  
we just get them

pretty clear on what the group is all  
about and again what the product  
is all about because a lot of this is  
being productized um

and once they're in now they're part of  
the broader community after they've done  
a few of these onboarding things now  
they can go

chime in on any other existing members  
open drafts

they can communicate with anybody in the  
group so it's not coher's a little  
misleading in that we don't actually  
keep them isolated to the folks who  
joined that same month

and that goes a hell of a long way we do  
some things

in the community say you've been active  
for a month and you haven't posted your  
first draft

we have a ton of automations to check in  
and just say hey like anything we could  
do to help

nudge something over the line anything  
you're blocked on do you just want to  
take the month off

our pricing is quarterly so members you  
know maybe they just got busy and that's  
fine they'll get

value the next month um so we kind of do  
a lot of things

after they join that helps encourage  
them to stay engaged and

i think is generally pretty effective  
for for retention

yeah it's a great overview of  
sort of how you guys are doing it  
especially since it's it's it's not  
formalized yet

but um you know as we begin to to wrap  
things up uh one of the questions that i  
always like to

ask um you know guests is  
what is one thing you would  
you know tell the listener

who you know like your big takeaway your  
big lesson for them that you've learned

you know since starting compound that  
you would want them to  
to know um you know before before we end  
our conversation  
i know i'm god i still feel like such a  
student  
that i i feel that i'm i've learned so  
much the last six months doing this that  
i don't know how generalizable some of  
my learnings are but  
there's definitely if i were to say like  
if you're interested if you're maybe  
either um  
writing online you have a blog or a sub  
stack or something  
or you're interested in starting an  
online community um  
i think the biggest thing that most  
online communities  
uh the biggest mistake they make and  
mistake again  
a little bit of a judgy word and this is  
just my opinion  
um is that they conflate  
a category like their niche  
i'm making a community for podcasters  
for example  
uh with a purpose why do those people  
actually come to your community what is  
the utility  
of joining your group um i'm  
convinced most of the crappy slack  
groups that i've joined with you know  
fantastic people in them  
that i don't engage with lack that  
second piece  
i think you have to give people a clear  
reason to re-engage  
there has to be a clear mind space that  
they occupy which is like  
i use this community to do blank if it's  
a community for salespeople i  
use it to maybe i don't know get some  
coaching or get feedback on my cold  
emails or you know whatever whatever  
the specific utility might be but if if  
i were to give  
anybody kind of thinking about starting  
a community around an interest of theirs  
a piece of advice or just to  
consideration it would be  
think of a clear purpose why should  
people keep engaging  
month after month after month with your  
group and i think um i think there's a  
lot of talk about category and there's  
not a lot of talk about  
having a clear purpose so hope that's  
helpful  
that's a great answer really really i  
appreciate that well  
stu thanks so much for coming on um this  
was a great conversation  
and you know i'll include it in the  
show notes but for those who are looking  
to join the community  
or follow you on social media you know  
what's your url  
and you know what are your social  
handles yeah we'd love to have  
any writers you know aspiring writers or  
or

serious writers who are already been at  
it for a while consider applying to  
compound  
it's just compoundwriting.com you'll see  
the application button there but  
compoundwriting.com  
and then i am stu 40 a  
s-t-e-w-f-o-r-t-i-e-r  
on twitter so say hello there great  
stool thanks again so much for coming on  
and until next time  
awesome it was a pleasure thanks ari  
thanks for listening if you enjoyed  
today's episode consider giving us five  
stars on itunes if you are listening to  
us on youtube consider hitting the like  
button and commenting on what you  
enjoyed  
i'd really appreciate it  
<https://www.youtube.com/watch?v=D0iO7Ge8uAo>  
[Music]  
[Applause]  
[Music]  
[Applause]  
hello everyone  
welcome to lakshmi's leadership lounge  
you know uh  
the future of work is changing and now  
more than ever  
is the time we evaluate the way we lead  
to prepare ourselves for it  
that's why we bring you a series that  
showcases a  
plethora of leaders who have inspired us  
by redefining the way they lead so join  
me lakshmi prathuri on this journey  
as i take a deep dive into the lives of  
these trailblazers  
and their unique take on leadership  
and today we have with us swapnil jane  
uh you know i always  
joke that uh uh half as  
uh you know  
people who are the new generation  
people who probably weren't even born  
when i went to high school or college  
really are the ones that are going to  
redefine the way  
we live not just little by little but in  
a huge way  
and swapnil is an example of that he's a  
engineering design graduate from iit  
madras  
along with tarun mehta he conceptualized  
ether  
with the belief in an electric and a  
connected future and we'll talk more  
about what it means  
ether energy has built an entire ev  
ecosystem in india  
with a scooter as well as public  
charging infrastructure  
just to make sure the solution is  
complete  
he's really an ardent believer in the  
power of technology  
he believes that the best innovation  
happens when multiple technologies work  
together  
that's why you notice design as well as  
engineering  
intelligent electric vehicles for him  
exhibit this energy between

software mechanical electronics  
and algorithms so this makes the  
industry  
the best playground for innovation with  
huge potential for  
market disruption at ether swapnil works  
on both long-term technology roadmap  
as well as day-to-day aspects of  
creating a top-notch  
engineering team and culture he is  
a product person at heart  
with that i would like to welcome  
swapnil jay  
hi swapnil hi so so  
good to uh have you on our show  
and uh you know i always say that uh  
i learned the most from our next  
generation so you have  
a lot to teach me today and all the  
things that you're doing and all the  
things that you think  
i should expect in the future  
[Music]  
so i'd love to start with the  
knowing what are the earlier influences  
on your own life  
that evoked your interest in electric  
vehicles and  
and also you talk about multiple  
disciplines it's not just  
one but that holistic approach and  
electric vehicles where did it all start  
right uh and first of all thanks for uh  
having me on the show  
i would really say i'm honored to be  
here  
on how the whole thing on electric  
vehicle started it's a it's a  
it's a very complex uh journey i would  
say uh  
starting from my discipline at uh  
at my at my college where the focus has  
had  
always been on building products which  
means building something which is  
uh and when you say a product you cannot  
talk about mechanical engineering or you  
cannot talk about software  
engineering a product is a is a hole  
right like  
and there are multiple things starting  
from engineering to  
manufacturing to uh to  
it is actually making a business case to  
be able to sell it so  
it's and and my general interest has  
always  
been in things which seem more  
complicated and i think  
when you when you want to when you look  
at something which is  
uh when you want to optimize for  
multiple things together  
that's when the problem actually becomes  
a lot more complex and a lot more  
interesting to solve  
if you're only trying to make the best  
engineering product without worrying  
about the cost or without worrying about  
the  
manufacturability then it's a lot easier  
if there's no really  
real fun in in doing that but when you

have more constraint

like i typically like to think that a

good engineer always loves

constrain because that's what brings the

best out of uh

out of an engineer or that's when the

best innovation

uh really happens so

and we we were sort of encouraged to

build a lot of physical

products uh while we were in in our

college

and and that sort of uh it was sort of

always very fulfilling experience to

build something which which really works

and

and it's like a creation of your

own like writing equations and things is

not as fulfilling than actually

creating something physical in front of

you whom you can like

really show to someone and say okay this

is what i i

created um

and then sort of uh building on top of

it

we got exposure to more more things like

mechanical

electronics software and and it was it

again a new

uh revelation was that when you really

like the entire uh sort of

the way the whole engineering has

evolved

is that earlier our products were purely

mechanical and then they started having

some amount of

electronics and then it became better

and they started having a lot of

electronics then they became even better

and then they're starting having a lot

of software then and they become even

better

and now they have uh like artificial

intelligence sitting on top of it

and and and it's been in a journey

and a new age product cannot be imagined

as

as only mechanical or only software or

only electronics

all the newer products will have element

of all of the disciplines

uh together and a good product will only

be successful and the best product will

come out when you have

synergies between all these disciplines

um to deliver a great

experience and that that was the

thought for me why it's important to

have this energy

yeah no i think it's great i think when

you're going to college you're exposed

to multiple things and

you start seeing how they all fit in

together and now you're trying to create

a product

finally the time has come when they are

all at equal level of maturity that you

can put them all together

and and you've taken the path of

electric cars electric brake i mean

electric vehicles

um etc and you know as you know electric cars

or uh you know there are people talking about trucks and all those things they have a very different environmental impact

compared to you know internal combustion engines right and there are many countries that are taking a call saying by x

date we got to completely

you know replace ice and stuff like that now

can you highlight a little bit of these impacts and what does it mean

for something electric to completely replace

an internal combustible engine right

um you know in a country like india where

uh where firstly the major of the commute happens on on two wheeler uh

it uh almost more than sixty percent of the personal uh personal commute happens on a

on a two wheeler so uh so unlike all the all the other countries it was it was very important to look at uh

look at two wheelers when you're talking about india and it's pretty evident even from the

policies which are which are coming out that uh two wheelers are

more important for for a country like india than than a than a four wheeler or even a truck

um

the more of the more of energy which we consume has a lot of a lot of play not just on the

environment but also on the on the economics of uh

of things uh and even even geopolitical situations

so uh the move from a petrol driven or a fossil fuel driven vehicle to electric vehicle uh is

something really important for a country like india which has it does not have a huge resource of of fossil fuel um

plus uh uh being a large population which which we are

uh even though the carbon footprint of of an individual will be small

but just a sheer fact that the number of people

are are quite huge uh

it creates a very very bad uh situation in cities like

delhi uh even in bangalore uh

being in one of the world's most uh polluted

countries cities so and hence it is

is really important that we take the major portion of our

commute and convert them to electricity

uh or

electric mode of transport both from uh from the from the economy perspective from a geopolitical perspective as well as

uh from uh from an environment uh perspective um

it's really important that we start  
controlling those aspects  
and um you know it's interesting you set  
out to build  
a product first it was not that i want  
to  
solve the sustainability problem of the  
world and what can we do you just said i  
want to build a  
great you know uh  
product first and now you're actually  
seeing the impact it could have on  
sustainability and you're actually  
one of the few companies that is looking  
at this studies and saying what impact  
it could have etc  
so tell me a little bit about how do you  
now  
embed sustainability in all that you're  
doing  
um while you also look at the product  
focus and get great product out  
right so for us the thought process was  
pretty clear  
that even though sustainability  
is important uh people won't  
buy a product just because it is  
sustainable there will be a small small  
population which would do that but for  
most people they want the comfort right  
like you cannot take away the fact that  
people want  
uh comfort uh and you hence have to  
develop  
products which delivers uh the comfort  
or the  
use case in a in a sustainable manner  
that's the only way to do it  
so irrespective of whether you're  
developing a sustainable product or not  
you cannot take away the aspect of a  
great product uh from uh from what  
you're  
developing so everything which we  
develop at acer we are  
very clear that first it has to be a  
great  
product because even if it is slightly  
low on sustainability  
uh a great product will at least make it  
happen people will actually start  
the movement towards electric vehicle  
and that's what  
is important so and that's why we  
started with a with a with a vehicle  
in a premium segment because we wanted  
to offer the experience to customers  
which they cannot get on a uh on an ic  
engine  
uh all the ic engine vehicles were were  
pretty much  
uh similar uh they did not have any uh  
smart functions on it they did not have  
onboard navigation  
we said that's the that's the first  
thing we have to target because  
people will not buy an electric vehicle  
just because it is electric people will  
buy  
electric vehicles because it gives them  
a better experience than their  
than their uh current set of vehicles



and that's when we started the strategy  
that will build up build a premium  
vehicle which gives them  
the best-in-class two-wheeler the  
product which we launched in the field  
has to be the best  
the best two-wheeler and and hence it  
has the best acceleration it has the  
best features  
uh and then you take that and and sort  
of get people motivated enough  
get them overcome the fear of electric  
vehicles and then you sort of  
start launching products uh once people  
are comfortable with the idea of  
electric vehicles because early on you  
need that push  
for people to first start converting  
into a uh  
into buying an electric vehicle uh and  
once you sort of exceed it with the uh  
early uh  
uh early adopters then we start  
targeting the uh  
the of majority of the of the population  
sorry i just wanted to say one thing  
that i really like  
the way i didn't want to lose uh  
highlighting that is that i like the way  
that you're saying is that  
give the person smartness you know that  
an electric can bring  
in a scooter because people only think  
of giving the smart  
in an electric car or a truck or  
something or  
something but to say that this is what  
most people  
drive and let's give some smartness in  
it  
so maybe can you expand a little bit on  
what are the two three  
things you gave that made it smart that  
made someone say  
this is what i want right but uh  
and this problem i think very unique to  
india because as i said the 60  
of the personal commute happens in on on  
the two-wheeler  
uh something like navigation right like  
it's it's very common  
in four-wheeler to have navigation uh  
but two villas  
none of the two wheelers have a good  
navigation experience only  
few of them are having right now but  
even that is not the greatest  
experience and the funny thing is uh the  
navigation is a lot more critical  
in a in a two-wheeler than a  
four-wheeler because on four-wheeler you  
could just  
take your mobile phone and just put it  
on the windscreen and it and it works  
but you can't do that on a two-wheeler  
it's all exposed you cannot put a mobile  
phone on there  
and you have to stop at every every few  
uh  
uh like kilometers you'll have to stop  
and and bring your phone out of your  
pocket  
and see where do i have to go and then

then navigate it's very difficult to  
navigate on a tubular but no one was  
solving that  
that problem so um that was the first  
problem we attacked we said that we are  
going to provide  
a very good navigation experience very  
detailed navigation experience on a  
two-wheeler and we are the first to do  
that and  
even today we are the only ones who have  
a very uh  
detailed uh navigation uh route  
on the on the vehicle itself um  
then then we introduced uh and to make  
this navigation happen we introduced a  
seven seven inch like a display  
which is again not very common in a uh  
in a  
two wheeler uh you primarily see analog  
displays or maybe some sort of a seven  
segment display but you don't see a tft  
screen on a on a two wheeler with a  
touch screen right like so  
to make navigation even better we added  
a touch screen  
onto it along with that we started  
adding more algorithms on the vehicle  
which a lot of times customer does not  
really see but solves the problem which  
are there with electric vehicles  
what happens when the temperature goes  
up how do you give a smooth uh  
experience so that  
the customer doesn't accidentally end up  
overheating the battery  
and then getting stranded somewhere so  
uh  
gracefully managing temperatures which  
which is a big problem in a country like  
india where the temperatures are  
typically a much much higher site  
so um managing managing temperatures  
managing thermals  
uh allowing navic allowing  
to be able to sort of interact with your  
vehicle through a mobile phone  
so now you you uh how your everyday  
every ride is sort of uh  
you you can see it on your phone as a as  
a right stat  
so you can understand what is your  
riding pattern that helps in you sort of  
taking care of range anxiety because  
once you know how your riding pattern is  
affecting your range  
uh and you can sort of keep a track of  
how it has been happening  
you can actually overcome your range  
anxiety because you can start  
controlling your  
right pattern and and and get more  
range out of the uh the same uh vehicle  
without compromising on your  
uh riding experience so this sort of  
feedback to the customers  
really helped yeah and so swapnil you  
started with building a great product  
you know the electric scooter and you  
added all these features that made it a  
great product  
and you've had the marketing you guys

have been out in the market uh  
quite a bit so what are some of the  
challenges that you faced as a leader  
along the way and what are the you know  
a few lessons you learned  
out of those challenges  
right i think uh uh one of the big  
lesson  
for us was that uh um like  
like you uh you have to uh  
what i actually love the most like you  
have to look at the entire picture you  
cannot look at only  
uh design as an engineer and if you're  
especially a product  
person you focus a lot on on design  
uh and and you want to create the best  
product out there but a best product is  
not a best product it cannot be  
manufactured  
as well it cannot be serviced as  
as well if it is prone to uh  
defects because of the  
uh because of the manufacturing  
techniques involved in creating that  
product  
is is not very uh  
conducive to a mass manufacturing setup  
so  
our designs uh in in the early days  
where we're purely from an engineering  
perspective but  
over time we learned that you have to  
take care of a lot of things  
like manufacturability supply chain uh  
serviceability  
build a great product so  
and and over emphasizing on only the the  
specifications of the product or or the  
product features uh could be detrimental  
uh  
to the growth of the organization so one  
of the biggest lesson we have learned  
is that how to balance between feature  
cost timelines uh reliability all of  
that  
put together yeah right it's a i think  
that  
and especially it's very very important  
for a for a  
hardware company because in software you  
can iterate really fast  
you create a product it doesn't work out  
next day you create a new set of  
code but problem with hardware is that  
everything is fixed  
uh once you create a design you cannot  
change it for for at least a year  
because of a huge investment which goes  
in actually creating a design  
uh and and and for hardware companies  
it's a lot more essential to  
understand these these aspects um than  
than what a software company  
would need and i think this has been our  
biggest learning  
in the last four or five years so do you  
have a favorite mantra or do you have a  
leader you look up to when you're you  
know  
as part of building the company you have  
like a favorite quote  
or a favorite mantra or a favorite

person you know someone you  
admire right uh uh no i don't know if  
it's a mantra or not but but  
i really like to uh create small like  
my my my focus always is create small  
decoupled set of people uh who can work  
independently  
so and that is applicable to engineering  
as well as to  
people so even when you're creating a  
design you should create  
a the design which you create even if  
you're creating a scooter  
create design such that they are very  
decoupled from each other  
so that if if let's say um  
you change one part that does not now  
need you to change every other part  
uh on the on the vehicle and it's a very  
uh  
important thing again in a hardware  
perspective because  
the entire vehicle is a very complex  
piece  
and it has more than 350 parts which are  
which are there  
and if every single part is intertwined  
with each other  
then then it becomes very difficult to  
do anything because every time you touch  
something  
350 other things have to be touched so  
it really slows  
the way you can where you can work and  
it also takes away  
it it also sort of breeds lot of  
bureaucracy hierarchy  
into the into the system so how you  
design your  
uh how you define your engineering or  
architecture of engineering  
affects how people work with with each  
other and  
again people work really great when they  
are independent set of  
small individual groups who can work  
almost independent to each other without  
needing too much of  
uh reliance on on each other so  
marrying this world of engineering or  
like  
products to how people work and keeping  
very very small nimble groups which can  
work really fast towards a product  
development i think that that's been  
always my focus on on  
any kind of uh at a product design or  
team design or whatever we do at  
either yeah no i think that's really  
great i think there are a couple of  
really big takeaways from me in this in  
terms of  
first focus on the product you know when  
you get it right  
then you can balance it with all the  
impact you can have and the  
sustainability you can create etc  
so that's the first thing and the second  
thing is what you  
just said in terms of it's sort of  
together together but separate you know  
or separate but together

kind of means so that people have a  
sense of independence but at the same  
time it fits into the  
overall thing also

[Music]

[Applause]

[Music]

so now we come to that part of the  
interview stump me if you can very you  
get to ask me

any questions that you want right

yeah uh yeah so i think i had quite a  
few questions especially because you  
have been

interacting with uh with uh a lot of a  
lot of leaders

across the across different domains  
across different age groups gender  
uh what not so i think uh probably i  
thought this is

something which you could uh shed some  
light on

how do you think the the leadership is  
been changing over the  
uh over the decade uh the the leaders  
who were there

uh like what are the leadership styles  
let's say about a decade ago and  
how is it looking like now and what do  
you think

is going to be the future of of this  
yeah

i think you know during the industrial  
age and even when i worked you know when  
i worked at intel or whatever you know  
we

have learnt we have grown up to learn to  
admire a leader who knew  
everything who had all the answers who  
was smarter than you

etc and we always tried to be those  
kinds of leaders where it's a more  
a very paternalistic way a patriarchal  
way of being where

i am the protector i want to make sure  
my whole team is taken care of  
i should have all the answers etc and i  
think

because there was very few people who  
knew

everything because as you were saying  
sometimes when you

do separate but together the things  
could be so separate that there's only  
few people who have the holistic picture  
you know

and so that was the way of management  
especially

in the world of industry and hardware  
and manufacturing

and all those kinds of things and what  
i've learned

over the years it has changed so  
dramatically

in fact it's just the opposite now if  
you try to have

all the answers you'll you're bound to  
fail

because you need to hire people who know  
a lot more than you you need to learn  
from them and you need to surround  
yourself

with people uh who who are very

different than you

there's no one person who has all the answers so i think we have moved from an expert to a council of elders you know like it's sort of removed in leadership style when i say elders it's not age but in terms of thought process you know so

that's the biggest change that i see is that um just by age or number of years of experience or whatever

no one person knows more than the other because experience mattered before because the same problems were occurring over and over again because the product was the same now the product is different the circumstance is different i can in fact if i say that hey we tried this five years ago it did not work let's not do this

i'll be doing a disservice to the company because the circumstance may have completely changed so i think that's the biggest change i see as a leader you have to be a lot more embracing of diversity and talent i mean you have to hire people smarter than you it that was always the case but now it's a matter of survival

you know right thanks uh thanks lakshmi i think that's that's that's really really uh important yeah and especially the fact that circumstances are changing and and the things changed so far that what was relevant five years ago is probably no more

uh no longer relevant and three years ago i mean i think of 2019 to now and i feel the world has completely changed

you know i cannot hold anything true today that was true in 2019 so yeah yeah i'm like you probably learned more from younger pope than from older folks

both you know actually i wanted to say that the real um you know thing real success is when you have a balance because experience has a place in being a coach and the youth or a new idea has a place in its tenacity and i think we make a mistake sometimes of ageism also is there right you're gonna say oh you're over 30 you're no clue what's going on you know but i think when everybody works together

it's really really very powerful i think when a young team says okay i'm going to have a board of advisors who are very experienced in different fields

i think that's the best combination actually yeah

right right uh uh probably something which uh

it's like a follow-up to because we have  
been talking a lot about ageism and  
youth  
uh now how do you see uh like except  
there are  
quite a few young founders uh sitting in  
probably the top most position  
across like a3 is one example but  
a lot of the side of which you see they  
have quite young founders and and are  
sitting on the top most position  
how do you see the relation between  
probably  
an older senior management and a young  
founder  
how does that play out in your  
experience  
i think it is important for all of them  
to work  
together i think they both need to have  
a very healthy  
healthy attitude about the other because  
you know there's a lot of things we can  
do for check  
marks you know to say that okay i also  
have this i also have this kind of  
thing but it shows whether you truly  
believe in it  
or not so i think it is a very important  
for young  
founders to understand that  
while their technology and knowledge  
may be better but the way how you handle  
uh your customers maybe how you handle  
your co-founders how you handle your  
employees there's a lot you can learn  
from someone who has experience and  
similarly somebody who has the  
experience shouldn't get  
bogged down by why am i reporting to  
somebody half my age or you know stuff  
like that  
and say that can we create a healthy  
environment  
can i be a coach instead of a player you  
know  
can i be uh you know the sounding board  
so i really say you know one of the  
programs actually i think we created is  
called being future makers because my  
thinking  
is that we need a platform where  
the young and the old and the men and  
the women and the  
different geographies everybody comes  
together to learn  
from each other i think it's extremely  
important for young founders  
to find someone they respect and for  
experienced people to surround  
themselves with young founders  
and i always say that especially to  
people like you  
young founders have a personal board of  
directors  
i think it's extremely important you  
need to have two or three people who are  
your  
personal board of directors who are  
making sure  
you're healthy in every possible way  
when you're frustrated about something  
they can

be there for you so i think for all of  
us  
especially for young founders having a  
personal board of directors is extremely  
important  
all right like quite important  
interesting thought like never never  
thought about it this way yes  
i found us i think uh there is there is  
always  
days when you are really frustrated and  
you need  
some sort of a sounding board and yeah i  
think  
that that's that's really the last  
problem the last thing  
i will say is that as a  
as an entrepreneur especially you eat  
breathe sleep your company right you  
have no  
time to think of anything else and it's  
extremely  
important to set aside at least 20  
percent of your time  
for doing something other than work  
because  
that's when great ideas come from and  
even some of the greatest  
leaders you know say this in retrospect  
that we spend way too much time looking  
at the product  
we should have looked forward we should  
have surrounded ourselves with  
different people so i think it's the  
more busy you are  
the more important it is to carve out  
at least 20 percent of your time  
to do something that has nothing to do  
with work  
be it you go for a run or you attend a  
music concert  
or you know play music it doesn't matter  
what  
something that is not work you know  
the more pressure there is on you the  
more you need to do that because  
that's where new ideas come from so  
anyway  
uh so i think we need to move to the  
last segment which is my favorite  
thing is that i always love uh innocent  
nail it's been so amazing  
talking to you this is what gives me  
energy we have ether energy i have like  
people energy you know so  
uh this is what excites me is  
uh you know to see people like you  
do well so what in a very greedy way we  
have something called ink tree seed  
where we say that  
we don't want to lose touch with you  
right after this interview but can we do  
something together  
after this uh that can  
you know teach us both a little bit more  
about each other  
so uh one thing i've been thinking about  
as you were talking  
is that you know so much about  
sustainability and you have such a  
different take on it  
in terms of get the product right first



think of the economics and then  
sustainability is a result etc  
so i just wanted to ask you do you think  
is it possible for us to  
create a session create something where  
we can bring  
very very different people say an  
economist and a  
behavioral scientist and a energy person  
and a product person you know together  
to say what is really the future of  
uh transportation or future of energy  
uh what do you think what are the what  
if what sort of things  
excite you where we can create something  
like that together  
what an interesting idea i'm like i'm as  
as you're speaking it seemed quite uh  
quite uh interesting and relevant  
energy is a more the sustainability  
energy itself is a very  
interesting topic uh uh for us we speak  
about a lot  
uh like when we are not building uh  
vehicles we are talking about uh  
about energy and how it is something  
which is  
uh which is so relevant in in every  
single thing we do every single product  
you buy every single  
service you use your internet your like  
heating cooling everything  
everything like humanities is very very  
dependent on  
on energy and it and the transition from  
a fossil fuel-based economy to a  
uh renewable-based economy is going to  
be very different  
we only think about this transition as  
something which is important for  
climate but but it's going to have a  
very different  
uh kind of take on on economy itself  
things which would seem like uh  
undoable earlier we could uh with it  
move to a renewable economy  
it will suddenly become very much  
relevant so i think there's a  
big uh big aspect to be to be discussed  
on how the entire world view will change  
when we move from a fossil fuel-based  
economy to a  
renewable energy-based economy yeah  
we'll work together to see who are the  
people we need to bring together to have  
a really insightful conversation  
and do that together okay definitely  
really interesting thank you so much for  
your time i always say that  
the most expensive thing you can give  
someone is your time  
and i think most valuable thing you can  
give is time and thank you so much for  
giving your time  
and i love talking to you and i look  
forward to continuing your conversation  
um and i really want to thank our  
audience for taking the time to listen  
to this  
and please feel free to comment and give  
us your ideas  
and as we designed this session what do  
you think we should do

and thank you so much for your time uh  
swapnil and we look forward to having  
all of you join us  
again next week to continue the series  
thank you  
thank you stop now thank you  
[Applause]  
[Music]  
you

<https://www.youtube.com/watch?v=D0iO7Ge8uAo>

[Music]  
[Applause]  
[Music]  
[Applause]  
hello everyone  
welcome to lakshmi's leadership lounge  
you know uh  
the future of work is changing and now  
more than ever  
is the time we evaluate the way we lead  
to prepare ourselves for it  
that's why we bring you a series that  
showcases a  
plethora of leaders who have inspired us  
by redefining the way they lead so join  
me lakshmi prathuri on this journey  
as i take a deep dive into the lives of  
these trailblazers  
and their unique take on leadership  
and today we have with us swapnil jane  
uh you know i always  
joke that uh uh half as  
uh you know  
people who are the new generation  
people who probably weren't even born  
when i went to high school or college  
really are the ones that are going to  
redefine the way  
we live not just little by little but in  
a huge way  
and swapnil is an example of that he's a  
engineering design graduate from iit  
madras  
along with tarun mehta he conceptualized  
ether  
with the belief in an electric and a  
connected future and we'll talk more  
about what it means  
ether energy has built an entire ev  
ecosystem in india  
with a scooter as well as public  
charging infrastructure  
just to make sure the solution is  
complete  
he's really an ardent believer in the  
power of technology  
he believes that the best innovation  
happens when multiple technologies work  
together  
that's why you notice design as well as  
engineering  
intelligent electric vehicles for him  
exhibit this energy between  
software mechanical electronics  
and algorithms so this makes the  
industry  
the best playground for innovation with  
huge potential for

market disruption at ether swapnil works  
on both long-term technology roadmap  
as well as day-to-day aspects of  
creating a top-notch  
engineering team and culture he is  
a product person at heart  
with that i would like to welcome  
swapnil jay  
hi swapnil hi so so  
good to uh have you on our show  
and uh you know i always say that uh  
i learned the most from our next  
generation so you have  
a lot to teach me today and all the  
things that you're doing and all the  
things that you think  
i should expect in the future  
[Music]  
so i'd love to start with the  
knowing what are the earlier influences  
on your own life  
that evoked your interest in electric  
vehicles and  
and also you talk about multiple  
disciplines it's not just  
one but that holistic approach and  
electric vehicles where did it all start  
right uh and first of all thanks for uh  
having me on the show  
i would really say i'm honored to be  
here  
on how the whole thing on electric  
vehicle started it's a it's a  
it's a very complex uh journey i would  
say uh  
starting from my discipline at uh  
at my at my college where the focus has  
had  
always been on building products which  
means building something which is  
uh and when you say a product you cannot  
talk about mechanical engineering or you  
cannot talk about software  
engineering a product is a is a hole  
right like  
and there are multiple things starting  
from engineering to  
manufacturing to uh to  
it is actually making a business case to  
be able to sell it so  
it's and and my general interest has  
always  
been in things which seem more  
complicated and i think  
when you when you want to when you look  
at something which is  
uh when you want to optimize for  
multiple things together  
that's when the problem actually becomes  
a lot more complex and a lot more  
interesting to solve  
if you're only trying to make the best  
engineering product without worrying  
about the cost or without worrying about  
the  
manufacturability then it's a lot easier  
if there's no really  
real fun in in doing that but when you  
have more constraint  
like i typically like to think that a  
good engineer always loves  
constrain because that's what brings the  
best out of uh

out of an engineer or that's when the  
best innovation  
uh really happens so  
and we were sort of encouraged to  
build a lot of physical  
products uh while we were in in our  
college  
and and that sort of uh it was sort of  
always very fulfilling experience to  
build something which which really works  
and  
and it's like a creation of your  
own like writing equations and things is  
not as fulfilling than actually  
creating something physical in front of  
you whom you can like  
really show to someone and say okay this  
is what i  
created um  
and then sort of uh building on top of  
it  
we got exposure to more more things like  
mechanical  
electronics software and and it was it  
again a new  
uh revelation was that when you really  
like the entire uh sort of  
the way the whole engineering has  
evolved  
is that earlier our products were purely  
mechanical and then they started having  
some amount of  
electronics and then it became better  
and they started having a lot of  
electronics then they became even better  
and then they're starting having a lot  
of software then and they become even  
better  
and now they have uh like artificial  
intelligence sitting on top of it  
and and and it's been in a journey  
and a new age product cannot be imagined  
as  
as only mechanical or only software or  
only electronics  
all the newer products will have element  
of all of the disciplines  
uh together and a good product will only  
be successful and the best product will  
come out when you have  
synergies between all these disciplines  
um to deliver a great  
experience and that that was the  
thought for me why it's important to  
have this energy  
yeah no i think it's great i think when  
you're going to college you're exposed  
to multiple things and  
you start seeing how they all fit in  
together and now you're trying to create  
a product  
finally the time has come when they are  
all at equal level of maturity that you  
can put them all together  
and and you've taken the path of  
electric cars electric brake i mean  
electric vehicles  
um etc and you know as you know electric  
cars  
or uh you know there are people talking  
about trucks and all those things they  
have a very different environmental

impact

compared to you know internal combustion engines right and there are many countries that are taking a call saying by x

date we got to completely

you know replace ice and stuff like that now

can you highlight a little bit of these impacts and what does it mean for something electric to completely replace

an internal combustible engine right um you know in a country like india where

uh where firstly the major of the commute happens on on two wheeler uh it uh almost more than sixty percent of the personal uh personal commute happens on a

on a two wheeler so uh so unlike all the all the other countries it was it was very important to look at uh

look at two wheelers when you're talking about india and it's pretty evident even from the

policies which are which are coming out that uh two wheelers are more important for for a country like india than than a than a four wheeler or even a truck

um

the more of the more of energy which we consume has a lot of a lot of play not just on the

environment but also on the on the economics of uh

of things uh and even even geopolitical situations

so uh the move from a petrol driven or a fossil fuel driven vehicle to electric vehicle uh is

something really important for a country like india which has it does not have a huge resource of of fossil fuel um

plus uh uh being a large population which which we are

uh even though the carbon footprint of of an individual will be small but just a sheer fact that the number of people

are are quite huge uh

it creates a very very bad uh situation in cities like

delhi uh even in bangalore uh being in one of the world's most uh polluted

countries cities so and hence it is is really important that we take the major portion of our

commute and convert them to electricity uh or

electric mode of transport both from uh from the from the economy perspective from a geopolitical perspective as well as

uh from uh from an environment uh perspective um

it's really important that we start controlling those aspects

and um you know it's interesting you set out to build

a product first it was not that i want

to  
solve the sustainability problem of the  
world and what can we do you just said i  
want to build a  
great you know uh  
product first and now you're actually  
seeing the impact it could have on  
sustainability and you're actually  
one of the few companies that is looking  
at this studies and saying what impact  
it could have etc  
so tell me a little bit about how do you  
now  
embed sustainability in all that you're  
doing  
um while you also look at the product  
focus and get great product out  
right so for us the thought process was  
pretty clear  
that even though sustainability  
is important uh people won't  
buy a product just because it is  
sustainable there will be a small small  
population which would do that but for  
most people they want the comfort right  
like you cannot take away the fact that  
people want  
uh comfort uh and you hence have to  
develop  
products which delivers uh the comfort  
or the  
use case in a in a sustainable manner  
that's the only way to do it  
so irrespective of whether you're  
developing a sustainable product or not  
you cannot take away the aspect of a  
great product uh from uh from what  
you're  
developing so everything which we  
develop at acer we are  
very clear that first it has to be a  
great  
product because even if it is slightly  
low on sustainability  
uh a great product will at least make it  
happen people will actually start  
the movement towards electric vehicle  
and that's what  
is important so and that's why we  
started with a with a with a vehicle  
in a premium segment because we wanted  
to offer the experience to customers  
which they cannot get on a uh on an ic  
engine  
uh all the ic engine vehicles were were  
pretty much  
uh similar uh they did not have any uh  
smart functions on it they did not have  
onboard navigation  
we said that's the that's the first  
thing we have to target because  
people will not buy an electric vehicle  
just because it is electric people will  
buy  
electric vehicles because it gives them  
a better experience than their  
than their uh current set of vehicles  
and that's when we started the strategy  
that will build up build a premium  
vehicle which gives them  
the best-in-class two-wheeler the  
product which we launched in the field

has to be the best

the best two-wheeler and and hence it  
has the best acceleration it has the  
best features

uh and then you take that and and sort  
of get people motivated enough  
get them overcome the fear of electric  
vehicles and then you sort of  
start launching products uh once people  
are comfortable with the idea of  
electric vehicles because early on you  
need that push  
for people to first start converting  
into a uh  
into buying an electric vehicle uh and  
once you sort of exceed it with the uh  
early uh  
uh early adopters then we start  
targeting the uh  
the of majority of the of the population  
sorry i just wanted to say one thing  
that i really like  
the way i didn't want to lose uh  
highlighting that is that i like the way  
that you're saying is that  
give the person smartness you know that  
an electric can bring  
in a scooter because people only think  
of giving the smart  
in an electric car or a truck or  
something or  
something but to say that this is what  
most people  
drive and let's give some smartness in  
it  
so maybe can you expand a little bit on  
what are the two three  
things you gave that made it smart that  
made someone say  
this is what i want right but uh  
and this problem i think very unique to  
india because as i said the 60  
of the personal commute happens in on on  
the two-wheeler  
uh something like navigation right like  
it's it's very common  
in four-wheeler to have navigation uh  
but two villas  
none of the two wheelers have a good  
navigation experience only  
few of them are having right now but  
even that is not the greatest  
experience and the funny thing is uh the  
navigation is a lot more critical  
in a in a two-wheeler than a  
four-wheeler because on four-wheeler you  
could just  
take your mobile phone and just put it  
on the windscreen and it and it works  
but you can't do that on a two-wheeler  
it's all exposed you cannot put a mobile  
phone on there  
and you have to stop at every every few  
uh  
uh like kilometers you'll have to stop  
and and bring your phone out of your  
pocket  
and see where do i have to go and then  
then navigate it's very difficult to  
navigate on a tubular but no one was  
solving that  
that problem so um that was the first  
problem we attacked we said that we are

going to provide  
a very good navigation experience very  
detailed navigation experience on a  
two-wheeler and we are the first to do  
that and  
even today we are the only ones who have  
a very uh  
detailed uh navigation uh route  
on the on the vehicle itself um  
then then we introduced uh and to make  
this navigation happen we introduced a  
seven seven inch like a display  
which is again not very common in a uh  
in a  
two wheeler uh you primarily see analog  
displays or maybe some sort of a seven  
segment display but you don't see a tft  
screen on a on a two wheeler with a  
touch screen right like so  
to make navigation even better we added  
a touch screen  
onto it along with that we started  
adding more algorithms on the vehicle  
which a lot of times customer does not  
really see but solves the problem which  
are there with electric vehicles  
what happens when the temperature goes  
up how do you give a smooth uh  
experience so that  
the customer doesn't accidentally end up  
overheating the battery  
and then getting stranded somewhere so  
uh  
gracefully managing temperatures which  
which is a big problem in a country like  
india where the temperatures are  
typically a much much higher site  
so um managing managing temperatures  
managing thermals  
uh allowing navic allowing  
to be able to sort of interact with your  
vehicle through a mobile phone  
so now you you uh how your everyday  
every ride is sort of uh  
you you can see it on your phone as a as  
a right stat  
so you can understand what is your  
riding pattern that helps in you sort of  
taking care of range anxiety because  
once you know how your riding pattern is  
affecting your range  
uh and you can sort of keep a track of  
how it has been happening  
you can actually overcome your range  
anxiety because you can start  
controlling your  
right pattern and and and get more  
range out of the uh the same uh vehicle  
without compromising on your  
uh riding experience so this sort of  
feedback to the customers  
really helped yeah and so swapnil you  
started with building a great product  
you know the electric scooter and you  
added all these features that made it a  
great product  
and you've had the marketing you guys  
have been out in the market uh  
quite a bit so what are some of the  
challenges that you faced as a leader  
along the way and what are the you know  
a few lessons you learned



out of those challenges

right i think uh uh one of the big  
lesson

for us was that uh um like

like you uh you have to uh

what i actually love the most like you

have to look at the entire picture you  
cannot look at only

uh design as an engineer and if you're  
especially a product

person you focus a lot on on design

uh and and you want to create the best  
product out there but a best product is  
not a best product it cannot be  
manufactured

as as well it cannot be serviced as  
as well if it is prone to uh  
defects because of the

uh because of the manufacturing  
techniques involved in creating that  
product

is is not very uh

conductive to a mass manufacturing setup  
so

our designs uh in in the early days  
where we're purely from an engineering  
perspective but

over time we learned that you have to  
take care of a lot of things  
like manufacturability supply chain uh  
serviceability

build a great product so

and and over emphasizing on only the the  
specifications of the product or or the  
product features uh could be detrimental  
uh

to the growth of the organization so one  
of the biggest lesson we have learned  
is that how to balance between feature  
cost timelines uh reliability all of  
that

put together yeah right it's a i think  
that

and especially it's very very important  
for a for a

hardware company because in software you  
can iterate really fast

you create a product it doesn't work out  
next day you create a new set of  
code but problem with hardware is that  
everything is fixed

uh once you create a design you cannot  
change it for for at least a year

because of a huge investment which goes  
in actually creating a design

uh and and and for hardware companies  
it's a lot more essential to  
understand these these aspects um than  
than what a software company  
would need and i think this has been our  
biggest learning

in the last four or five years so do you  
have a favorite mantra or do you have a  
leader you look up to when you're you  
know

as part of building the company you have  
like a favorite quote

or a favorite mantra or a favorite  
person you know someone you  
admire right uh uh no i don't know if  
it's a mantra or not but but

i really like to uh create small like  
my my my focus always is create small

decoupled set of people uh who can work  
independently  
so and that is applicable to engineering  
as well as to  
people so even when you're creating a  
design you should create  
a the design which you create even if  
you're creating a scooter  
create design such that they are very  
decoupled from each other  
so that if let's say um  
you change one part that does not now  
need you to change every other part  
uh on the on the vehicle and it's a very  
uh  
important thing again in a hardware  
perspective because  
the entire vehicle is a very complex  
piece  
and it has more than 350 parts which are  
which are there  
and if every single part is intertwined  
with each other  
then then it becomes very difficult to  
do anything because every time you touch  
something  
350 other things have to be touched so  
it really slows  
the way you can where you can work and  
it also takes away  
it it also sort of breeds lot of  
bureaucracy hierarchy  
into the into the system so how you  
design your  
uh how you define your engineering or  
architecture of engineering  
affects how people work with with each  
other and  
again people work really great when they  
are independent set of  
small individual groups who can work  
almost independent to each other without  
needing too much of  
uh reliance on on each other so  
marrying this world of engineering or  
like  
products to how people work and keeping  
very very small nimble groups which can  
work really fast towards a product  
development i think that that's been  
always my focus on on  
any kind of uh at a product design or  
team design or whatever we do at  
either yeah no i think that's really  
great i think there are a couple of  
really big takeaways from me in this in  
terms of  
first focus on the product you know when  
you get it right  
then you can balance it with all the  
impact you can have and the  
sustainability you can create etc  
so that's the first thing and the second  
thing is what you  
just said in terms of it's sort of  
together together but separate you know  
or separate but together  
kind of means so that people have a  
sense of independence but at the same  
time it fits into the  
overall thing also  
[Music]

[Applause]

[Music]

so now we come to that part of the  
interview stump me if you can very you  
get to ask me  
any questions that you want right  
yeah uh yeah so i think i had quite a  
few questions especially because you  
have been  
interacting with uh with uh a lot of a  
lot of leaders  
across the across different domains  
across different age groups gender  
uh what not so i think uh probably i  
thought this is  
something which you could uh shed some  
light on  
how do you think the the leadership is  
been changing over the  
uh over the decade uh the the leaders  
who were there  
uh like what are the leadership styles  
let's say about a decade ago and  
how is it looking like now and what do  
you think  
is going to be the future of of this  
yeah  
i think you know during the industrial  
age and even when i worked you know when  
i worked at intel or whatever you know  
we  
have learnt we have grown up to learn to  
admire a leader who knew  
everything who had all the answers who  
was smarter than you  
etc and we always tried to be those  
kinds of leaders where it's a more  
a very paternalistic way a patriarchal  
way of being where  
i am the protector i want to make sure  
my whole team is taken care of  
i should have all the answers etc and i  
think  
because there was very few people who  
knew  
everything because as you were saying  
sometimes when you  
do separate but together the things  
could be so separate that there's only  
few people who have the holistic picture  
you know  
and so that was the way of management  
especially  
in the world of industry and hardware  
and manufacturing  
and all those kinds of things and what  
i've learned  
over the years it has changed so  
dramatically  
in fact it's just the opposite now if  
you try to have  
all the answers you'll you're bound to  
fail  
because you need to hire people who know  
a lot more than you you need to learn  
from them and you need to surround  
yourself  
with people uh who who are very  
different than you  
there's no one person who has all the  
answers so i think we have moved from an  
expert to a council of elders you know  
like it's sort of removed in leadership

style when i say elders it's not  
age but in terms of thought process you  
know so  
that's the biggest change that i see is  
that um just by age or  
number of years of experience or  
whatever  
no one person knows more than the other  
because  
experience mattered before because the  
same problems were occurring  
over and over again because the product  
was the same now the product is  
different the circumstance is different  
i can in fact if i say that hey we tried  
this five years ago it did not work  
let's not do this  
i'll be doing a disservice to the  
company because the  
circumstance may have completely changed  
so i think that's the biggest  
change i see as a leader you have to be  
a lot more embracing  
of diversity and talent i mean you  
have to hire people smarter than you it  
that was always the case but  
now it's a matter of survival  
you know right thanks uh thanks lakshmi  
i think that's that's  
that's really really uh important yeah  
and especially the fact that  
circumstances are changing and and  
and the things changed so far that what  
was relevant five years ago is probably  
no more  
uh no longer relevant and three years  
ago i mean i think of 2019  
to now and i feel the world has  
completely changed  
you know i cannot hold anything true  
today that was true in 2019  
so yeah yeah i'm like you probably  
learned more from younger pope than from  
older folks  
both you know actually i wanted to say  
that the real  
um you know thing real success  
is when you have a balance because  
experience has a place  
in being a coach and the youth or a new  
idea has a place  
in its tenacity and i think we make a  
mistake sometimes  
of ageism also is there right you're  
gonna say oh you're over 30 you're no  
clue what's going on you know  
but i think when everybody works  
together  
it's really really very powerful i think  
when a young team says okay i'm going to  
have a board of  
advisors who are very experienced in  
different fields  
i think that's the best combination  
actually yeah  
right right uh uh probably something  
which uh  
it's like a follow-up to because we have  
been talking a lot about ageism and  
youth  
uh now how do you see uh like except  
there are

quite a few young founders uh sitting in  
probably the top most position  
across like a3 is one example but  
a lot of the side of which you see they  
have quite young founders and and are  
sitting on the top most position  
how do you see the the relation between  
probably  
an older senior management and a young  
founder  
how does that play out in your  
experience  
i think it is important for all of them  
to work  
together i think they both need to have  
a very healthy  
healthy attitude about the other because  
you know there's a lot of things we can  
do for check  
marks you know to say that okay i also  
have this i also have this kind of  
thing but it shows whether you truly  
believe in it  
or not so i think it is a very important  
for young  
founders to understand that  
while their technology and knowledge  
may be better but the way how you handle  
uh your customers maybe how you handle  
your co-founders how you handle your  
employees there's a lot you can learn  
from someone who has experience and  
similarly somebody who has the  
experience shouldn't get  
bogged down by why am i reporting to  
somebody half my age or you know stuff  
like that  
and say that can we create a healthy  
environment  
can i be a coach instead of a player you  
know  
can i be uh you know the sounding board  
so i really say you know one of the  
programs actually i think we created is  
called being future makers because my  
thinking  
is that we need a platform where  
the young and the old and the men and  
the women and the  
different geographies everybody comes  
together to learn  
from each other i think it's extremely  
important for young founders  
to find someone they respect and for  
experienced people to surround  
themselves with young founders  
and i always say that especially to  
people like you  
young founders have a personal board of  
directors  
i think it's extremely important you  
need to have two or three people who are  
your  
personal board of directors who are  
making sure  
you're healthy in every possible way  
when you're frustrated about something  
they can  
be there for you so i think for all of  
us  
especially for young founders having a  
personal board of directors is extremely  
important

all right like quite important  
interesting thought like never never  
thought about it this way yes  
i found us i think uh there is there is  
always  
days when you are really frustrated and  
you need  
some sort of a sounding board and yeah i  
think  
that that's that's really the last  
problem the last thing  
i will say is that as a  
as an entrepreneur especially you eat  
breathe sleep your company right you  
have no  
time to think of anything else and it's  
extremely  
important to set aside at least 20  
percent of your time  
for doing something other than work  
because  
that's when great ideas come from and  
even some of the greatest  
leaders you know say this in retrospect  
that we spend way too much time looking  
at the product  
we should have looked forward we should  
have surrounded ourselves with  
different people so i think it's the  
more busy you are  
the more important it is to carve out  
at least 20 percent of your time  
to do something that has nothing to do  
with work  
be it you go for a run or you attend a  
music concert  
or you know play music it doesn't matter  
what  
something that is not work you know  
the more pressure there is on you the  
more you need to do that because  
that's where new ideas come from so  
anyway  
uh so i think we need to move to the  
last segment which is my favorite  
thing is that i always love uh innocent  
nail it's been so amazing  
talking to you this is what gives me  
energy we have ether energy i have like  
people energy you know so  
uh this is what excites me is  
uh you know to see people like you  
do well so what in a very greedy way we  
have something called ink tree seed  
where we say that  
we don't want to lose touch with you  
right after this interview but can we do  
something together  
after this uh that can  
you know teach us both a little bit more  
about each other  
so uh one thing i've been thinking about  
as you were talking  
is that you know so much about  
sustainability and you have such a  
different take on it  
in terms of get the product right first  
think of the economics and then  
sustainability is a result etc  
so i just wanted to ask you do you think  
is it possible for us to  
create a session create something where

we can bring

very very different people say an economist and a behavioral scientist and a energy person and a product person you know together to say what is really the future of uh transportation or future of energy uh what do you think what are the what if what sort of things excite you where we can create something like that together

what an interesting idea i'm like i'm as as you're speaking it seemed quite uh quite uh interesting and relevant energy is a more the sustainability energy itself is a very interesting topic uh uh for us we speak about a lot

uh like when we are not building uh vehicles we are talking about uh about energy and how it is something which is

uh which is so relevant in in every single thing we do every single product you buy every single service you use your internet your like heating cooling everything everything like humanities is very very dependent on

on energy and it and the transition from a fossil fuel-based economy to a uh renewable-based economy is going to be very different

we only think about this transition as something which is important for climate but but it's going to have a very different

uh kind of take on on economy itself things which would seem like uh undoable earlier we could uh with it move to a renewable economy it will suddenly become very much relevant so i think there's a big uh big aspect to be to be discussed on how the entire world view will change when we move from a fossil fuel-based economy to a renewable energy-based economy yeah

we'll work together to see who are the people we need to bring together to have a really insightful conversation and do that together okay definitely really interesting thank you so much for your time i always say that the most expensive thing you can give someone is your time

and i think most valuable thing you can give is time and thank you so much for giving your time

and i love talking to you and i look forward to continuing your conversation um and i really want to thank our audience for taking the time to listen to this

and please feel free to comment and give us your ideas

and as we designed this session what do you think we should do

and thank you so much for your time uh swapnil and we look forward to having all of you join us again next week to continue the series

thank you

thank you stop now thank you

[Applause]

[Music]

you

<https://www.youtube.com/watch?v=kAqPoLDFjKs>

hey everyone and welcome back to the

raid of return podcast a 30-minute

podcast whose entire purpose is to equip

you with the tools and resources to

become the best financial version of

yourself

from investing in the stock market or

real estate to cleaning up your personal

finances putting you on track to become

a millionaire the rate of return podcast

exists to give you actual insights you

can work toward today

joining me are the co-founders of quant

based sam mohapatra and thomas stewart

as an echo scholar at the university of

virginia double majoring in economics

and computer science sam took a step

back from college to build a high risk

investing solution

while at virginia he became a portfolio

manager of the school's mcintyre

investment institute a long short equity

investment organization with 1 million

dollars in assets under management he's

also a fellow at contrary a venture

capital backed

by founders from tesla

airbnb and facebook he's accompanied by

thomas stewart a graduate of uba double

majoring in math and economics with a

stint at the coveted princeton

university studying algorithms thomas's

experience include being a software

engineer at apartments.com an ai

developer at abion a software engineer

researcher at uva's high energy physics

lab and he's already got us past startup

exit under his belt sam thomas i'm glad

i said everything right i'm glad i

didn't mispronounce any of these insane

just accolades and backgrounds that you

guys experiences right that you guys

have done thanks so much for joining us

yeah thank you for having us we try to

make it hard with the names

going crazy

totally so all right

there for a second sorry about that all

right so we'll cut all that part out

we'll reswitch boom

the world's first sec registered robo

advisor for high risk investing that's

that's insane right so would you all

like mind walking me through

how you got here and why you started

quant base like what is quant base give

me the play-by-play

yeah yeah so it's a it's a pretty

winding journey to get where we are now

of course where we are now is

we're an sec registered uh fully funded

vc backed

solution a robo advisor for high risk

investing so what we do is we offer



retail investors a minimum investment of  
fifty dollars in these automated  
portfolios covering everything from  
crypto leverage investing quantitative  
investing sentiment investing  
uh nfts fine art alternatives  
increasingly  
just to make it as simple as possible to  
get high returns with the expectation  
that you're going to have more  
volatility in the short run  
so we've already had a waitlist of about  
5 000 excited retail investors  
and we just recently launched actually  
in early february so working out the  
kinks bringing people on and just having  
a ton of fun congratulations and as as i  
remember like we were talking back in  
the day um it could be some maybe it was  
thomas but one of you we're posting to  
wall street bets talking about just like  
hey we have these ideas that i mean the  
stock market's cool and all but what  
about everything else that's out there  
to invest into right so sam you actually  
tweeted uh an image uh it's of the  
average investments of what investors  
need to uh you know  
the the investments people need to be  
making in order to earn seven percent  
annually and so back in 1991 you know it  
was a you know it was it was a lot of  
cash with a little bit of fixed income  
and you were making seven percent in  
2006 it was you know majority of fixed  
income and then a little bit of cash and  
u.s. stocks and and non-us equities but  
now in 2021 it's it's a lot more  
complicated right just to earn the same  
seven percent that you were earning in  
1991 you now have to have u.s. equities  
non-us equities real estate private  
equity so on and so forth you mentioned  
all these different things that quant  
base  
allows investors to invest toward um  
like like do you mind adding some more  
color on that do you see this trend  
continuing  
give me the play-by-play around your  
your thoughts on how you growth hacked  
and and sort of got some more  
information from people's sentiment on  
robin hood i'm sorry not robin hood uh  
wall street bets as well as how you're  
trying to paint this future picture of  
what quant base is and what it unlocks  
for investors  
yeah yeah so as far as like you know the  
the returns from the s p kind of  
decreasing over the long run compared to  
the last hundred years like  
uh and it being harder to get that  
passive return absolutely right and like  
here's the uh here's kind of the the  
mental framework that thomas and i kind  
of have that leads us down the the path  
of quant base  
so if you look at the returns for the s  
p which is really the uh the general u.s.  
stock market if you look at those  
returns since 1928 we've had about eight

percent annualized returns so like the constituent stocks of the s p have about 500 x uh in the last 100 years or so so if we take that kind of return uh profile and then forecast that to the next 100 years for this trend to even continue by half aka four percent annual returns the market cap of all s p stocks would have to hit over 50 trillion dollars that's pretty crazy uh you know we're not saying it'll happen or it won't but it's just a hard a really really hard number to fathom and you know adding to this over the past like 40 years or so there's been this kind of new paradigm that passive investing in the general stock market aka just vanguard etfs in the s p are the best way to accrue wealth right that's the idea that pretty much all robo advisors today are based on but it's not it's not something that's set in stone right there's nothing that says investing easily easily in the stock market is going to make you incredibly wealthy right for example look at a number of like uh stock markets outside of the us right my favorite one to look at is the nikkei which is japan's national index they are still 26 percent down from their all-time high back in 1989 so you know like investing in in your general stock market isn't always like the the path to success the path to wealth so institutions know this and that's kind of the the tweet that uh that you called out here earlier uh pretty much all endowments sovereign wealth funds uh and other large holders of capital they've diversified their investments across you know a large array of uh assets right bond stocks as well as like alternatives like uh like hedge funds private equity etc so what institutions know and what we're trying to really uh set in stone for for the rest of the world here is that in order for us for for the regular person to make you know crazy or like normal returns the returns that we've gotten used to in order to continue making them for the next 50 years we're going to have to take on higher risk than like your general stock market right and that might mean doing more active investing like picking the right stocks picking the right options you know dumping all your money in uh in dogecoin or shiba coin but if we want to get kind of the but you know that all takes skill that takes effort that takes time right if we want the same kind of passive investing the ease of investing in the s p but kind of the higher return that we've gotten used to it's time to start investing in

alternatives and you know one thing i want to mention here real quick is there's like a really really interesting opportunity here uh like because of like all these fintech and invest tech companies that are proliferating people like retail investors like us have more options than ever before we can invest into you know your your hedge fund uh portfolios and private equity portfolios like the one swamp base offers but we also have this opportunity to invest in kind of assets that even hedge funds and institutions don't have access to right uh

i'm talking about like uh asset classes like like creators and athletes i'm talking like fun strategies like wall street bets tracking and then also like certain movements in in d5 nfts etc that are just too small or too fast moving uh for institutions to really get in on and that's what we're most excited for here at pumpkins i love that and that that last point either right like you know we're going to get into questions about um you know there's stuff that that we're going to talk around with other hedge funds and their strategies but something you mentioned around is like you know it's too small or too fast moving for these hedge funds to jump in um and you say that knowing that i mean these hedge funds have tens of billions if not hundreds of billions of dollars if you drop 100 billion or even one billion into any of these smaller sort of asset classes that you alluded to some you know the prices go crazy and there's no more you know arbitrage or you know it's not undervalued anymore right um so you're saying that the quant base can easily you know kind of pivot and be agile enough to identify what those are and deploy a meaningful amount of capital toward it

100

love it i love it yeah it's like you know investors everything you're just talking about investors needing to take on more risk to achieve the same it's it's really frustrating kind of looking back you're just like dang man these boomers had it easy right all right so quant base you got i follow you on twitter um you guys have made some noise right you guys talking about your nancy pelosi tracker this invoice jim cramer index you guys are building walk me through how you derive this data how actively these indices are rebalanced like give me the whole story on i'm sure there's a lot to unpack here right walk me through it yeah for sure for sure so you know one of our first kind of guiding principles here is you know garbage in garbage app right so like if you put in just random data and try to and like put it together in a way that you get high returns like

that's not really going to help because  
random day like because uh you know uh  
there's  
not there right and so the the way we  
kind of think about this is we put  
probably like you know 80 of our time  
here into data cleaning gathering and  
pre-processing right so we know that we  
have  
uh is accurate all right so i'll kind of  
talk through our pelosi portfolio first  
because that's really where we uh  
started off our uh  
our our twitter kind of uh stint here we  
had a number of uh tweets go viral and a  
lot of the engagement on quant faces  
come from people just coming to check  
out this funny pelosi portfolio and then  
being like you know oh these guys  
know what they're talking about they're  
like they're smart they  
they have the the data to back it up  
uh and all that so you know most people  
might not know this but the data for  
like pelosi and all your other uh  
congressional representatives and  
senators it's out there so we get all of  
our info from publicly uh disclosed  
reports from the uh house's uh financial  
disclosure for uh disclosure forms uh  
and then from there uh for pelosi at  
least what we did was we took all the  
aggregated data we sifted out uh the  
disclosures related to pelosi and then  
we got to work right so the way the data  
is disclosed we're not told exactly the  
uh  
the amount that pelosi is invested  
and like the exact dates but rather we  
get you know a range of a lot of things  
and so that's really where our intuition  
and the  
other data that we've gathered comes  
into play so  
pretty much we take an educated guess  
and it's guided by a number of factors  
uh you know i won't get into all of them  
but the top three that we take into  
account are the tightness of the range  
right so like uh  
we see that this person's invested  
like uh a million to five million in  
facebook and then a much tighter range  
in in microsoft for example right so we  
have more  
kind of uh conviction in a certain kind  
of play  
so that tightness of the range is part  
of the is one of the factors we look at  
then you know pelosi's current exposure  
to the stock uh before the purchase or  
the sale and then the amount of trading  
she's done around the time of that  
purchase of the sale  
uh there's a few other things that go  
into this for example there's a there's  
a 45-day buffer period between when uh  
representatives make an investment and  
when they are required to disclose it so  
you know it may be the case that pelosi  
or some other representatives have made  
an investment in the past 45 days that  
hasn't been uh tracked or even sold by

an investment right  
exactly exactly made investments sold or  
you know added to investment  
kramer is actually really fun  
yeah what have you kind of heard about  
the the kramer portfolio you the owners  
are like uh you know elsewhere on  
twitter yeah i mean to be quite honest  
with you i i just i i saw obviously what  
you guys sent me but obviously you know  
there's so many accounts on twitter that  
are saying are just showing right it's  
like this is a stock that jim cramer has  
said bye bye and it's like let's all  
sell it or let's short it right and see  
what happens you make more shorting it  
than if you bought it so it's like  
everything this guy says just do the  
opposite you'll make money  
right right i mean yeah the way we kind  
of think about it is like if this guy is  
like  
so good at making the wrong pick then  
he's probably one of the best managers  
in the world right because like if  
you're so consistently like  
like i read a book a couple uh you know  
months ago that kind of uh followed some  
of the best hedge funds in the world  
right the ones that are super super  
famous for making a lot of money  
like like renaissance etc and these  
companies  
they they get their bread on making 53  
of their predictions being actually  
accurate right and that's that's such a  
you know tiny margin that it's that it's  
funny that like you know being wrong  
consistently like 70 of the time is  
actually really good um  
yeah so with that in mind what we first  
set out to do was you know we're  
fiduciaries we have to be responsible  
about like the the investment advice  
that we go out and like the portfolios  
that we make  
so instead of just being able to harp on  
like the the wrong predictions that like  
you know kramer might make like the ones  
that all those twitter accounts out  
there like like harp on right like  
coinbase robin hood etc what we did was  
we took pretty much uh a report of all  
23 000 picks that kramer has made since  
i think 2016.  
right so that's like his his mad money  
segment he's got like actually 10 or 11  
different  
[Laughter]  
yeah  
it's crazy uh just how many like uh like  
picks uh this guy has out there and you  
know the from those 23 we obviously  
called uh a bunch out of there uh one of  
the things we did was we got rid of all  
the lightning round picks and so that  
like uh pushed the number down from  
twenty three thousand down to like eight  
thousand  
uh but pretty much that data we ranked  
from uh from one to five based on like  
how positively or highly negative uh you

know positively or negatively uh he was talking about that stock uh and what we did was we first did like a few naive tests right if we took all of his like you know one rated uh portfolio one rated stocks and invested in all of them how would his like how would the inverse kramer portfolio turn out we did that with the twos threes the fours and the fives right and what we kind of found was like the the twos right the ones that cramer was like pretty negative on uh not like a sell this now but like uh you should sell this right so we took those stocks and we found that those like inverting him with the the two out of fives actually beat the market beat the s p from i think 2016 for 2020. wow i think if you look at the data now it's this is actually all this information uh is on our blog post up on our site at uh get quantbase.com uh all those are listening right now are watching this so make sure to include that in the show notes just scroll down whatever app you're on and click the link yeah yeah exactly uh appreciate that but you know it was a it was a lot of fun to make it and then we sent out the blog post got a lot of engagement with it um one of the i think coolest insights here was you know you take your normal kramer portfolio or your normal your normal inverse kramer portfolio whatever that means and then you add some kind of quant measures to it right like you risk adjusted aka you look at kind of the past quarter of data uh and then sell out of the most volatile stocks buy into like buy more into the least volatile stocks you do all these kind of like you know active portfolio management kinds of measures and that actually made the portfolio like actually good from a financial perspective so that was pretty uh pretty freaking interesting i love that so it sounds to me like you guys kind of weeded out the lightning round picks you've got these 8 000 stocks from 2016 to 2020 you then rank them on how well they performed since then if fives i'm assuming the best the one was the worst and you took all the twos not the worst worst but certainly not not even like break evens you took the twos you flipped them you risk adjusted them and you made an index and that index has outperformed the market substantially it did for for a few years i think now it's just kind of in line with the market but it's still really interesting how like it's performed against the s p it's uh you know for for all intents and purposes it's a pretty good portfolio that's so cool i'm just that's wow i can't wait to keep talking about this

stuff

we're gonna nerd out on this before we  
get into that it's our halftime show  
right mailbox money uh this is where i  
take questions from everyone on my sub  
stack i've got about 6 000 people  
hanging out with me over there and they  
all have questions for you and all these  
all these guests that i that i host so i  
have three questions i got some uh we  
have alexa harrison and simran  
alexa from connecticut

what's the hardest part about doing a  
startup in a crowded industry i want to  
commit to my idea in women's fashion but  
i'm too scared to leave school and fail  
at it

okay okay uh i mean for that alexa i  
would say  
uh you know startups are all about  
uncertainty really like the whole thing  
you're not gonna know like uh especially  
your first idea is gonna be it's  
probably gonna be wrong  
uh and you're gonna find that out pretty  
fast

uh but i would say  
you know there's a lot you can do to  
really de-risk a startup even when  
you're still in school uh you know som  
didn't drop out  
uh until

months into quant base until we already  
had thousands on the waitlist so we had  
like a fully functional product  
uh he was still in school still going to  
class um i quit my job until a lot of  
the same so you can you can do a lot  
from just talking to people talking to  
potential customers learning about your  
problem your market  
and then

ideally you know getting some sales you  
know if that's the kind of thing you can  
do and

eventually you get to a point where you  
have enough validation where and some  
and i kind of talked about this is it's  
like the more risky option is not doing  
it the more risk adoption becomes  
staying in school because you realize  
that you have an opportunity here and  
you really just got to take it  
yeah yeah and also i don't know if you  
remember a conversation like before i  
made the decision to drop out i talked  
to you and some other folks like hey is  
this a good idea like should i be doing  
this uh

and you know all the the factors pointed  
to yes exactly what thomas was saying  
another thing i want to add is like if  
you're in a crowded industry like the  
way you might want to be thinking about  
your kind of positioning alexa is  
make sure you are focusing on like a  
niche in the industry right so  
we knew what we had with quant base was  
really really special when we realized  
that the niche that we were targeting in  
this like huge multi-trillion dollar  
like just financial space was just the

folks that want to get access to high risk right and what made us like gave us a bunch of conviction was that there's really nothing out there that's doing what we're doing

and uh there's really nobody else that's better suited than us to give this to them

i love that and i know you're not asking me alexa but i'll add my little thing here too i totally agree with thomas right it's it's like do as much as you can

from both angles do do school as well as you can keep building your startup as well as you can and then like for me when i when it was you know make that jump to be a tick-tocker it's like i had that foundation like what you guys were talking about especially thomas right like we had these people on the wait list we had these people figured out right had that foundation then they made the leap next question is from harrison out of milwaukee

traditional financial advisors charge one percent fee 81 fee on all assets under management what are quant basis fees

yeah so at the moment we're just a simple 94 basis point uh just fee on assets under management that's of course right below the industry average but also uh of course like we're talking about this is high risk investing so the kind of strategies we're offering you are

you know one of our best ones that i in fact just moved a lot of money in on friday uh is like 30 returns of the last decade versus traditional robo advisors uh obviously are a lot closer to seven and ten percent

um and that that same strategy has has done well with data going back over nearly 100 years at this point

so

and yeah we're experimenting with a little bit more of like uh these per strategy so you're sort of you know if you have a one percent fee it's going to be on a strategy that's doing 20 for the year so it's it's very worth it for you

got it so what i'm hearing is despite the industry average being one percent and you guys being close to the industry average just you know still lower but close to it you guys are returning three times four times as much

100

100

yeah in fact uh uh our cto who unfortunately he couldn't be here today um was just he was doing some some uh some research the other day just on high risk investing generally you know looking at our strategies here and he came up with this cool number that if you just put ten percent of your investment capital and high risk



strategies uh just ten percent you know  
worst case scenario you lose it all it  
goes to zero ten percent gone uh  
average case scenario looking at our  
strategies you can retire with twice the  
retirement money you can retire ten  
years earlier you know potentially of  
course you know all investments come  
with with risk and totally  
the idea is long-term upside short-term  
volatility  
but you pay that short-term volatility  
to get significant long-term upside  
i love it and and just for y'all that  
are thinking like what are these guys  
talking about don't worry i got my  
research ready we're going to jive like  
right after we finish up our mailbox  
plan we're getting into it all right  
last question here is from simran from  
santa barbara i want to invest into  
riskier assets but i don't know what to  
pick is it crypto is it real estate  
leverage funds does quantbase offer any  
education around each of these  
strategies so i can learn more before i  
choose  
yeah i mean it would really depend on uh  
your background your investment goals  
your sort of experience with all these  
strategies you know a lot of people we  
spoke to uh who are now users of quant  
base um start out they have like an  
interest they've heard about crypto  
maybe they hold some crypto uh you know  
they're interested in getting high  
returns they want nfts and such like  
that  
but they don't quite get it and how to  
use it how to make most effective use of  
it and that's exactly what we're trying  
to do with quants is we want to make the  
data the understanding the asset the  
strategy as digestible as possible so  
you can come on the site and learn about  
the strategy you can be confident that  
this is for you it's right it's smart  
it's you know you have ton of data to  
look at  
and then you can be confident what  
you're doing here is gonna be great for  
your long-term portfolio whether it's in  
crypto or fine art nfts  
and you just click a button and have it  
run passively  
to do this we kind of have uh we ask you  
a bunch of questions about your goals  
your investment interests you know what  
you're trying to do with this capital um  
and then make some recommendation  
recommendations for you making it really  
easy  
so i love it i love it it sounds like  
you i mean we're on the same team here  
right we're all just trying to retire  
wealthier  
so let's get into this data this nitty  
gritty stuff right you guys have a  
medium account which is a blog and um  
you guys wrote a lot about jordan  
brooks's  
um 50-page paper this was a incredibly

insightful summary i i didn't read it  
until i was doing research for this um  
podcast interview essentially you  
explained how a quant fund was able to  
realize 13 gains compounded annually  
over a 46 year time span including times  
of war inflation and three bear markets  
compare this to the eight point six  
percent returns the s p 500 uh  
experienced during the same time period  
so like to put numbers around this  
people who are like okay 13 to you know  
eight and a half what does that really  
mean  
if we invested ten thousand dollars into  
each strategy right ten thousand into  
one ten thousand to the other thirteen  
eight point six the quant fund with  
thirteen percent with would have turned  
this initial ten thousand dollar  
investment over a 46-year time period  
into 2.76 million dollars  
the s p 500 would have only turned it  
into 445 000 a difference of 2.3 million  
dollars holy right that's crazy so  
at the end of the summer that you  
mentioned that you're building an  
algorithm to track the strategy what's  
the progress how do people get involved  
and where like let me put my money in  
this stuff man this is crazy  
yeah yeah uh thanks for mentioning that  
paper actually that's really uh  
like quant papers like that you know  
these like super academic papers that  
have these crazy cool strategies but you  
know nobody's offering them for retail  
investors that's really what what uh  
what started quants right like thomas  
and i are both kind of nerds on this  
kind of stuff and  
you know before quampface we just read  
these papers and just kind of dreamed  
about them right uh and then you know we  
realized hey we can actually build these  
out these are rules based these are you  
know factor-based we can just do it and  
so we did um yeah so over the past  
couple of months we've been building out  
like the actual infrastructure for quant  
base offering these portfolios getting  
you know getting legal  
um  
is this portfolio itself like offered  
like what's the name of this for people  
that want to visit your website  
yeah this one uh i think uh is  
the bear market buffer fund uh there's a  
number of quant funds that we have uh on  
the site uh or this one might be the the  
global macro buffer fund uh so kind of  
over the next two months we're beefing  
up the the number of funds that we're  
offering right so  
the way we're thinking about this is  
really three uh  
three sets of portfolios we've got kind  
of the fun ones that we're offering the  
kramer strat or wall street bets  
sentiment tracker then we've got some  
you know really cool industry-leading  
crypto portfolios like and i actually do  
mean industry leading here right we've

got our vanilla crypto portfolios that  
like crypto 10 crypto 30 crypto 50 that  
are going to be offering you know market  
exposure to the top 10 30 and 50  
cryptocurrencies and then some really  
really cool ones like a like a defy  
index and nft index  
nice like investment across like all  
these like different chains right like a  
bunch of my friends for example are in  
the solana ecosystem so i talk with them  
all the time and like you know really  
we have an idea of like what the you  
know what the coolest people in crypto  
are doing and  
uh you know making that stuff investable  
and then finally we're going back to our  
roots with these quant strats right uh  
we're really really pumped about this  
agr one and then as i mentioned the the  
bear market one and like a hedge fund  
follower one uh i think uh kind of next  
on our roadmap is a double index  
leveraged in and out so what that is is  
probably  
you lost me double what  
what is something called  
yeah so the the the portfolio that  
thomas mentioned that he has like you  
know most of his net worth in that jumps  
into like one like it jumps into like  
the triple leverage version of the s p  
right and it jumps in and out of it  
based on the market what we're building  
out now is one that jumps into the s p  
triple leveraged and then in like bad  
times it'll jump into like another  
triple leverage like bond portfolio  
right so like you got double indexes an  
s p index and a bond index and they're  
both leveraged is this legal like what  
what the hell y'all building this is  
crazy  
i love it dude um well no okay that gets  
us into our next question right it's  
like who should be using quant base like  
you know thomas you're like you've got  
your net worth into it i mean as you get  
as as a lot of people on subsequently  
i've got a lot of money in stocks but i  
also have a lot of money in  
cryptocurrency and a lot of money i'm  
just in equity in my home i have a lot  
of money in fundrise and like all these  
different things i'm doing  
like you know who should be using quant  
base what does that investing journey  
need to look like for them what's their  
risk tolerance what strategy should they  
be using like as a percent of their  
total in is it you mentioned 10 is it 20  
is it fit like what's going on here and  
and i mean really speak to the people  
listening right now as to like  
if you are this  
go to our website if you are not this  
please steer clearly like give me like  
the black and white who should and who  
should not  
yeah yeah so we've seen a broad range  
of people uh that we've spoken to we've  
spoken over 1200 retail investors um to

sort of figure out where they are with high-risk investing and their investing behavior generally and we find it's it's pretty broad around the eighth the ages so it's pretty evenly split between the 20s the 30s the 40s and the 50s really drops off the 60s i think for sure if you're in your 60s you should probably not do any high-risk investing um but probably

yeah right right

for the uh the vast majority of people um

i'd say it's anywhere from 10 to maybe as much as 50 percent of your portfolio

the the bigger idea here is that you probably shouldn't have all your money in high-risk assets but

uh what quantbase is doing is making the sort of the 50 trillion dollars of assets that you know vanguard fidelity schwab betterment wealthfront don't really recognize

uh you know nfts fine art cryptocurrency leverage investing quantitative investing all these strategies that are very high return and very volatile uh combined with your your lower risk your vanguard your schwab and so on make a a more optimal portfolio in total so you benefit a lot from having a portion of your money in high risk investing because it makes your whole portfolio so much better right

we'd say

you can definitely learn more on the site we do a lot of screening you know asking about your experience your skill level your goals

to make sure you're getting the right allocation for you

um but overall we say the people we've seen the most interested in plot based definitely have a slightly higher risk tolerance tolerance um and they tend to be upwardly mobile they're people who are focused on their future uh trying to get to the next step trying to you know retire sooner trying to retire more

large you know people who you know want to keep moving up in life and finding the next best thing and and quant base is a way they can just turn things off on their investing side where they can get this high risk you know asset exposure these high return strategies uh in a way they don't really have to think about yeah

got it got it yeah i mean you mentioned um these other advisors like quant base is not a betterment or wealthfront type robo advisor like you're like you that are that are making sure people are well diversified like you guys are doing a high risk hedge fund in your pocket type strategy that's unlocking um algorithmic investment strategies historically only offered to these ultra high net worth individuals right i mean you mentioned these hedge funds with tens of billions and hundreds of billions of dollars in your blog post

with this uh 50 page paper i mean it's  
it's it's wild right and so that that  
reminds me right it's like titan because  
you guys heard of titan they're a hedge  
fund for the people as well they just  
raised hundreds of millions of dollars  
um but i don't see them offering these  
types of strategies is quantities like  
trailblazing a completely separate lane  
and this like robo advisor type uh  
industry  
hell yeah so like you know titan is  
really really cool i love it  
titan's cool you know folks should  
really check them out if they haven't  
heard of them uh they're essentially as  
you said like hedge fund manager for the  
people right but quant bases model here  
is totally different we offer people  
automated strategies with transparent  
rules right like you don't have to trust  
us in the same way  
you might have to trust titan or like  
your your like  
or some hedge fund or some private  
equity  
uh what we're offering here is exposure  
to strategies and asset classes and  
maybe even some community tracking like  
wall street bets and that's that kind of  
stuff you can't really easily get  
anywhere else  
yeah i'd say in many ways uh you know  
titan is actively managed and um to  
be frank both tom and i think actively  
manage funds are kind of  
go in the way of the dodo so to speak  
people want  
they people want the data they they want  
to know what the fund is doing they want  
to know how it performs in different  
markets with our funds we can show data  
going back decades showing you in  
different bear markets and different  
market situations we've had  
clients reach out to us about the rate  
hikes um going on today with the fed  
uh how are these funds going to perform  
those rate hikes you know the most  
tightening you can really say is like  
you know we're monitoring it uh we're  
gonna work hard and you know do our best  
but we can point to you know decades of  
data saying like oh yeah the rate hikes  
in 2016 and 2006 you can see what  
happened with the funds they were flat  
it remained fine uh some  
nosedive some did really well  
and you can sort of make those  
assessments yourself and and with our  
sort of technology giving you a lot of  
that data and helping you with that yeah  
it's a very different yeah like you can  
you can point out the data and then also  
just like  
like point at the rules right like you  
can say hey this is exactly how this  
algorithm is going to perform  
like if this happens  
yeah that is so cool i am i'm just so  
jazzed i'm so excited to just like  
explore the life of quant based and all

the cool things you guys are offering  
it's insane like seriously it's wild  
and i i encourage everyone to who's  
listing this podcast right now who is  
cool with having you know like you said  
10  
or so of their invested assets if that's  
thousands or tens of thousands probably  
not hundreds of thousands i don't think  
any millionaires or maybe there are some  
millionaires listening who knows maybe  
there's a lot of millionaires listening  
that'd be cool but um anyone who's like  
you know that that says you know what i  
want to give this a try like like check  
them out i mean some and thomas here are  
very smart guys please at least you know  
read the um you know the blog post that  
i'll link out in the show notes below um  
both on the the inverse jim cramer index  
which is just awesome uh as well as this  
summary of this 50 page paper from i  
think his name was was it jordan brooks  
um yeah yeah jordan brooks so yeah  
definitely check them out guys if you're  
listening and finally now  
my sign off question  
is a question i ask everyone that comes  
on board it's my podcast and it's uh  
it's it's it's fun to get people's  
different perspectives so i want to get  
yours guys right so  
looking back in 12 months from now when  
people are like oh my gosh  
12 months ago this one thing was  
happening  
this this trend this this just  
whatever's one thing was happening what  
is that one thing that they'll be  
talking about that's happening right now  
that no one's paying attention to  
so  
obvious that obvious one thing no one's  
paying attention to you right now that's  
an awesome trend what what what are  
people going to be thinking about 12  
months from now when they look back on  
it  
yeah so yeah thomas and i have discussed  
this kind of that length right and uh  
the idea that we that we really think is  
incredibly exciting is just like  
being deliberate about like setting  
aside a certain part of your portfolio  
for that high risk high return kind of  
mantra right  
i think thomas you mentioned this a  
couple of minutes ago uh  
10 of your portfolio the worst case is  
it goes to zero  
the the kind of average to best case is  
you know you retire 15 years early right  
driven by that 10  
and i think a lot of people are like  
doing this right now but you know  
they're investing a little bit of money  
into crypto they're investing some money  
into  
uh  
maybe you know leveraged stocks or  
places like titan but b i think uh what  
we're going to see in 12 months is  
people are really going to be thinking

about okay here's 10 percent of my  
investable capital  
and like i'm going to be really really  
like i wish i had been started being  
more deliberate about like here's where  
this risky money goes like a lot earlier  
yeah 100  
okay i love it i love it um any anything  
before we sign off where where can they  
find quant base anything you guys want  
to say to the people  
yeah i mean we're uh well som in  
particular is very active on twitter and  
he runs out  
is our handle there but otherwise uh get  
quantbase.com that's where we run things  
uh take a look check it out we have a  
ton of data on all these different  
portfolios so even if you're just  
interested in looking at the data you  
know come check it out  
it's very exciting yeah like the the  
best way to get involved really is to  
sign up for quantum based today let us  
know what kinds of funds you want so we  
can prioritize here  
and you know we're giving the next three  
months free to all folks who sign up  
through rate of return and invest a  
thousand dollars so  
you know please check it out let us know  
what you think i love it very cool  
thanks everyone

<https://www.youtube.com/watch?v=dEic2ApndY>

we are live and recording okay  
So Daniel  
I'm just gonna get started by giving a  
little bit of context to anyone who's  
watching from the community  
uh I got started in in the tow Community  
because of you  
when I first entered uh you were the  
first one to make contact and you talked  
and you encouraged me to do the the pace  
one contest  
so since then  
um yeah i feel like i've been making  
good friends and contacts and  
interviewing really interesting people  
from the toe Discord and um  
you know it's always kind of awkward to  
do these like uh interviews with someone  
you already know quite well  
so you know i'm going to ask you some  
questions i already know the answers to  
but it's because i want other people to  
know a little bit more about you where  
you're from who you are and like what  
you believe in and everything  
so of course  
um i'm gonna mute myself a lot just  
because i'm in a cafe and it's kind of  
loud so i thought if my sound cuts off  
because i didn't unmute just let me know  
um  
so  
you know basically insofar as theories  
of everything goes  
um there aren't too many that actually

attempt to look into everything like  
literally  
you know like You observe a pattern  
through every level  
um and uh that that is a little bit  
unique and I I think you saw that I did  
an interview with um Tyler Goldstein who  
has also a very similar  
uh theory is yours and so he's always  
looking for the same pattern in multiple  
ways  
um can you can you just start by  
you know doing a general overview of  
what your theory is about but then I'm  
going to ask you about who you are and  
how  
how you uh it led to that  
yes uh all right so  
so basically  
um my theory background is really rooted  
in in scientific knowledge that's  
important  
and uh  
in the unicellular multicellular  
transition actually could be as an  
example of a scientific  
knowledge but after that it is going  
into the directions uh probably no one  
didn't make it so basically what I am  
talking about here with the jumping  
continuity Towery is uh  
we are as a multicellular organism  
haven't been here in the Earth in 2  
billion years ago  
two billion years ago there was only  
to our knowledge only unicellular  
organisms  
and in its in this two billion time  
frame  
the unicellular became multicellular  
so  
we started from let's say they're a  
single  
unicellular organism and now we have  
around 50 or 37 trillion cells in our  
body  
and uh in in this time frame this is the  
number that we just get  
um and  
but I'm claiming is uh  
what we see currently in the city  
developments  
uh that should be similar but the  
unicellular time  
then the unicellular existed  
they started to cooperate they should  
have started to generally make these  
connections and the the similarities  
is uh what we can learn from and  
probably the mahonics and the system is  
the same on these two level at least  
so  
what I'm claiming after that  
is uh  
if we if we look back more in time  
the atomic and unicellular transition  
should be similar to this  
this transition that we have here and  
had in the unicellular multicellular  
level  
what is important is uh  
the the



for the unicellular organism a  
multicellular is so big you cannot  
really imagine the it's um and we are  
three dimensional in those those cases  
unicellular would be one dimensional or  
two dimensional in this regard  
but we experience in City level  
those systems also two-dimensional what  
I claim is uh they probably will be also  
three-dimensional in the future  
and that means uh  
that system will be also that big for us  
as we how big we are to the unicellulars  
that means  
for for a city in the future I claim it  
should be around 10 kilometer in  
diameter or so so you can imagine like  
like a Mount Everest big button with  
this system together so and what is  
sorry I'm talking too much but what is  
still important in this regard is I  
claim  
um The Observer is  
uh observing this phenomenon  
what we call universe  
and recently I just stumbled up on this  
description we are making a map about  
the territory  
and the territory is  
could be endless or infinite or  
and but the map is what the Observer  
doing  
and that's important and  
that's in the current Observer State  
there is a map that is has limits and  
um  
but the this is this whole uh  
imagined phenomenon  
is  
I now my my assumption is infinite in  
the future and infinite in the past  
okay so  
this theory is so comprehensive that I  
understand the difficulty you have in  
trying to explore or explain you know  
in a way to explain it in a way that it  
resumes everything so that someone could  
get a bird's eye view of exactly what it  
is you're talking about because right  
now it's  
it's trying to almost zoom in  
on the theory and at the same time zoom  
out it's like uh you're trying to  
explain the whole Theory by going in  
detail but the problem is the detail if  
you go into detail you have to explain a  
whole sequence of events so that someone  
can get the bigger picture but this  
takes longer and then in the end it's  
very hard to contextualize this type of  
theory  
so I kind of wanted to  
explore yours in conjunction with  
Tyler's because Tyler does give a world  
like a really big view but we don't go  
into the nitty-gritty details although  
we could with him but your your start  
you're still going into some details  
that are a bit different than his and I  
I am curious about  
the differences between the two of your  
theories  
but for the moments uh I wanted to ask

two things one you use the words like  
harmonics or something like that  
earlier I should have stopped you anyway  
there was a word I wanted to know what  
that meant in any case the second thing  
I wanted to ask you is this development  
into like a three-dimensional structure  
for the next level so human beings come  
together if cities are the next level  
um have you considered that maybe the  
next Dimension isn't necessarily uh  
the third dimension and that maybe the  
internet is itself the next Dimension so  
it's more virtual  
yeah so so but I so so first of all  
that's that's important this is this is  
a theory this is uh this is working  
progress the second is  
um  
I have big assumption assumptions so I I  
have assumptions what I'm working with  
and one of the Assumption is uh  
I start from the The Human Experience  
and uh  
because because in the future and we  
lose accuracy and certainty  
to what we know  
so what what I have to do is I I try to  
use the human unicellular relationship  
as the base Baseline and this is why I  
I use this project this to your future  
because  
in if it's if it's right it's already  
happened at least three times  
and it's happening at the fourth time  
now as the cities or actually I can say  
they're on and colonies is going towards  
this this  
this space so so the the so so can I  
stop you there so just to reiterate it  
seems to me like what you're saying is  
because the assumption is that the  
pattern that you've been seeing has been  
occurring across physical dimensions  
that it will continue into the future  
um  
which means that that this this uh  
collection of from you know unicellular  
to multicellular to you know human  
beings uh which is multi-organ I guess  
to cities and so on uh to see Tyler he  
stops at the family units I believe he  
calls that the final cast or maybe no  
the next one after that is technology  
but he thinks it you know it seems like  
you are go in between the family units  
and Technology you go to the city okay  
which is the next logical step after a  
family  
um so uh it's interesting that you do  
that so does that mean that then that  
even if you are wrong about the  
underlying assumption  
that this pattern repeats itself in a  
physical way  
that the pattern itself still holds and  
that your theory would be corrected so  
far as there is another level or a  
collection coming together beyond the  
human being although maybe not not being  
cities it might be multi-planetary or  
something like that

yeah that's that's a little bit more uh  
interesting question because if that  
doesn't hold  
to the Future  
I cannot assume its holds to the past as  
well so in that case my theory it needs  
to be changed a little bit more than  
than usually anticipated  
so so because uh  
so okay let's maybe let's talk about  
this uh the  
the technology for Tyler and the city  
for me it's a little bit different in  
this case I don't use families as uh as  
as this uh next level of organization  
because the  
oh all right because the  
the cities is formed as a as a physical  
physical organism together  
because we have the connections and you  
can think about the the cells as well  
families and houses  
so so  
um in this case it's  
always the you know always you have a  
unicellular and that's a multicellular  
so in in our case the the city is the  
multicellular and the ingredients or  
that could be  
humans and  
and the houses  
you know that's that's so deep in the  
details so so but basically that's the  
that's the idea  
and okay so sorry so I think I  
understand I just want to clarify  
because I I want us to zoom out right  
away now because it's starting to become  
apparent a little bit now it's a bit  
more clear but it seems to me like what  
you're saying is that  
you've chosen  
to go based on  
uh Dimensions because that's what you're  
observing in a literal fashion like  
unicellular is just one cell  
multicellular is is that replication of  
the last physical Dimension coming to  
coming together to to form another  
physical Dimension so it's  
you know if it's the family units well  
the family units might be too small or  
uh insignificant insofar as being  
something that you can Define as a  
dimension like a family Unit A group of  
people isn't enough to say that that is  
a new dimension maybe and it seems like  
you know if if a city  
itself acts a lot more like a an  
organism that is let's just say more  
than multicellular because like you said  
if it if it if this pattern continues  
into the future then it would have to be  
something that we can't imagine in a way  
it'd have to be a different dimension  
because from we understand unicellular  
and multicellular right multicellular is  
just a replication of unicellular so the  
third level Beyond us is something we  
maybe aren't able to conceptualize but  
maybe we know the ingredients and you're  
saying that the better best ingredients  
uh would be cities because cities behave

more like a like a multicellular thing  
is that right or wrong it's the city is  
not the ingredient so so let's let's uh  
talk about this so  
here is the unicellular and here is the  
multicellular we have one and we have  
let's say 50 trillion  
unit  
and what  
what I'm doing here I I decrease this  
multicellular to to the unicellular  
level  
so now this the multicellular is the uni  
in this case because a human is a uni in  
this level and  
a city  
is became the multicellular so this  
became the you the city so the  
ingredients first the first level  
ingredients is the human and until we  
get 50 billion trillion people into this  
system  
then I claim that will when we get the  
10 kilometer uh diameter and this this  
pattern goes back and forth so in the  
okay okay so that makes sense so I'm  
gonna reiterate it one more time to make  
it even more simple  
so is it are you saying that because the  
human being itself  
is is itself the ingredients that it  
would require a certain amount of human  
beings that would satisfy this pattern  
and the in a certain number of human  
beings and and what is the vehicle that  
human beings are shaping cities they're  
not shaping families the collection of  
human beings the individual uh you have  
to take the individual as a human being  
not the family units because the family  
unit we already see that we see that as  
a level and it's not really  
corresponding with this pattern or the  
number that you're talking about that  
you're finding everywhere that makes  
sense yes  
okay great okay so now let's zoom out  
because this is where I think  
um there might be some difficulty in  
understanding your theory when you're  
describing it in in the Discord chat and  
when people uh you know because you are  
zoomed in on this number and dealing  
with with it in many different levels  
different ways so that it becomes hard  
to understand  
like what it is as a theory of  
everything because  
you know this pattern  
it seems to me that it's  
it's about making predictions  
and if you can make a prediction about  
how the future is going to develop in a  
very real physical manner or it could be  
in a matter of regarding events but  
things that are happening then maybe we  
can harness some utility or you know  
uh  
practice uh develop new practices new  
new things new technologies I don't know  
who knows what's going to be useful but  
that's a question for you later on the

point is I want to know what kind of  
theory of everything you have  
and  
and I want to know do you believe that  
if you see the pattern between how  
things emerge in this universe  
that that satisfy satisfies you you know  
the criteria of what a theory of  
everything is because if there's a  
pattern that links everything together  
then then you could say that that was  
that is what everything is it is this  
number or this pattern are you in a way  
in a word or in a phrase  
are you a reductionist do you believe in  
reducing everything to one idea or  
equation or number  
yeah yeah interesting it's uh  
uh the recent development in science  
there was a reductionist view in the  
last 120 years and now we are getting  
out of it the complexity science the  
system science  
and the more  
the worldview is getting out of  
reductionist only  
um  
um so what what I do is  
you have this pattern  
but uh  
for example if someone  
30 years ago found out this pattern  
without the knowledge  
what is going on here  
then they probably don't understand  
so in one one point you need to have  
this  
understanding of the theory and the but  
the mechanics and the other hand you can  
have the description the mathematics or  
something like that you can have that's  
the word sorry that's the word you said  
what is that  
the muhammads or harmonics  
okay what is that what is  
like how it works like the mechanica  
the mechanic the mechanics  
ah okay the mechanics okay I just want  
to know okay so the mechanics of it  
yeah sorry  
yeah so you can have the understanding  
and that is cool without the mathematics  
but so I think that's the that's the way  
I I went to the general understanding  
first  
and now I start to realize the real  
mathematical and pattern recognition so  
I had first the main idea and then later  
on found what is the correlation you  
need to be really careful because you  
can cherry Peak really easily  
so I still try to  
improve myself on  
all right that's correct or not really  
correct but but just some thoughts about  
the terrorists of everything so so this  
is still we are  
we have to be careful and precise here  
the  
Theory of Everything is still always in  
our current uh  
information and understanding  
so for example 400 years ago this

understanding was smaller 100 years ago  
this this was a little bit bigger and  
what I see at the moment the next  
paradigm shift is is going out it's it's  
makes this  
you know trying to find where it is and  
then start to form with the  
bigger bubble and that's actually what  
is imagined or all over the place in all  
every scientific  
field in the last 20 years you saw lots  
of breakthroughs and this is going that  
their Direction  
okay so to go back on my question  
because I do want to hold your feet to  
the fire here I asked you if you believe  
that your theory is a is a reductionist  
theory meaning that you can reduce it to  
one thing what you explained to me was  
that there's the possibility of  
understanding the mechanics of a theory  
without the mathematics and that right  
there in a way is a reduction but at the  
same time you said that there's a  
complexity that emerges continuously  
over time therefore although you are  
reducing it to a pattern  
this pattern emerges or changes over  
time or it changes everything about the  
world that we know over time therefore  
it is both a let's say reductionist and  
an expansionist  
Theory at the same time is this correct  
a Samba yes yeah it's  
it's uh so what is what is important I  
already know  
uh and actually in my tower it should  
predict  
in the in the next 30 Years it will be  
changed  
so so actually if I'm right it will be  
right it will be known in the next 50  
years  
so  
so that's that's actually a kind of  
powerful because uh okay sorry  
yeah well so when you say it will be  
known this new paradigm shift are you  
saying like for example we can look back  
30 years ago from now and say the  
internet that was a new paradigm shift  
in communication and so are you saying  
that the same kind of thing is going to  
happen  
it's it's a little bit more so you have  
to go back to 100 years and then 300  
years so the 100 years physical  
understanding of the world that was  
because because really what we  
we deal with is that the understanding  
of the world so  
in Newton time people say natural  
philosophy so they started with that  
idea and uh  
and and 300 years ago that was the the  
Newtonian mechanics 100 years ago that  
was  
quantum mechanics and relativistic views  
and now it's uh  
yeah I you know I I really need to be  
careful I and really need to be humble  
because

because that's that's powerful things  
and I I cannot tell everything it's just  
I have to be more humble than  
than uh normally I I would speak  
so  
but but before  
yeah so so  
I was just trying to get a specific  
answer out of you as to how you view  
this next Paradigm Shift not necessarily  
in terms of what it is so I don't  
necessarily want you to explain what it  
is going to be but whether you believe  
that perhaps I could put it this way do  
you believe that we will understand it  
as clearly as we understand the meaning  
of the internet today  
like we understand now what it is that  
the internet does and how it's useful  
and and just how profound its  
implications are but do you believe that  
this paradigm shift will be something  
that each individual human being will be  
aware of and will understand or do you  
believe that perhaps it'll be so  
drastically different and that we will  
be a part of it in a way that we want to  
actually understand it but we'll know  
that something changed  
yeah it's uh so so for example  
now we have better understanding about  
the world than 100 years ago  
and most of the people is aware about  
let's say quantum mechanics and  
relativistic Views but but this is also  
important not everyone interested in  
these cases but everyone  
day-to-day life  
is affected by those ideas  
so either they are experiencing it or  
they aware of about it so this will  
happen as well uh  
in the next  
paradigm shift  
at the time it will be  
the the current one will be questioned  
and  
but understand better so this is also  
important my theory in in principle  
should contain every Theory before  
and and this is what I think it's it can  
do but uh to properly understand that's  
that's a huge task  
okay so when you say it's going to  
include every Theory before are you  
talking about physics theory so from  
Newton to Einstein to all the quantum  
mechanics that came after and then yours  
is like another level of mathematical  
mathematically based theory of like  
physics theory of everything  
um  
kinda yes and kind of no  
um  
it's  
it's not just physics and and actually  
this is  
this is one of the  
the key moment here the the next so  
so the the relativistic and Einstein and  
Paradigm Shift it's it was not about the  
physics mainly it was about the idea of  
okay it's every

every level can be relativistic just one  
thing not but it's the the main idea  
was the the key  
and uh in the Newtonian mechanics also  
the key idea  
or the the main idea is the key to the  
next level of understanding and what is  
also important to the to the Newtonian  
level 300 years ago  
we had this uh  
understanding and and one until 100  
years ago people  
experienced and understood this  
Newtonian mechanics until they claimed  
physics is done and we know almost  
everything and then  
exactly that time came the new paradigm  
shift so this is also baked into my  
theory the this is the  
the first first  
um phase is exponential growth then its  
levels off and then as a leveling side  
then the second second level it starts  
from this leveling of and starts with  
also an exponential and then there's  
also laLazo so this kind of wave is  
going all the way  
this is what I claim here in my tower is  
all the way down to the the future or to  
the past and to the Future as well what  
is important is the  
the time frame is uh shortens  
so 300 years ago 100 years ago 30 years  
ago  
but for a little bit more understanding  
that that's a little bit more uh  
difficult because okay  
yeah I understand and so there is a  
singularity that occurs over an  
exponential  
sort of like pattern  
that leads leads to the singularity  
I guess that's a bit of a part of a lot  
of people's theories so that that stays  
consistent with a lot of other theories  
as well which means we all seem to be on  
to something  
you know similar now I was going to ask  
first do you consider your theory to be  
that key that will lead to the next  
understanding of this new paradigm shift  
and also IPS yes what utility will there  
be do you do you know  
yeah yeah  
unfortunately I didn't publish the whole  
Theory yet  
so people cannot read and understand  
properly what I am talking about  
so as I said before  
I have to I have to not answer this  
question the first question because  
I think something but it might change  
later and we have to discuss this the  
utility  
for my taury but I  
what I see it's uh  
as as I understand this uh  
I I feel so powerful or in  
codes  
I I feel like I I see this whole thing  
falls out and like like I feel I'm  
nothing and everything at the same time



and

it's it's like an interesting feeling

and what I hope if if someone starts to understand

they will they will see the view word as as me so so the word view

is also powerful in this film framework because all all it is says

the the cooperation is the key to the Future

and and that's

that's one of the most powerful message here

how would you define cooperation

yeah so so for you you are

you are working for a common goal or doing things together for a common goal

that's that's how I call it

and uh and that's that's important in the unicellular level

we couldn't be here if the unicellulars can cannot cooperate in this this case

so so that's that's what I see uh the cooperation if if it works

and if it's uh manifest that will drive our future to the

okay so if I could boil it down for you does that mean that your definition of cooperation is to achieve something Transcendent something higher whether we're aware of it or not

yeah that's that's funny as well

Okay so

um let's get a little bit more personal

now I mean we've talked about your theory we see that it's obscure still

very uh mysterious because there are some things you're not talking about

um and it comes from a place of humility

and and also you just want to be sure that it might not change and and so I understand that and that is quite unique because

so far I haven't met anyone who says there are some things that I have to share but I am not sharing them yet

because typically I think people are excited to share and they want other people to understand them and I'm sure you want to be understood as well but I can see that you've taken a different approach you've

not prioritized your desire you've prioritized the theory itself so that's cool

um so

did that virtue of patience and humility emerge out of your understanding or do you believe that that began before and you already had those virtues

yeah all right so

but I when I first understood my theory

and and I said all right I I get this

then I said all right I understand myself

so it's it's kinda it's kinda

I did something like this before

without knowing I what I do

so so basically I'm I am altruistic to the

to the highest level

and uh

ice

and and so I would like to cooperate on

the highest level as well so that's

I didn't took myself in first place

almost never and

where I am in a group

I try to see as a system together

and that's I like to help the system

where I am I I play football

and uh

and in the football as well I try to

help the system where it needs to be

held

and to understand that that

you

you have to have this mindset and uh I

have to tell you something I learned a

lot from children's and the children I

played with children's a lot lots of

people lots of younger children was in

our neighborhood

and and I allowed them to come to our

home and play or I was with them to

playing

and I I saw the their nature nature

about

how how

the true nature about how is everything

is uh moving then that in the correct

direction without thinking too much

so that's uh that's also my

my background is uh is towards this goal

and I didn't know it can be fruitful

but uh

a time I seems like I found some good

explanations that I can use and that's

the jumping continue to tell you

okay so I cut out for a few seconds

there did you notice that

I I told you just make it bigger the

screen

no no I was gone for a few seconds so

can you just uh

yeah I was gone for like a minute and a

half so I I at least it continued to

record which is great uh can you

reiterate what you just said just in a

quick

yeah do you remember where you cut off

not exactly yeah I think I I had I I

asked you yes I asked you about your

virtues and whether and you said that uh

you felt as if though that you you felt

the need to work as a system and that's

where I cut off

yeah and so I just talked about I had

a good relationship with children and I

learned from them

because I played with them and I allowed

them to play with me or I mean we played

some Legos together we played some video

games together and I and I tried to

you know goes to that direction

Parker

and so that was an impactful event in

your life that gave you that feeling as

if though

you need to cooperate laterally it's not

I'm in charge and I tell what what

people how things have to happen okay

so

um that's interesting because you know

Tyler believes that there will be like  
just like there had to have been  
well not just one like but he said that  
there has to be one unicellular cell  
that decided to merge with another  
so it seems like it was two but there  
were the first two that happened in  
order to create the multicellular level  
so do you believe that the same thing do  
you believe that there will be a person  
or an event that will occur  
um yeah so here here is maybe a little  
bit more to my theory because uh  
a little bit more disagreement with  
Thailand  
so  
currently as well as you see  
on the whole Earth  
surface we have on everywhere we have  
cities  
so  
what is what it is shows is it's a  
little bit more parallel process it's  
not just like one or two it's uh it can  
be parallel in the multicellular level  
we see  
three domains of vertic cellularity the  
plants fungi and animals  
so  
every every level emerge a little bit  
different time frame  
seems like the plants was first then  
then the fungi and then the animals  
there is some reasons about this as well  
so  
maybe maybe I can highlight this with an  
example  
in the 120 years ago we talked about  
there was age 10 300 years ago around  
there was Newton but what is what is  
important the first let's say  
it's not getting in this relationship  
imagine if there is a Einstein didn't  
exist we would talk about someone else  
probably  
even if that person didn't existed this  
system could go that way so this is the  
powerful mechanics  
mechanics or to the mega Trends the mega  
trends  
but goes further  
and  
you cut off again  
okay sorry about that I'm uh I'm in  
Colombia in a small town in the  
mountains so this kind of stuff happens  
a lot I think for Sunday I'll I'll  
definitely come and uh I'll go back to  
the city  
there's a city called Santa Marta  
internet is better probably over there  
so um okay uh I guess we'll start to cut  
this short I guess just because yeah I  
don't want this to continue happening  
but um  
to reiterate I I think I know what you  
were talking about  
the uh the the idea that there's  
something about the way reality is set  
up that it doesn't matter who it comes  
through it's almost like uh just a game  
of chance but there's something that  
culminates into like the idea itself

gets closer and closer kind of like a  
leibniz and Newton are they both  
independently derived and this Theory of  
Everything it seems like it's happening  
the same thing except this time it's  
special because we are sharing each  
other's information  
and uh I think the uh the ideas are  
getting starting to boil down in front  
of our very eyes and we're realizing  
this time it might just not just be one  
person it might be a whole group of  
people that comes comes up with this new  
paradigm shift because the idea is there  
it's in it's getting clearer and clearer  
and we're all sort of working at it like  
a colony of ants  
um is that a fair assessment of what you  
believe  
yes yes and and uh it's kind of kind of  
the the idea is still similar Newton and  
leibniz they also communicated but they  
communicated with letters  
so imagine if we communicate with  
letters that would slow our  
communication and understanding  
that's really important because you can  
you can ask me these questions what you  
but I didn't describe very well  
and they could not really do it in that  
uh  
yeah time in the blender so yeah so my  
theory as well it's the communication we  
also talked about the communication also  
um  
this the communication of the the speed  
of the communication also increases  
and that's that's what we are seeing at  
the moment as well  
okay  
um all right so you're touching on some  
very interesting things in interesting  
ways and I know that you know  
I could continue digging and trying to  
understand hey like  
what do you think this is going to lead  
to and all this but you've I'm gonna do  
this time uh you mentioned 30 years and  
you also mentioned 50 years so I'd like  
you to fix that discrepancy there uh or  
maybe a misunderstanding on my part uh  
why those two figures and uh what did  
they mean  
yeah that the the numbers here is not uh  
not that precise so  
so there is a range I say it's 30 and  
50. it's still not uh  
probably not the whole range because  
this is a gaussian distribution so let's  
let's say from  
from now 20 and 60 years so there is 40  
years in between I don't know exactly  
when this could happen and also  
this is a continuous process this is not  
just one thing happening so so that's uh  
that's kind of later we can find out  
maybe that was they say Anu miraculi as  
Newton and Ashton case  
and what does that mean that's that's  
the the year of Miracles  
yeah the uh the Latin I just wanted to  
create one I think yeah so

uh

yeah

um maybe

maybe I wanted to touch on on one thing

about the my gallery

but go forward if you have questions

well no I think uh I think you've

answered it and just like Newton I I and

Einstein I don't think they understood

the kind of technologies that would

emerge from their work from well equals

mc squared I mean there's the reason we

have satellites uh comes down to a lot

of his equation apparently things like

that a lot of Technologies are based on

on Einstein physics or mathematics so

you know I don't think there's all we

know is that this is very meaningful I

think this toe Community is aware of it

they're aware of how profound the

meaning is we just can't define the

meaning we can't say here is why it's

meaningful all we know is there's a

shift on a meeting coming our way and

we're all working on it from our own

little subjective points of view and

that seems to be

contributing to to the major one that

that might pass which is something you'd

refer to as the paradigm shift so

um I want to get a little bit more into

what your thoughts are about this

community

um and where it's headed why you

participate in it and uh if you'd like

to talk a little bit more about like

why this is your life because this is

your life like I have a lot of friends

in in this community now and and

uh or acquaintances let's say and

I think a lot of them would see this as

their life as well it's like their whole

lives have have been a culmination of

trying to transmit whatever message uh

that they've found about reality so

what's your story like why why is this

your life

that is the best thing a man can do

is to

to gain a little bit more knowledge and

share it to the world

so that's

I think that's the best goal someone

could

try to do

and I I set up really high standard

goals

and this is

this is one of the the most

Advanced goal you can have as a person

so hopefully I can I can do something

about it and also I am lucky because

my background

allows it to do

so that's why

I made a little bit I I feel like I have

to do it

because I can

and I

I was so

um

perfectionist and I wanted to be the

best in every level

uh and and in that case I was so shy to  
share my understanding and knowledge but  
now I don't I don't shy anymore because  
mainly what happened with me  
and even my English is not the best I  
don't  
I don't fear about talking  
and uh  
the information is still out there I try  
to communicate and someone will  
understand and and someone will ask  
but I am also saying is you have to  
understand what I am saying and not how  
I say  
okay uh  
it seems to me like you might not be  
able to describe the utility uh that  
will come from your theory but at least  
the meaning  
uh to me how it comes across if I can  
share my opinion is that  
your your theory under what I've created  
by classification of what types of  
theories are there's one type called a  
predictive type  
and I think  
it's uh if we can translate it in  
religious terms it's like uh the prophet  
it's a message of this has happened  
before this is gonna happen again you  
see it in Christianity right you see it  
in well in the Judea Christian  
religions that's uh that seems to be the  
the idea that if people can be certain  
that something is supposed to happen  
then they will not have fear and they'll  
allow what's supposed to happen to  
happen they will work together for it to  
happen maybe uh so it seems to me like  
this is why there's a lot of people out  
there who want to make predictions about  
when the end of times will occur but at  
the end of times doesn't mean like it's  
over forever it's at the end of an age  
or it's the end of uh cycle and there's  
a new cycle that will or a new paradigm  
or whatever you want to call it so would  
you agree with that do you agree that  
that's the meaning behind your theory is  
that it is  
to bring  
the message of  
of this event that will occur and that  
and to just appeal or appease people's  
minds right just get them to calm down  
and say this is it like so to bring  
people together simply with the  
knowledge that this is what's supposed  
to happen  
yes I I agree with that so that's uh  
and as I described if you understand  
this uh  
the first uh month of two weeks when I  
the standards do this you know what it  
means also I am the  
and the let's say  
30.8 billion years ago there was a quark  
and an autumn and it's gradually ended  
up here with me  
and in the future what I tell  
third of this time 4.7 6 billion years  
ago or later

some something also probably will look  
back into this moment  
and they also figure out the something  
they will probably call it some  
something else but now we know  
probably humans made it first  
so this is the  
this knowledge to  
to the continuity of the  
everything  
is kind of powerful  
that's interesting so your theory is  
called jumping continuity Theory and now  
I'm starting to understand the  
continuity part a little bit in context  
this continuity of knowledge  
becoming more and more aware of this  
process that happens infinitely into the  
past and into the future  
and that knowledge is Cycles maybe or a  
pattern or it reminds me of  
of that movie called uh pie you know the  
number pie and it's uh you saw it I saw  
but I don't really remember it uh  
clearly now yeah it's uh it's about a  
mathematician a Jewish guy in New York  
and uh he is trying to find the pattern  
or a specific pattern in the number pi  
and that somehow if he's able to find  
this pattern he's  
understood reality and there's like a  
corporate  
lady who's chasing him around trying to  
you know get him  
not just the corporation but there's a  
uh Jewish like the Hasidic Jew Community  
Jewish community in New York is also  
trying to get this number from him  
uh and also  
um so he's got religion  
and technology in a way chasing him for  
this number for this piece of  
information that somehow will unlock the  
powers of reality  
um and he starts to go insane because  
the  
you know now it's not clear in the movie  
what the pain because he's looking for  
the number because that's what it that's  
definitely what it is at first but then  
no yeah he does say that he has the  
number in his head like and uh and then  
he understands it I think if I remember  
correctly but in the very end like he  
had to he drilled in his own heads and  
he he just decided to live life you know  
without the knowledge of of you know and  
at the end at the end um it's it seems  
like a movie that's very very  
in line with this community because you  
know  
he goes through God complex in a way as  
well and he's he kind of goes through  
this like alternation between uh I have  
something important to do like I am the  
prophet Messiah guy and you know I'm the  
devil in a way he becomes kind of  
demonic because he  
he has to do it he's  
[Music]  
um can you hear me well yeah  
I think I think they're gonna pass soon  
yeah

but uh he becomes obsessed by harnessing  
this number it's almost demonic right  
like he lets himself be possessed by  
this need this desire uh this greed in  
other words so I kind of see that in  
this community I see people who are kind  
of demonic sometimes I'm not going to  
name names or what they do but I notice  
even in myself I've noticed this like  
when you're dealing with these high  
level abstraction knowledge and pure  
truth and you're seeing patterns  
everywhere like you do feel powerful and  
you can be tempted right in in a manner  
to use that power and for some kind of  
humid need human desire which is so low  
and and pitiful so I don't know it's  
kind of an interesting movie I think  
everyone in this movie should watch it  
it's I think Aronofsky I'm not mistaken  
I'm Aaron aronofsky movie It's called  
pi  
so uh anyway uh I just wanted to use  
this whole movie scenario as a context  
um to try to dive into your life a  
little bit and your personal experience  
with coming up with this Theory have you  
dealt with the God complex because I've  
I've asked everyone so far I believe  
um about this in in like interviews  
so I want to know what your thoughts are  
on this God complex issue and and why it  
seems to be something that afflicts this  
community  
yes so so I hope I was able to manage  
this at the first week  
uh  
I  
I almost couldn't  
then then the the one after one month I  
wanted to share to everyone you know  
and that's that's actually normal but uh  
I went to back myself and uh went to do  
another things and uh also I wanted I  
I had I know I I knew that time as well  
to to be humble enough to just wait a  
little bit  
and then you can you can see things from  
the different angle  
and uh  
what is uh kind of  
a line here is uh whoever just finds  
something and  
say how Rico I found it I understand  
they tend to share right away  
that's the usual process  
but uh that's uh that's many times it's  
not the correct way because  
you need to chill down a little bit and  
then if it's the second third time  
it's correct then it is I had terrorists  
before jumping continuity tell me uh I  
had one then another one and the third  
one  
the third one was the jumping continuing  
in this maybe a pure sense so so that's  
uh that means you  
and lots of things is something like  
this so so when you you read something  
then you drop down then reach another  
thing then deep down and the last thing  
you reach then you can just level of



some sometimes but but that's really  
usually one two steps needed until you  
get the the final  
day and that's that's advice I could  
give everyone who tries to get a theory  
of everything or something like this  
level  
be patient and  
and try to  
you can also forget your your thing do  
play football play video games do  
something else do work and let go back  
later on and then if you still see that  
from a different angle  
then you are okay  
okay that's good so it didn't exactly  
answer my question but you did it  
something better you sort of said what  
here's what I have like uh advice for  
for anyone who's experiencing this need  
to want to share things uh you didn't  
really address God complex but maybe I  
also didn't explain to you what I mean  
by that I mean like believing that you  
are the Messiah  
believing that somehow you're you're the  
new Jesus Christ or the you know the  
next Prophet or you are gods in  
manifested in human form you know or the  
messenger of God in some way like how do  
you see how do you view that what's your  
opinion on that  
yeah it is hard because  
how I feel  
it's I feel I know the latest knowledge  
people can understand  
and that's kind of scary and and similar  
to the God complex  
um  
so I have to deal with that that's  
that's uh that's important  
you know I would scream this to everyone  
every day every day and every moment  
um  
but understanding history as well  
and that's also not the right thing to  
do and uh  
so I kind of have it and I can kinda  
don't  
dance  
yeah well that's what's interesting  
about this community right because I do  
see  
people fall on either side of it where  
they seem more like they believe that  
they are  
and you see others that are struggling  
and they're not they're trying to be as  
humble as possible  
and they're saying I could be wrong and  
I want to share ideas with others and I  
want to I want others to prove me wrong  
and so on so you know I think it's it's  
normal if if I could finally come up  
with my opinion now I think it's very  
normal  
to go through this kind of stuff in our  
community and I think it's something  
that I was I've been trying to get  
people to  
face and admit and talk about because if  
we fear it then I think it's it has a  
bigger power

than you know and and that's when we  
might actually make the mistakes that  
you're talking about so we don't have to  
fear God complex I think uh we can come  
together we can talk about it we can  
help keep each other  
grounded you know because maybe like  
Tyler says we all do have a piece of the  
knowledge and it's and they all need to  
come together  
and so in a way we are all the Messiah  
in a way where we all you know the God  
complex thing so you know  
it could be a Pantheon of gods that's  
that's happening here  
what I could add right away and that's  
that's really good is uh  
I see ourselves as the The Messengers  
lots of lots of people  
is uh close  
but what we do is usually the people who  
can spend the most time on this  
Journey  
they they can reach the dog that level  
and they can be the messenger but the  
messenger if the the population does not  
uh  
Dune does not do it isn't ready  
they want to hear the message  
so  
that's that's that's correlates with the  
the system together goes this way  
and we are The Messengers there  
and but most of the people is going  
there uh also sorry can I make an  
observation there seems to me like there  
might be a necessity for many Messengers  
so that some people give their portion  
of the message and that registers with  
people at that time and once they're  
ready for that message then they can go  
on to the next person who has a message  
and so on so it's a process uh you know  
and also also  
Messengers has also  
kinda in the community so so every  
messenger have their their communities  
or could be  
who understand him better  
because  
how complex this is so this is similar  
what you just told but  
um so I I'm gonna stop you right there  
because I saw the graph that you made  
and I understand it finally I remember  
you made these tents like rats and  
that's now that makes sense so so you're  
saying in a way like uh it's almost like  
uh translations right like you speak  
Hungarian so you understand a certain  
subject matter that you can translate in  
Hungarian and tell people so it's almost  
as if though the difference facets of a  
theory of everything is coming together  
and we're almost like checking in with  
each other kind of like a blockchain  
technology checking in with each other  
that we have the same information and  
then we can disseminate it to the people  
that understand on our level so for  
example if you're in the physics level  
people understand if I'm on a

psychological level people will understand so like you know the way I see Jordan Peterson working is essentially he is doing a translation and he is bringing a message to the common people based off of some kind of fundamental truth but he's translating it in a way that the common person can understand now you know uh that doesn't reach everyone though obviously even Peterson who's an immensely popular so uh and also if I can make the biblical reference I believe in the book of the Apocalypse or something that it says somewhere in the Christian canonical texts that uh I'll have no idea if it has anything to do with the canonical text or anything but uh the the idea is that uh in the end of times that there will be many Messengers there will be many prophets I don't know if that was meant to say that there are a lot of false ones and there's a lot and that's probably true there's always have there always has been false prophets I don't want to make this out to be a Christian thing because again I'm looking at it from an objective standpoint but you know there's probably a similar thing that you could point out in many different religions that's you know in the end of times there are many messages many many things happening in a way but um I want to Circle back to what I was talking about when it comes to the the movie I find it very interesting how technology and religion are very Central here like the two seem to be very correlated uh and a lot of the theories that we've discussed or I'm sure that in this in this community people if you talk to them about what we often talk about religion and Technology I find right it's so Central to everything I mean obviously we see religion as a as a way for people to congregate and to communicate and those systems are breaking down so now we're seeing a whole revolution of religion now people don't realize it but when you enter wokeism and when you enter yoga and meditation hippie lifestyle or whatever or when you whatever it is these are religions essentially so religion is what it is a structure that allows for religiosity which is to me a different thing what is religiosity is the need for communication right ritual meaning purpose morality things that religions offer and so now the traditional ones are breaking down they need to be updated why because the world is changing we're having so much understanding that the the metaphors of the past no longer make sense right when we understand that evolution is evolution and that doesn't quite fit with uh traditional religions let's say with you know God created man directly

um this progressivism that has been occurring in religion because now you know even the the church the pope a few years back uh officially decreed that Christianity recognizes Evolution and that you know that's something we understand now but God is the one who created the the evolution right so you know ultimately knowledge expands religions need to expand with it but a lot of them don't and for many reasons and this is why people are now saying they're spiritual you know we have a lot of atheists up there oh I'm not religious at all but I'm spiritual but but look at how they behave they they end up in communities with that are very like-minded they they uh they're almost dogmatic right and so you're seeing these like religions these weird quasi religions popping up everywhere in the form of political like identity right you see a lot of like identity politics that's like almost

you know a religion you know everyone has to be on my team or your team or whatever but everyone is scrambling for meaning scrambling for to understand the messages and what are these messages what's pure information where it's understanding of the world around us uh we can manipulate uh biology now to suit our needs we can engineer baby are perfect essentially human beings we can manipulate the environments around us we can do space travel like this is a lot of information this is a lot of Truth and I don't think uh humanity is really necessarily capable of handling it yet without some kind of translation that can harmonize everything so you're harmonizing it in some way you know Roy might be harmonizing it for in another way Tyler Lucy Brandon you know we all have a part to play Maybe in in this in this manner so I kind of just wanted to do a bit of the lecture in that way to contextualize everything we just said

[Music]

um

and um I was going to ask do you do you have anything you want to say in regards to this community what you what you believe about it what you feel about it

yes so

so kinda I joined around one and a half years years ago in the two Discord community

I use Discord before that uh like five years ago started so I find the new this could be really good communication method

and and

um that's I really like this uh community community here because it's emerged to the level we kind of start to understand and know each other and uh

it start to Nature in a in a way that's uh fruitful

because then there is kind of a small conversation going on and then you know

we share ideas and I'm really thankful  
actually because maybe without the  
community  
I couldn't be finish my  
YouTube video  
because it cleared my understanding more  
it helped sometimes with information  
and uh  
the communication as well it's important  
you know I also just write and then  
people read real they don't like this  
they don't they like that so I have a  
feedback my AmEx  
feedback as well there so  
again I'm really thankful about  
called Jay manga because he started this  
openly and I am really happy to be here  
in this community so  
that's all I can say thank you  
bro uh is there anything else you want  
to share any other last thoughts or  
yeah  
so so maybe just just one one sentence  
uh in my theory a little bit so  
so we are collective intelligence of  
unicellulars  
I claim unicellulars is a collective  
intelligence of atoms  
atoms is a collective intelligence of  
lower self probably the quarks we could  
say  
and the cities is a collective  
intelligence of people that is  
important the  
the multicellular the atomic the  
cellular level is already completed the  
city level it's it's emerging and almost  
in the starting point  
okay so yeah that's that's a good way to  
resume everything uh in a way and I can  
start to have a visual idea of what  
you're talking about because you know if  
you see how and like I said there seems  
to be technology in parallel with the  
meaning of things which is the religion  
side but  
what you're talking about is manifesting  
itself in very clear ways right it has  
to do with communication it has to do  
with integration communication leads to  
integration and you know things coming  
together so you see guys like Elon Musk  
right right now I would say like we can  
use two people to represent  
you know what you're talking about  
Jordan Peterson facilitates  
communication he harmonizes so you have  
a lot of people of different backgrounds  
different belief systems that kind of  
come together and they say all right we  
understand reality on a level that  
allows us to behave in my in our  
individual lives in a way that is  
conductive to the society  
so people can cooperate then you have  
Elon Musk who facilitates communication  
and integration in every way possible  
from the brain to computer interface  
right so that people can upload download  
and surf the Internet directly from the  
brain from the hyperloop high-speed  
rails that will connect cities together  
from China China is doing that right

like all these mega cities

right you have all these mega cities

that are coming together we're talking

about something like uh 100 million

people in one city in Connecticut cities

uh we have uh you know uh uh SpaceX

right so that people can travel in

sub-orbital speeds so they can get to

New York from New York to Tokyo in like

three hours so this speed between

communication

is happening in many ways so that we can

move our physical bodies to meet each

other so that we can move our ideas to

meet each other faster to communicate to

integrate to grow and so do you believe

that

this whole the whole planet will become

some kind of massive City

um

that is that is multiple things here

the

all right so

so in in a Cell there is a limit how big

is the cell an atom there is a limit how

big is an atom so in a city there is a

limit how big is a city can be so in

that sense there is no way to be a

planetary City

but

as as I described the cities will be

bigger but how they can be bigger they

can bigger in three dimensional So So

currently the limit will be in this

two-dimensional

maybe 100 million years 100 million

people

but

in in the future what I'm talking about

is is a three-dimensional

stuff and in three dimension that's so

much bigger than than 100 million okay

so kind of like in Star Wars or Star

Trek or something like that you have

these like floating buildings or

something like that you like literally

mean that the cities will get

three-dimensional

yes and uh

yes so basically basically that's yeah

okay and then of course the

communication between cities will be

quite optimal because we'll have travel

like higher or more sophisticated

methods of travel and information

sharing and so on all right very cool

very cool that's a great way to end this

uh thanks for your time Daniel I really

appreciate you

explaining your theory a little bit and

uh being as personal as you can get and

yeah I look forward to Sunday that's

going to be the first meeting between I

think a lot of us on like one

you know video so I think it'll be cool

I am so excited and thank you very much

James also I'm happy maybe

sounds good so I'm gonna I'm gonna end

the recording here everyone thanks for

listening and uh I'll see you on Sunday

## <https://techcrunch.com/2022/11/14/2440702/>

222 wants to match perfect strangers for bespoke, real-life experiences  
Kyle Wiggers@kyle\_wiggers / 5:00 PM GMT+3·November 14, 2022  
Comment

3 men sitting at a dinner table  
Image Credits: 222

As anyone who's moved to a city sight unseen can tell you — this reporter included — making platonic connections isn't easy. Adult friendships are fickle beasts in metros of millions, where casual friends are cheap currency.

Statistics back up my anecdotal evidence. According to a 2021 survey conducted by the Survey Center on American Life, an increasing number of people can't identify a single person as a "close friend." In 1990, only 3% of Americans said that they had no close friends, while in 2021, that percentage rose to 12%.

Many a startup has attempted to "solve socializing" with apps, algorithms and social nudges, or a combination of those three things. Bumble, for instance, has experimented with a communities feature that lets users connect with one another based on topics and interests. Patook took a Tinder-like approach to matching potential friends, using AI both to connect users and block flirtatious messages.

But not everyone's found these experiences to be especially fulfilling.

"[I'm alarmed] by the tech industry's lack of focus on building social products that are truly social rather than purely built to capture attention and exploit our desire for external validation," Keyan Kazemian told TechCrunch in an interview. He's one of the three co-founders of 222, a social events app that aims to — unlike many that've come before it — facilitate meaningful and authentic connections.

"Our society's brightest minds — our fellow scientists, engineers and product managers — are being paid hundreds of thousands of dollars not to solve the existential problems of loneliness, climate change, space travel, cancer and aging but to instead find new ways to keep an already mentally ill society consuming endless content, always fighting for more of their attention," Kazemian continued. "We're building a product to swing the pendulum in the other direction."

Kazemian co-launched 222 in late 2021 with Danial Hashemi and Arman Roshannai. They initially came together over a university-funded project around predicting social compatibility among a group of strangers. Toward the end of the pandemic, Kazemian, Hashemi and Roshannai — all Gen Zers (at 23, Kazemian is the oldest) — curated intimate dinners in Kazemian's backyard over wine and pasta for friends of friends who'd never met each other, using machine learning and a psychological questionnaire to craft the guest lists.

"Folks loved the backyard dinners so much they convinced us to try to replicate it with real venues," Kazemian said. "In early 2022, we moved to Los Angeles and started partnering with brick and mortar locations, creating a marketplace between hyperlocal venues and members looking to discover their city and meet new people through unique social experiences."

That marketplace became 222. Today, anyone between the ages of 18 and 27 can sign up for an account — the founding team is focused on the Gen Z crowd presently. There's no app — just a basic Typeform workflow — and the sign-up process is designed to be simple. Once you provide your name, email address and date of birth, 222 has you answer roughly 30 Myers-Briggs-type questions covering topics from movie, music and cereal preferences to political views and religious affiliation.

222  
222's onboarding survey. Image Credits: 222

Some are uncomfortably personal — you'll be asked about your income level, sexual orientation and college major — but Kazemian says it's in the interest of narrowing down potential matches. "All of our data is encrypted and used only to better each 222 member's social experience," he added when asked about 222's privacy practices.

222's small print also indicates that data from the app is being analyzed as a part of a university social science project — a continuation of the one Kazemian, Hashemi and Roshannai led a year ago. Opting out requires contacting the company.

222  
Image Credits: 222

After answering additional questions about your personality (e.g. "Is social activism incredibly important for you?", "Are you willing to have uncomfortable and difficult conversations with your friends?") and go-to social activities (e.g. drinking, watching sports, going out to nightclubs), 222 has you list dietary restrictions and your ZIP code. You're then asked to choose which factors you find most important in meeting new people (e.g. social scene, political leanings), and it's finally off to the races.

Or it should be. When I tried to sign up, the website threw an internal server error. I eventually received a text confirming my enrollment, but it included a link to a webpage that endlessly loaded. Kazemian chalked it up to server upgrade issues and says it's been resolved.

When the Typeform is working properly, Kazemian says, an algorithm behind the scenes factors in the answers to those 30-some questions to determine which of 16 categories your personality falls into. Once that's decided, you'll be notified if you're selected for a 222 event — for example, dinner at a local venue partner of 222's — which are currently held weekly and cost \$2.22 to attend. Those who aren't recruited for the dinner can choose to join for post-event mingling.

So is the algorithm any good? Kazemian asserts that it is, and that, furthermore, 222 is one of the few social apps directly training and matching based on real-life experiences.

"Most dating apps don't do any sort of matching at all and rather focus solely on an Elo-type score, like in chess. Users on those products are only exposed to those that have a similar yes-swipe-to-no-swipe ratio to themselves," Kazemian said. "[By contrast], based on our member's onboarding questionnaire, 222 develops a psychological profile for each new sign up ... Our algorithm will then not only pair each member with the best possible group of strangers for a given experience, it will also curate an itinerary for the evening with the best possible consumer experience — which speaks to café, concert or restaurant will this group of individuals have the best time at."

That's quite a claim to make considering Tinder and even Facebook has dabbled with helping strangers connect at events. But algorithmic robustness aside, users might be wary of attending events with perfect strangers. According to a 2022 report from the Australian Institute of Criminology, three in every four respondents had been subjected to real-life abuse through dating apps in the past five years.

222 isn't a dating app, to be fair. And when asked about moderation and anti-harassment measures, Kazemian said that the platform verifies every user's identity — primarily through their payment information — and that venue staff are on hand at every event. Venue managers are educated on 222's moderation and guidelines and it's incumbent on them to instruct staff, Kazemian said.

"All 222 experiences are always in public and in a group setting, unlike most dating app meet-ups. 222's phone number serves as an emergency hotline during experiences, so that members can text us if anything ever goes wrong and someone will respond right away," Kazemian said. "Lastly, if any member is reported during a bad experience, that individual is immediately banned for life."

222 is an intriguing platform, to be sure. But it's tough to imagine it scaling far beyond its current size. The three-person company (222 plans to expand to eight people by the end of the year) has its hands full coordinating events in and around Los Angeles — its home city — at present, vetting venues and working to bulk up the backend infrastructure in preparation for an iOS app launch. There's a pilot revenue model — 222 makes revenue from both members confirming their spot at experiences as well as partnered venues paying for foot traffic. Unlike the now-defunct PartyWith, which shared a number of features in common with 222, 222 hasn't experimented with sponsored events or other ways to monetize its experiences yet.

Perhaps that will change now that 222 has VC money behind it. Working out of the University of Southern California's Viterbi Startup Garage, the company raised over \$1.45 million in a pre-seed round led by General Catalyst with participation from backers including Ben Taft's Genius Ventures, Y Combinator, 1517 Fund, Z Fellows, Crescent Fund and Wonder VC Scout Fund.

One wonders if the investor interest stems from the crop of new social and dating apps that aim to spark connections differently. A recent Crunchbase report highlights the growth of audio-based, video-based and even meme-based social apps, which have collectively raised tens of millions in capital from VCs over the past two years.

In an emailed statement, General Catalyst's Niko Bonatsos expressed confidence in 222's growth potential:

"Young people have been robbed of ~2 years of their social life due to the pandemic. They've been craving for social connection, making new friends and falling in love. The timing is ripe as 222 is offering their key audience a timely product — a marketplace facilitating chance social encounters at hyperlocal venues. At General Catalyst, we love partnering with Gen Z technical founders who are building products for themselves."

Will 222 successfully turn the demand for social connection post-pandemic into a profitable business? That'll depend on whether it can overcome the growing pains, technical and otherwise.

## <https://www.youtube.com/watch?v=WHoWGNQRXb0>

all right let's start a little bit more  
pragmatic but then we'll Branch out so  
one of the things I think a lot of folks  
here are interested in is based off the  
apis that very large models will create  
what are the real business opportunities  
like what are the ways to look forward  
and then how given the apis will be  
available  
to multiple players how do you create  
distinctive businesses on him yeah  
um so I think so far we've been in the  
realm where it's you know you can do  
like an incredible copywriting business  
or you can do like a sort of like  
Education Service or whatever  
um but we I don't think we've yet seen  
the kind of like people go after the  
like you know trillion dollar like take  
on Google's  
um and I think that's about to happen

like maybe it'll be successful maybe  
Google will do it themselves but like I  
would guess that with the quality of of  
language models we'll see in the coming  
years  
um  
you know there will be like a serious  
challenge to Google for the first time  
for for a search product  
um and I think people are really  
starting to think about like how did the  
fundamental things change  
um and that's going to be really  
powerful uh I think that a like a human  
level  
chat bot interface that actually works  
this time around like I I think like you  
know many of these trends that like we  
all made fun of were just too early like  
the chatbot thing was good it was just  
too early now it can work and I think  
you know having like new medical  
services that are done through that  
where you get great advice or new  
Education Services like this these are  
going to be very large companies I think  
we'll get multimodal models and not that  
much longer and that'll open up new  
things I think people are doing amazing  
work with sort of agents that can use  
computers to do things for you use  
programs and this idea of like a  
language interface  
um where you know you say a natural  
language what you want in this kind of  
like dialogue back and forth you can  
iterate and refine it and the computer  
just does it for you you see some of  
this uh with like Dolly and co-pilot in  
very early ways but I think this is  
going to be a massive Trend and you know  
very large businesses will get built  
with this as the interface and more  
generally that like these very powerful  
models will will be  
one of the genuine new technological  
platforms which we haven't really had  
since mobile  
and there's always like an explosion of  
new companies right after  
so that'll be cool and and what do you  
what do you things are  
given that the large language model we  
provided as an API service what are the  
things that you think that folks who are  
thinking about these kind of AI  
businesses should think about is how do  
you create an enduring differentiated  
business so  
you know they're they're I think there  
will be a small handful of like  
fundamental large models out there that  
other people build on but right now what  
happens is you know company makes large  
language model API other people build on  
top of it and I think there will be a  
middle layer that becomes really  
important where uh  
I'm like skeptical of all of the  
startups that are trying to sort of  
train their own models I don't think  
that's going to keep going but what I  
think will happen is there'll be a whole



new set of startups that take an  
existing very large model of the future  
and tune it uh which is not just  
fine-tuning like all the things you can  
do I think there will be a lot of access  
provided to create the model for  
medicine or using a computer or like the  
kind of like friend or whatever and then  
those those companies will create a lot  
of enduring value because they will have  
like a special version of they won't  
have to have created the base model but  
they will have created something they  
can use just for themselves or share  
with others that has this unique data  
flywheel going that sort of improves  
over time and all of that so I think  
there will be a lot of value created in  
that middle layer  
and what do you think some of the most  
surprising ones will be it's a little  
bit like for example you know a surprise  
from a couple years ago and we talked a  
little bit to Kevin Scott about this  
this morning as we opened up which is  
train on the internet do code right so  
so what do you think some of the the  
surprises will be of you didn't realize  
it reached that far  
I think the biggest like systemic  
mistake in thinking people are making  
right now is they're like all right you  
know maybe I was skeptical but this  
language model thing is really going to  
work and sure like images video too but  
but it's not going to be generating net  
new knowledge for Humanity it's just  
going to like do what other people have  
done and you know that's still great  
that's still like brings the marginal  
cost of intelligence very low but it's  
not it's not going to go like create  
fundamentally new it's not going to cure  
cancer it's not going to add to the sum  
total of human scientific knowledge and  
that is what I think will turn out to be  
wrong that most surprises the current  
experts in the field yep so uh let's go  
to science then there's the next thing  
what are some of the things whether it's  
building on the apis you know uh use of  
apis by scientists where what are some  
of the places where science will get  
accelerated and how so I think there's  
two things happening now and then a  
bigger third one later  
um one is there are these science  
dedicated products whatever like Alpha  
fold and those are adding huge amounts  
of value and you're gonna see in this  
like like way more and way more I like I  
think I if I were like  
you know had time to do something else I  
would be so excited to like go after a  
bio company right now like I think you  
can just do amazing things there  
um the  
anyway but there's like another thing  
that's happening which is like tools  
that just make us all much more  
productive uh that help us think of new  
research directions that sort of write a

bunch of our code so you know we can be  
twice as productive and that impact on  
like the net output of one engineer a  
scientist I think will be the surprising  
way that AI contributes to science that  
is like outside of the obvious models  
but even just seeing now like what I  
think these tools are capable of doing  
copilot is an example there's you know  
be much cooler stuff than that  
um that will be a significant like  
change to the way that technological  
development scientific development  
happens but then so those are the two  
that I think are like huge now and uh  
lead to like just an acceleration of  
progress but then the big thing  
um that I think people are starting to  
explore is um  
I hesitate to use this word because I  
think there's one one way it's used  
which is fine and one that is more scary  
but uh like AI that can start to be like  
an AI scientist and self-improve and so  
when like can we automate like can we  
automate our own jobs as AI developers  
very first the very first thing we do  
can that help us like solve the really  
hard alignment problems that we don't  
know how to solve like that honestly I  
think is how it's going to happen  
um  
the the scary version of  
self-improvement like the one from the  
science fiction books is like you know  
editing your own code and  
changing your optimization algorithm and  
whatever else  
um but there's a less scary version of  
self-improvement which is like kind of  
what humans do which is if we try to go  
off and like  
discover new science uh you know that's  
like we come up with explanations we  
test them we think like we whatever  
process we do uh that is like special to  
humans  
teaching AI to do that I'm very excited  
to see what that does for the total like  
I'm a big believer that the only real  
driver of human progress and economic  
growth over the long term is the the  
structure the societal structure that  
enables scientific progress and then  
scientific progress itself and uh like I  
think we're gonna make a lot more of  
that  
well especially science that's deployed  
in technology say a little bit about how  
what uh I think probably most people  
understand what the alignment problem is  
but it's probably worth four sentences  
on the alignment problem  
yeah so the alignment problem is like  
we're going to make this incredibly  
powerful system and like be really bad  
if it doesn't do what we want or or if  
it sort of has you know goals that are  
uh either in conflict with ours um and  
many Sci-Fi movies about what happens  
there or goals where it just like  
doesn't care about us that much and so  
the alignment problem is how do we build

AGI that that does what is in the best  
interest of humanity how do we make sure  
that Humanity gets to determine the you  
know the future of humanity and how do  
we avoid both like accidental misuse  
um like where something goes wrong we  
didn't intend intentional misuse where  
like a bad person is like using an AGI  
for great harm even if that's what other  
person wants and then the kind of like  
you know inner alignment problems where  
like what if this thing just becomes a  
creature that views this as a threat  
um  
the the way that I think the  
self-improving systems help us is not  
necessarily by the nature of  
self-improving but like we have some  
ideas about how to solve the alignment  
problem at small scale  
um and we've you know been able to align  
open ai's biggest models better than we  
thought we'd we would at this point so  
that's good  
um we have some ideas about what to do  
next  
um but we cannot honestly like look  
anyone in the eye and say we see at 100  
years how we're going to solve this  
problem  
um but once the AI is good enough that  
we can ask it to like hey can you help  
us do alignment research  
um I think that's going to be a new tool  
in the toolbox yeah like for example one  
of the conversations you and I had is  
could we tell the uh the the agent don't  
be racist right as opposed to trying to  
figure out all the different things  
where the weird correlative data that  
exists on all the training settings  
everything else may lead to racist  
outcomes it could actually in fact do a  
self-cleansing totally once the model  
gets smart enough that you can that it  
really understands what racism looks  
like and how complex that is you can say  
don't be racist yeah exactly  
um  
what do you think are  
the kind of Moon shots  
that in terms of evolution of the next  
couple years  
that people should be looking out for  
in terms of like evolution of where AI  
we'll go  
um  
I'll start with like the higher  
certainty things I think language  
models are going to go just much much  
further than people think  
and we're like very excited to see what  
happens there  
um I think it's like what a lot of  
people say about you know running out of  
compute running out of data like that's  
all true but I think there's so much  
algorithmic progress to come that  
that we're going to have like a very  
exciting time  
um another thing is I think we will get  
true multimodal models working and so

you know not just text and images but every modality you'd like in one model able to easily like uh

you know fluidly move between things um

I think we will have models that continuously learn so like right now if you use GPT whatever it's sort of like stuck in time that it was trained and the more you use it it doesn't get any better and all of that I think we'll get that changed so very excited about all of that and if you just think about like what that alone is going to unlock and the sort of applications people will be able to build with that

um that that that that that would be like a huge victory for all of us and just like a

like a massive step forward and a genuine technological Revolution if that were all that happened

um

but I think we're likely to keep making research progress into new paradigms as well um we've been like pleasantly surprised on the upside about what seems to be happening and I think uh you know all these questions about like new knowledge generation how do we really Advance Humanity uh

I think there will be systems that can help us with that

so one thing I think would be useful to share because

uh folks don't realize that you're actually making these strong predictions from a fairly critical point of view not just a you know we can take that Hill

say a little bit about some of the areas that you think are current kind of illusionally talked about like for example AI and fusion oh yeah so I like one of the unfortunate things that's happened is uh

you know AI has become like the Mega buzzword

um which is usually a really bad sign I hope I hope it doesn't mean like the field is about to fall apart

um but historically that's like a very bad sign for you know new startup creation or whatever if everybody is like I'm this with AI and that's definitely happening now

um so like a lot of the you know we were talking about like are there all these people saying like I'm doing like these you know RL models for Fusion or whatever and as far as we can tell they're all like much worse than what like you know smart physicists to figure it out

um I think it is just an area where people are going to say uh everything is now this plus AI many things will be true I do think this will be like the biggest technological platform of the Generation

Um but I think it's like we like to make predictions where we can be on the frontier

understand predictably what the scaling laws look like or already have done the research where we can say all right this new thing is going to work and make predictions out from that way and that's sort of like how we try to run open AI um which is you know do the next thing in front of us when we have high confidence and Kate take 10 of the company to just totally go off and explore which has led to huge wins and there will be wait like oh I feel bad to say this like I I doubt we'll still be using the Transformers in five years I hope we're not I hope we find something way better but the transform has obviously been remarkable so I think it's important to always look for like you know where am I going to find the next the sort of the next totally new paradigm um and but but I I think like that's the way to make predictions don't don't pay attention to the like AI for everything like you know can I see something working and can I see how it predictably gets better and then of course leave room open for like the you can't plan the greatness but sometimes it had the research breakthrough happens yep so I'm going to uh ask two more questions and then open it up because I want to make sure that people have a chance to do this uh the broader discussion although I'm trying to paint the broad picture so you can get the crazy aspirations as part of this what do you think uh what do you think is going to happen vis-a-vis the application of AI to like these very important systems like for example financial markets um you know because the very natural thing would be is saying well let's let's do a high frequency Quant trading system on top of this and other kinds of things what what is it is it just kind of being a neutral arms race is it is it what how do how what's your thought in like it's almost like the life 3.0 yeah omega's point of view yeah um I mean I think it is going to just seep in everywhere my basic model of the next decade is that uh the cost of intelligence the marginal cost of intelligence and the marginal cost of energy are going to Trend rapidly towards zero like surprisingly far and and those I think are two of the major inputs into the cost of everything else except the cost of things we want to be expensive the status Goods whatever and and I think you have to assume that's going to touch almost everything um because these like seismic shifts that happen when like the whole cost structure of society change which happened many times before

um like the Temptation is always to underestimate those uh so I wouldn't like make a high confidence prediction about anything that doesn't change a lot or that where that doesn't get to be applied um but one of the things that is important is it's not like the thing Trends either Trends all the way to zero they just Trend towards there and so it's like someone will still be willing to spend a huge amount of money on compute and energy they will just get like unimaginable amount of intelligence energy they'll just get unimaginable amounts about that and so like who's going to do that and where is it going to get the weirdest not because the cost comes way down but the amount spent actually goes way up yes the intersection of the two curves yeah you know the thing got 10 or 100 thing got 100 times cheaper in the cost of energy you know 100 million times cheaper in the cost of intelligence and I was still willing to spend a thousand times more in today's dollars like what happens then yep and then uh last of the buzzword Bingo part of the the future questions metaverse and AI what do you what do you see coming in this you know I think they're like both independently cool things it's not like totally clear to me yeah other than like how AI will impact all Computing yeah well obviously Computing simulation environments Asians possibly possibly entertainment certainly education right um you know like an AI tutor and so forth those those would be Baseline but the question is is there anything that's occurred to you that's I I would bet that the metaverse turns out in the upside case then which I think has a reasonable chance of happening the upside case the metaverse turns out to be more like something on the order of the iPhone like a new a new container for software and you know a new way a new computer interaction thing and AI turns out to be something on the order of like a legitimate technological Revolution um and so I think it's more like how the metaverse is going to fit into this like new world of AI then AI fit into the metaverse but low confidence the TBD all right questions hey there how do you see uh Technologies uh foundational Technologies like tpg3 affecting um the pace of life science research specifically you can group in medical research there and and sort of just quickening the iteration cycles and then what do you see as the rate limiter in life science research and sort of where we won't be able to get past because they're just like laws of nature yeah

something like that

um

so I think the currently available models are kind of not good enough to have like made a big impact on the field at least that's what like most like life sciences researchers have told me they've all looked at it and they're like it's a little helpful in some cases um there's been some promising work in genomics but like stuff on a bench top hasn't really impacted it I think that's going to change and I think uh this is one of these areas where there will be these like you know new 100 billion to trillion dollar companies started those those areas are rare but like when you can really change the way that if you can really make like a you know future Pharma company that is just hundreds of times better than what's out there today that's going to be really different um as you mentioned there still will be like the rate limit of like bio has to run at its own thing and human Trials take however long they take and that's so I think an interesting cut of this is like where can you avoid that like where are the the synthetic bio companies that I've seen that have been most interesting are the ones that find a way to like make the cycle time super fast um and that that benefits like an AI That's giving you a lot of good ideas but you've still got to test them which is where things are right now um I'm a huge believer for startups that like the thing you want is low costs and fast cycle times and if you have those you can then compete as a startup against the big incumbents uh and so like I wouldn't go pick like cardiac disease is my first thing to go after right now with like this kind of new kind of company um but you know using bio to manufacture something that sounds great uh I think the other thing is the simulators are still so bad and if I were an a if I were a bio means AI startup I would certainly try to work on that somehow when do you think the AI Tech will help create itself oh it's almost like a self-improvement will help make the simulators significantly better um people are working on that now uh I I don't know quite how it's going but you know there's very smart people are very optimistic about that yeah other questions and I can keep going on questions I just want to make sure you guys had a chance this uh here yes great Mike is coming awesome thank you um I was curious what what aspects of Life do you think won't be changed by AI um sort of did all of the deep biological things like I think we will still really

care about interaction with other people

like we'll still have fun and like the reward you know systems of our brain are still going to work the same way like we're still going to have the same like drives to kind of create new things and you know compete for silly status and like you know form families and whatever

um so I think

the the stuff that people cared about 50 000 years ago is more likely to be the stuff that people care about you know 100 years from now than 100 years ago

as an amplifier on that before we get to the next whatever the next question is what do you think are the best utopian science fiction universes so far

good question

um

Star Trek is pretty good honestly

uh like I do like all of the ones that are sort of like

you know we turn our Focus to like exploring

and understanding the universe as much as we can

um

it's not this is not a utopian one well maybe I think the last question is like an incredible short story uh-huh yeah that was what that came to mind yep uh I was expecting you to say Ian Banks on the culture those are great uh

I think science fiction is like there's not like one

there's not like one sci-fi universe that I could point to and say I think all of this is great but like the collective optimistic corner of sci-fi which is like a smallish corner

um I'm excited about actually uh I took a few days off to write a Sci-Fi story and I had so much fun doing it just about sort of like the optimistic case of AGI

um

that it made me want to go like read a bunch more so I'm looking for recommendations of more to read now

um like the sort of less known stuff if you have anything I will I will get you some great some recommendations

so in a similar vein one of my favorite sci-fi books is called childhood's End by Arthur Clark from like the 60s I think and the I guess the one sentence summary is aliens come to the Earth try to save us and they just take our kids and leave everything else

so you know there's a slightly more optimistic than that but yes I mean there's Ascension into the over mind is is meant to be more utopian but yes okay uh you may not read it that way but yes well also in our current Universe

yes our current situation

um you know a lot of people think about family building and fertility and like some of us have

different people have different ways of approaching this but from where you stand what do you see as like the most



promising Solutions it might not be a technological solution but I'm curious what you think

other than everyone having 10 kids you know like how do we of everyone having 10 kids yeah how do you populate how do you like how do you see family building coexisting with you know AGI

high tech it's this is like a question that comes up at open AI a lot like how do I think about you know how should one think about having kids there's I think no consensus answer to this

um there are people who say yeah I'm not I was gonna I thought I always thought I was gonna have kids and now I'm not going to because of AGI like there's just for all the obvious reasons and I think some less obvious ones there's people who say like well it's going to be the only thing for me to do in you know 15 20 years so of course I'm going to have a big family like that's what I'm going to spend my time doing you know I'll just like raise great kids and then I think that's what'll bring me fulfillment I think like as always it is a personal decision I get very depressed when people are like I'm not having kids because of AGI

uh the EA Community is like I'm not doing that because they're all going to die they're kind of like a techno optimists are like well it's just like you know I want to like merge into the AGI and go off exploring the universe and it's going to be so wonderful and you know just I want total freedom but I think like all of those I find quite depressing

um

I think having a lot of kids is great

I you know want to do that now more than I did even more than I did when I was younger and I I'm excited for it

what do you think will be the way that most users interact with Foundation models in five years do you think there'll be a number of verticalized AI startups that essentially have adapted and fine-tuned Foundation models to an industry or do you think prompt engineering will be something many organizations have as an in-house function I don't think we'll still be doing prompt Engineering in five years I think it'll just be like you and this will be integrated everywhere but you will just like you know either with text or voice depending on the context you you will just like interface in language and get the computer to do whatever you want and uh that will you know apply to like generate an image where maybe we still do a little bit of prompt engineering but you know it's kind of just going to get it to like go off and do this research for me and do this complicated thing or just like you know be my therapist and help me figure out how to make my life better or like you know go use my computer for me and do

this thing or or any number of other things but I think the fundamental interface will be natural language let me actually push on that a little bit before we get to the next question which is

I mean to some degree just like we have a wide range of human talents right now uh and taking a look for example a dolly when you have like a a great visual thinker they can get a lot more out of Dolly because they know how to think more they know how to iterate the loop through the the test don't you think that will be a general truth about most of these things so it isn't that why would be natural language is the way you're doing it it will be there will be like almost an evolving set of human talents about about going that extra mile 100 I just hope it's not like figuring out to like hack the prompt by adding one magic word to the end that like changes everything else I like what will matter is like the quality of ideas and the understanding of what you want so the artist will still do the best with image generation but not because they figured out to like add this one magic word at the end of it because they were just able to like articulate it with a creative eye that you know I don't have certainly what they have is a vision and kind of how their visual thinking and iterating through it yeah yeah well obviously it'll be that word or prompt now but it'll iterate to to better

all right uh at least we have a question here

hey thanks so much um

uh I think the term AGI is used uh thrown around a lot and um

sometimes I've noticed my own discussions like the sources of confusion has just come from people having different definitions of AGI and so it can kind of be the magic box where everyone just kind of projects their their ideas onto it and I just want to get a sense from you what like how do you think you know how would you define AGI and how do you think you'll know

yeah

it's a great point I think there's like a lot of valid definitions to this but uh for me

um AGI is basically the equivalent of a median human that you could like you know hire as a co-worker

um so and then they could like say do anything that you'd be happy with a remote co-worker doing like just behind a computer which includes like you know learning how to go be a doctor learn how to go be a very competent coder like there's a lot of stuff that a media human is capable of getting good at and I think one of the skills of an AGI is not any particular Milestone but the The Meta skill of learning to figure things out and that it can go decide to get good at whatever you need

um so for me like that's that's kind of  
like AGI and then Super intelligence is  
when it's like smarter than all of  
humanity put together  
thanks

um just uh what would you say or in the  
next 20 30 years are some of the main  
societal issues that will arise as AI  
continues to grow and what can we do  
today to mitigate those issues  
obviously the economic impacts are huge  
and I think it's just like if it if it  
is as

Divergent as I think it could be for  
like some people doing incredibly well  
and others not I think Society just  
won't tolerate at this time and so  
figuring out when we're gonna like  
disrupt so much of economic activity and  
even if it's not all disrupted by 20 or  
30 years from now I think it'll be clear  
that it's all going to be

um what like what is the new social  
contract like how do my guess is that  
the things that we'll have to figure out  
are how we think about fairly  
Distributing wealth

um access to AGI systems which will be  
like kind of the commodity of the realm  
and governance like how we collectively  
decide what they can do what they don't  
do things like that

um

and I think figuring out the answer to  
those questions is is gonna just be huge  
I'm optimistic that people will figure  
out how to spend their time and be very  
fulfilled I think people worry about  
that in a little bit of a silly way I'm  
sure what people do will be very  
different but we always solve this  
problem

um

but I do think like the concept of  
wealth and access and governance  
those are all going to change and how  
how we address those will will be huge  
actually one thing I don't know what  
level of

devs you can share that but one of the  
things I love about what openai and you  
guys are doing is when you they think  
about these questions a lot themselves  
and they initiate some research so  
you've initiated some research on this  
stuff yeah so we run the largest uh Ubi  
experiment in the world I don't think  
that is uh we have a year and a half a  
year and a quarter left in a five-year  
project I don't think that's like the  
only solution but I think it's a great  
thing to to be doing

um and

you know I think like we should have  
like 10 more things like that that we  
try

um we also try with different ways to  
get sort of input from a lot of the  
groups that we think will be most  
affected and see how we can do that  
early in the cycle

um we've explored more recently like how

this technology can be used used for  
reskilling people that are going to be  
impacted early

um we'll try to do a lot more stuff like  
that too yeah so they are the the  
organization is actually in fact

uh these are great questions  
addressing them and actually doing a  
bunch of interesting research on it so  
next question

hi so um creativity came up today in  
several of the panels you know and um it  
seems to me that the way it's being used  
like you you have tools for human  
creators to go and expand human  
creativity so where do you think the  
line is between these tools to to allow  
a Creator to be more productive in  
artificial creativity itself so

um I I think and I think we're seeing  
this now that tools for creatives that  
that is going to be like the great  
application of AI in the short term

um people love it it's really helpful uh  
and I think it is at least in what we're  
seeing so far

um not replacing it is mostly enhancing  
it's replacing in some cases uh but for  
the majority of like the kind of work  
that people in these fields want to be  
doing it's enhancing and I think we'll  
see that Trend continue for a long time

um eventually yeah it probably is just  
like you know we look at 100 years okay  
it can do the whole creative job

um I think it's interesting that if you  
asked people 10 years ago uh about Holly  
I was going to have an impact with a lot  
of confidence from almost most people  
you would have heard you know first it's  
going to come for the blue collar jobs  
working in the factories truck drivers  
whatever then it will come for the kind  
of like the low skill White Collar jobs  
then the very high skill like really  
high IQ uh white-collar jobs like a  
programmer or whatever and then very  
last of all and maybe never it's gonna  
take the creative jobs and it's really  
gone exactly and it's going exactly the  
other direction and I think this like  
isn't there's an interesting reminder in  
here generally about how hard  
predictions are but more specifically  
about

you know we're not always very aware  
maybe even ourselves of like what skills  
are hard and easy like what uses most of  
our brain and what doesn't or how like  
difficult bodies are to control or make  
or whatever

we have one more question over here

hey thanks for being here so you  
mentioned that um you will be skeptical  
of any startup trying to train their own  
language model and it would love to  
understand more so what I have heard and  
which might be wrong is that large  
language models depend on data and  
compute and any startup can access to  
the same amount of data because it's  
just like internet data and compute like  
different companies might have different

compute but I guess I see a big players  
can sell more compute so how good a  
large language model startup  
differentiate from another  
how would the startup differentiate from  
another how would one large language  
model startup differentiate I think  
it'll be this middle layer um I think in  
some sense the startups will train their  
own models just not from the beginning  
uh they will take like  
you know base models that are are like  
hugely trained with a gigantic amount of  
compute and data and then they will  
train on top of those to create you know  
the model for each vertical  
and and that those startups so in some  
sense they are training their own models  
just not not from scratch but they're  
doing the one percent of training that  
really matters for for whatever this use  
case is going to be those startups I  
think they will be hugely successful and  
very differentiated startups there but  
that'll be about the kind of like data  
flywheel that the startup is able to do  
the kind of like all of the pieces on  
top of and Below uh like this could  
include prompt engineering for a while  
or whatever the sort of the kind of like  
core  
base model  
I think that's just going to get too too  
complex and too expensive and the world  
also just doesn't make enough chips  
so Sam has a work thing he needs to get  
to so and as you probably can tell with  
a very far far ranging thing Sam always  
expands my uh boundaries and a little  
bit unlike the that when you're feeling  
depressed whether it's kids in a house  
you're the person I always turn to  
probably I appreciate that yes so anyway  
I think I think like no one knows  
like we're sitting on this like  
precipice of AI and like people like  
it's either gonna be like really great  
or really terrible  
um  
you may as well like you gotta you gotta  
like plan for the worst you certainly  
like it's not a strategy to say it's all  
going to be okay but you may as well  
like emotionally feel like we're going  
to get to the Great future and we'll  
play as hard as you can to get there and  
play for it yes rather than like act  
from this place of like fear and despair  
all the time because if we acted from a  
place of fear and paranoia we would not  
be where we are today so let's thank Sam  
for spending dinner with us thank you

<https://www.youtube.com/watch?v=ptFgWzRi6mY>

[Music]

hello and welcome to spotlight by  
amazing workplaces  
spotlight puts into focus established  
names in the corporate as well as the  
business world

both leaders as well as entrepreneurs to  
engage with them in conversations about  
how they impact their organizations  
their people  
as well as the community through their  
endeavors  
today's spotlight discussion  
focuses on louisa avertism  
co-founder of hire b  
a deep tech starter  
reinventing talent acquisition in a  
post-poet world louisa is an  
entrepreneur with strong corporate  
background and 15 plus years of  
extensive experience  
in world-class organizations she has an  
extensive domain expertise  
in strategic marketing customer  
development analytics as well as product  
management  
loser is a proud mom of three wonderful  
boys  
she is a tedx speaker  
a university lecturer  
and a woman in love with life  
loser has joined us today from armenia  
to talk to us about why employer  
branding is a must for startups  
and ways in which it can be achieved  
this is going to be an important  
discussion  
because according to a study  
23 percent of startups  
fail  
due to not having the right team  
a highly motivated and skilled team  
is the key to success  
it's nearly impossible  
to overstate the importance of having  
the right employees working for your  
startup  
growing a business is for sure a team  
effort  
but how can you create a buzz around  
your startup  
attract motivated talent  
and keep your existing workforce to stay  
with your company and stay happy there  
is only one answer to this question  
employer branding  
and loser is going to share with us the  
why and how of building a great employer  
brand for startups  
so welcome loser to spotlight it's a  
pleasure to have you join us today how  
are you doing louisa  
hi actually i'm doing great and i'm  
absolutely delighted to be here to be a  
guest at spotlight by amazing workplaces  
and i'm very happy to have a chance to  
share  
my views and my experience with startup  
employer branding  
because i am a startup myself and  
i know firsthand how important it is  
thanks for the invite  
thank you lisa and uh  
i'm sure you know there are a lot of  
buzz you know around employer branding  
these days and  
wherever we see you know people are  
talking about how to retain talent in

fact you know when we  
go through the  
news headlines  
a lot of  
organizations especially  
uh it's  
organizations are trying to move talent  
you know at various levels and they are  
trying different ways you know in which  
they can  
retain the existing talent that they  
have that is also an important aspect  
that people are talking about so i'm  
surely looking forward to our discussion  
today and i'm  
um really you know  
positive that the discussion that we  
have today will help a lot of people  
especially  
our viewers who watch this episode of  
ours to understand how to  
uh build a great employer brand for  
their organization here especially  
startup organization  
yes absolutely  
okay  
so uh user like i just mentioned the  
discussions around employee branding  
have gained a lot of impetus during the  
current scenario uh with organizations  
you know becoming cognizant of  
individual employee needs  
and recognizing that different people  
function differently  
in this current scenario existing  
working practices to offer the needed  
flexibility  
is becoming a key contributor in helping  
organizations become an employer of  
choice  
considering this aspect what do you feel  
is the current scenario of employee  
branding in organizations  
okay so um in a nutshell employer brand  
is a representation of companies  
internal values and employee value  
proposition so the goal here is to  
introduce the candidate to company's  
core values and highlight why people  
should work for the given company  
so you precisely noted actor that  
flexibility is becoming a non-negotiable  
proof  
covet urged companies across the globe  
to reassess their priorities the cost  
the post-college workplace is now all  
about flexibility to choose where to  
work from  
care towards employees care towards  
peers so it has changed drastically so  
on top of all that dealing with employee  
well-being and mental health is no  
longer a luxury it is rather it has  
rather become a business as usual  
so before the pandemic a lot of talent  
acquisition managers and businesses in  
general would ask themselves could we  
hire someone we have never met before  
and actually end up hiring never meeting  
that person and the answer would most  
likely be no unless this was a freelance  
role or a contract based  
position

so what happened during the pandemic is  
that  
the company started to hire people  
without  
having ever to meet with them and  
candidates who were invited for an  
online interview would ask for a t photo  
for a team building video just to  
understand how it was like to work for a  
given company uh how the office looked  
like before so they they want to get the  
feeling about the space  
so the thing is that many companies were  
not ready for this so they didn't have  
all this information on their hand just  
to share with potential companies so  
speaking about the employer brand  
sharing with the public and promoting  
employer brand activities  
for um actively hiring companies became  
a non-negotiable must  
and because candidates would go to  
search internet first before even  
applying for the position or even more  
before accepting the interview offer the  
new reality became that talent  
acquisition managers and the businesses  
in general couldn't afford staying  
without sharing this all information  
online so they started to understand why  
it is important to promote the brand  
and we were with many companies hundreds  
and thousands of companies who are now  
actively hiring four positions  
that would deal with  
telling the company's story and  
promoting the company's employer brand  
so  
in  
in a nutshell for actively hiring  
companies employer branding goes  
shoulder to shoulder with other  
recruitment activities for passively  
hiring companies employer branding is a  
long-term investment and in a way a good  
retention tool so uh luisa from uh what  
you just told me right now  
we understand that uh during the current  
times organizations have become more  
aware about employer branding  
and uh you know especially like earlier  
uh there were certain things which were  
taken for granted now they are those  
things are not taken for granted for  
example you know flexibility  
organizations  
know that if they are not flexible  
enough  
it would be very difficult for them to  
retain talent  
so uh i would like to understand now  
from you  
uh  
especially because you know  
i have come across a lot of you know  
organizations  
uh primarily startups you know to my  
personal network  
and most of them are actually struggling  
to hire the right quality of talent  
so tell me luisa why do you feel that  
small businesses and startups face this



problem

and in the scenario

how important is the role of building a

unique employer brand for one's

organization

thank you for the question actor so we

work with thousands of companies and

majority of them

have less than 500 team members which is

considered a small business and many of

them are startups

so

um in fact the small business segment is

the largest worldwide uh like almost 95

percent of all businesses worldwide are

small business so we understand how

important it is to support this segment

just for this segment to sustain and

grow but what

we literally witnessed is a major

paradigm shift overnight when the

companies

uh switched from work from home faced a

major revenue surge or had to decrease

overhead because of revenue decrease and

last thing on their agenda was to

promote their employment at that moment

however

things have changed for the past 18

months what remained unchanged though is

the struggle to hire the right talent

and the best talent and here is why this

struggle will be around for a while so

the first thing is that

the freelancing is now booming

candidates can easily find a better

paying job somewhere else on the globe

and compared to what they can get

locally so local

smbs small businesses and startups

struggle to hire the higher the right

talent the best talent because they can

freelance for the u.s or the european

market

a recent study of ours showed that young

people aged from 20 to 35 would rather

work for an established big company

rather than a startup or a small company

why because of job security so this is

another uh aspect and also big companies

are now gradually getting back to normal

with their volumes of revenues

recovering and increasing and they play

really hard to get the best talent they

have this search and they need to close

the vacancies and where they take this

talent from small and medium companies

so this is another challenge and

struggle that small and mid-sized

businesses have

so

here are some thoughts with the given

scenario here are some thoughts on how

and why the employer brand and promoting

the employer brand for small companies

and startups is very important

so the first one is that

now

the workplaces as i said are remote and

global we see lots of companies like

with 50 employees or 100 employees which

are really the small ones that do not

have the office office anymore so they

hire different people in different ends  
of the world um  
and here they really need to have a  
strong digital presence to attract  
people to tell their story the second  
thing it's a very interesting  
observation is that many small  
businesses and startups transition from  
being just local to offering their  
services globally and with this context  
they start to have a need for  
international hiring um if we want to  
sell in the u.s we need to hire people  
from the us want to sell to australia we  
need to hire people from australia again  
how to tell your story how to make  
yourself your company visible it's  
through the employer right  
and the last one is if we think of  
employer brand  
as a retention tool  
it is really a huge one and um from all  
the activities that our company helped  
uh  
our customers and clients to promote  
their employer brand the first  
people to engage and to share this  
content and these videos etc we're  
companies employees so it is an  
important aspect for small and medium  
businesses and startups to promote their  
employer brand because they have huge  
struggle with retention of talent as  
well so three things um why employer  
brand is important and how it done right  
it can really help the company to grow  
scale and even go global and go  
international i think this is it  
thank you louisa you know  
as organizations  
especially startups  
need to really look into this seriously  
because startups need you know good  
talent to grow  
and to make a mark for themselves and if  
they would struggle with the good uh  
with you know for hiring good talent it  
would definitely be uh it's it is a seed  
it poses a serious problem for them  
so thank you for sharing this and um  
now you know uh  
since we're discussing about startups  
and uh we have just outlined why  
startups are facing this problem  
in uh getting the right kind of talent  
and retaining it for a longer period of  
time  
i would like to ask you is building an  
employee branding a difficult task  
and what are some of the things that  
startups can do to build a unique  
employer brand  
and how can these efforts be sustained  
over a longer period of time  
so i  
in the beginning of the discussion you  
have already mentioned that  
you yourself are a starter and i'm sure  
because you're a startup you yourself  
know the way out you understand you know  
what are the things that need to be done  
to ensure that you get the best talent

for yourself so um  
i'd like to understand from you how this  
can be done  
okay  
thank you so i'll put it um this way  
i'll  
share with my experience and views on  
how to promoting for your brand and the  
level of difficulty and then i'll share  
our experience if you don't want  
so  
if it's difficult or not i would say  
that with the right approach  
with clearly defined goals and 100  
commitment to promoting photobuilding  
and promoting employer brand it's not  
difficult so in terms of startups two  
main factors  
play a huge role in forming the employer  
brand the first one are the co-founders  
and the c-level  
employees or managers these are like cto  
chip operating officer or chief hr  
officer so the first few employees and  
co-founders are the carriers these  
values and they set the pace and that  
they set the environment  
to scale for instance tech startups need  
strong engineers and tech people right  
so the best way to attract this high  
demand talent is to show with whom  
they're going to work with that suppose  
we have  
someone a graduate of mit with great  
experience in with startups and  
technology  
engineers would like to work with this  
person  
so the culture in startups are formed by  
the founders and employer brand is in a  
way of showcasing this company culture  
if we look at the second aspect it's the  
product that plays a huge role  
for all of the employer brand formation  
especially the early days  
when the startup doesn't have many  
employees they can't make referrals they  
they they are not active et cetera et  
cetera the product plays a really really  
big  
role so if done right  
this can be  
this can win a great game  
but what happens is that  
very often there are great founders with  
great backgrounds exits etc  
and there is this great product that  
will be the future google or facebook or  
spacex but  
companies startups fail to tell the  
story  
so employer brand is all about telling  
the story and building it on these two  
main pillars  
so now i want to share with some  
practical  
and  
step-by-step guide on how startup  
founders startups can build their  
employer brand so the first one is to  
define the company's core values  
put them together  
in a written form and communicate it

with a team

the better or the best practice is to involve the team in creating these values because they are not it's not possible just to sit in the room create the values and then go and tell that you know these are our values okay

now that we have our values we need to communicate this to our team members so the next step is to communicate this with the team to have their buy-in to make sure that they they also leave it they also feel it

now that we were done with this communication as well we need to clearly define our goals what do we want to achieve

do we want mltins that were graduates as our engineers to join us

do we want to hire best international sales people all over the world

do we already have a great team and want to use

to showcase how cool we are and use employer branding as a retention tool so it's very important to redefine and to define our goals

now we have our core values we have defined our goals what we need to do we need some marketing support or we need some marketing knowledge to go there and to share with the world what who we are what we want and where we go

sometimes uh founders who do not have the level of marketing knowledge they need to possess they go and ask for some some help and it is absolutely fine

now i will share with some channels that can be used to promote employer brand so here are several channels that can be used to promote employer brands

the first one are the social media accounts no one can underestimate the power of social media

linkedin is a great platform where company can tell their story where startups can promote themselves and one thing here is that again if we go back to the fact that founders are forming the employer brand it's important for the founders to be active as well in fact the study shows that the founders personal brand directly impacts and affects the startups employer brand as well we have some cases when the company will have two pages one for their users and customers the other one for their potential employees

candidates and their existing employees

another one is the career website it's very important for startups to maintain a very nice and structured career uh site that could tell their story glassdoor is a great platform to be as well because um candidates search there

some of our customers and clients work with they have youtube channels where their employees share some interesting insights here some interesting content and with these they help to promote

employer brand medium channel is a great way as well to share and to uh to help others to learn as well last but not least online and offline events are also a great tool now that the uh we are recovering back more and more offline events are taking place so candidates really love to see the brand there just offline as well okay so company startups can either sponsor the event or speak as speakers like uh share as speakers now that uh i want to also uh share with some of the steps that we take and what that we do here to promote our startups employer brand so the first one is it is really tightly tied up with the founders personal brands and founders brands as well because many many people know us know the startup through our brands the second one is we're really active on social media we share some stories we share some videos with team get together for example during employee appreciation day we gathered all our employees from all over the world we had like 17 countries our employees came from and we set a appreciation to this uh to our team another thing is that we are very active in events previously it was offline events now online events our founders are very often invited to speak at different events and i would say that it not only helps to promote the company potential customers it also helps to promote the company to potential candidates so i think these are several things that we use to promote our employer brand and we put a huge accent on our employees so just to to to sum up in our journey of building our startups employer brand we should know that this is a long-term effort we do not get an instant success and only with clear commitment to making our company stand out in the crowd achieving our goals and staying true to our values will help us to build a really strong and long-term brand okay thank you sir that in fact you know very nicely you have uh explained how startups should actually build their employer brand so i'll just like you to add one thing here i see a lot of startups you know getting over when how to build their employer brand you know what's your piece of advice basically for people who are overwhelmed how do should they go about it well the first thing is that they need to admit and acknowledge that as they build their product brand or their

company brand the same effort should go  
to build the employer brand so it's not  
something that is very difficult it's  
it's not it just they they do build  
their brand right they do promote their  
product they make sure that their  
clients and users know about the product  
the same thing applies to employer brand  
as well and overwhelming would not help  
here if they acknowledge and understand  
that these two things are not very much  
different then the overwhelming will  
will go down so if they treat  
uh promoting their employer brand uh  
like their marketing or sales team would  
promote their company brand they will  
feel that there are lots of channels  
lots of possibilities and it's not  
really that hard i think this is the the  
answer and my advice to them  
right  
okay thank you luisa i think this was a  
wonderful discussion that we had today a  
lot of  
useful and important insights that one  
can take from this discussion  
uh thank you so much for you know being  
a part of spotlight and  
sharing your views and ideas with us  
thank you so much liza  
thank you uh actor it was my pleasure um  
i always always seek ways to share my  
experience if i can help in any way i'm  
always ready and the spotlight is a  
great format a great platform for  
professionals to share their views i  
really really enjoyed this experience  
thank you very much for the time and  
effort that you put to actually share  
this  
information with your audience and  
really really help them thank you very  
much  
thank you pleasure having you on sport  
thank you  
thank you

<https://www.youtube.com/watch?v=QG8GMC0PfYg>

welcome back to my channel i'm brian  
kafke and in this video we're going to  
talk about becoming a tech entrepreneur  
i'll be doing an interview with a tech  
entrepreneur named javia larachi who  
founded an ai company to enable data  
science and machine learning for  
everybody you can see his company name  
there how line  
let's jump in  
but before i do i want to ask you to  
join my inner circle by supporting me on  
patreon where you get ad free videos and  
direct access to me among the benefits  
thank you so what's this video about  
brian  
well last year a colleague named javia  
arosky  
left his job a lucrative job mind you to  
create a startup company based on the  
idea of ai for everyone and i want to  
talk about things like this because this

has been a fantasy of mine my whole life

i want to become like a bill gates or or  
steve jobs and do all that cool stuff

and the question is what is it like and  
so vicariously we can find out what it's  
like and i have been watching the  
progress of javier over the last year

and i want to ask him questions that  
maybe you've been interested in have you  
ever considered starting your own  
company going off on your own doing your  
own thing becoming rich well let's talk  
to javier and find out what it's like

for instance what do you do about money  
how do you pay the bills how do you  
support the kids

also find out from him what are the  
challenges and rewards

what are some lessons learned and what  
wisdom does he have to share

and i'm going to take a tangent also  
because javier is an expert on  
artificial intelligence so it's a good  
chance to ask him important questions  
like where do you see artificial  
intelligence currently and where do you  
see it going into the future and what  
advice do you offer aspiring data  
scientists so he's going to share his  
technology adventure his entrepreneurial  
ship adventure and a lot of good  
insights

that you can use if you decide to go off  
on your own and start your own business  
or just to  
kind of live vicariously and see what  
it's all like because as you'll see  
it's not all rainbows and unicorns  
now i want to also give you a little  
background javier so you understand uh  
he is a deep dive expert on ai  
he founded his company of course as i  
mentioned with the cool name hal nine  
and if you know the movie  
2001 a space odyssey then you know the  
reference

he had been a software engineer for our  
studio where he released sparkly r 1.0  
which added support for apache arrow he  
also co-authored the book mastering  
spark with r by o'reilly press and i'll  
put a link in the description too to a  
free online version of that prior to  
that he'd been a software engineer at  
microsoft for years where he developed  
numerous services mainly including  
artificial intelligence

he has dual degrees in software  
engineering and mathematics  
and he authored numerous software  
libraries patents and scientific  
publications and he did something very  
interesting also he documented on a  
day-by-day sort of journal video which  
i'll put a link in the description to  
that

what he was accomplishing each day and  
where he was planning to go so it's  
really an interesting insight into the  
anatomy of starting your own company and  
it's very technical as well because he  
is a software engineer and i learned a

lot of technical things about just how much you can do with javascript which was the core language he built this product on

you can see link there hal9.com i'll put that in the description and you can reach out to javia on linkedin and find out more okay so jumping into our interview

i'm with javier laroski and he is

uh founded a company on data and ai which i've been following now for since you found it a little over a year ago and the first thing to do really would make sense is to

really introduce the product you've created and the interview we're going to be doing is going to be getting into questions about what it's like to start a company founding and also with your deep experience and data and ai especially artificial intelligence advice you can give people are in that field and also advice to people who are trying to start their own business and stuff something i've always thought about doing to start off uh aviar if you want to just do a quick demo of what your product is uh thank you so much for having me brian i'm super excited to be here let me just share my screen and uh yeah so this is uh this is the you know the product page and also our product as you mentioned is called hal9.com and just to you know give a quick overview we're pretty much trying to make artificial intelligence and data science more accessible to more people so read you know easy to use artificial intelligence and making it more accessible

so for that we do have a tutorials um page which you know if you're completely new i would recommend you start there we're actually going to have a free course uh at least at the moment

on uh we call in the fundamentals of ai when we're gonna teach you from the beginning

what is ai and data science and machine learning how do you use it all these things that you kind of like need as prerequisites to get into more complex topics like the ones that you cover on your on your channel brian like you know like spark and uh python and task and all these cool tools so definitely if someone is interested you know like we recommend them that they sign up for the course uh but just to give you a kind of like a quick overview

you know you can first of all find a lot of examples in our in our page so i encourage you just to look at you know the different data analyses that are out there maybe something picks your eye uh one of the ones that i like showing is just

you know that showcases the product is a little analysis that we did on temperature anomalies right so



uh you know in this case what we see is

uh you know how

how uh how temperatures are changing

year over year right and if you do

scatter plot you know you can see here

that you know from from the 1800s all

the way to year 2000 like definitely

like temperatures year over year have

been fluctuating up to the you know have

been trending to the upside and one of

the things that you can do with hal9

is you know apart from doing this you

know kind of like simple data analysis

you can also do projections and a

projection can be quite simple right

like it can be hey just uh you know like

use a exponential function right or

you know like you can switch this to a

linear function right and just kind of

like tell me how

you know how this temperature can change

in the future right and and to us this

is part of the thing that is powerful

about how 9 and what we're excited for

we want to

we want to help people

run their own analyses we want them to

be interested in data analysis and data

science and we think that there is a lot

of power in letting people build their

own uh solutions right now now this is

like an easy you know like a simple like

a simple visualization and a simple

predict prediction uh if we were to

start from scratch we can also do more

complex things uh we can do things like

for instance uh let's try to get data

from reddit which is you know online

forum that many are familiar with you

can get you know uh which which

subreddit you want to get data from you

know what are and one thing too just to

make sure because it's what i found

impressive too is you're actually

working on your website with a fully

functioning hal9 application so you can

anybody could go in and do this stuff

and play with it

but it's also embeddable and you can use

it on your own locations as well

yeah no that's for sure you can uh you

know everything is running at least uh

you know in this uh in this example that

we're showing is running on the browser

which you know like increases privacy

and allows us to also give it away for

you for free

and yes as as brian was mentioning we

can also embed the functionality so for

instance in this case you know we can

get data from reddit and then you can we

can do something like

uh sentiment analysis and sentiment

analysis tends to be quite complex um

you know if you do

you know if you wanted to analyze reddit

posts based on the you know if the title

is positive or negative all you have to

do is add the sentiment block click

title and that gives you automatically

uh you know the sentiment for each you

know for each post right and you can do

analysis based on that or you cannot say  
uh you know like a bar chart and start  
figuring out like okay like based on the  
author you know like show me the  
sentiment and you know things like that  
you can also make the post uh the the  
chart a little bit nicer as you can see  
here on the bottom like everything is  
kind of like cramped but you can change  
the rotation and kind of like uh figure  
out like you know who's who's that who's  
the people that is posting very positive  
comments in this reddit group and then  
you can do analysis and uh yeah and then  
you can export it also you can say  
export this pipeline either as html  
right and then you can you can embed it  
directly on your site and what is really  
nice is that as brian as you were  
mentioning is you can just take the html  
and that html it's still live right like  
it's still you know it's not a static  
html uh but it's actually running the  
predictions and doing all the uh  
kind of like ai part directly in your  
website right so it's a really great way  
of  
integrating ai into web development  
projects uh we have a node.js api we  
have an npm package uh you can also  
export it as an api and we're really  
trying to be the platform that makes it  
the easiest to use to people and also  
the best uh in class integration with  
web technologies that that's more or  
less like uh you know the overview okay  
cool and i've noticed you've embraced  
the pipeline concept which is getting  
pretty popular um but what i what i  
would say also is  
your approach to it is also that you can  
just go in and use visuals drag and drop  
drag things around play with it and it's  
doing the work behind the scenes as  
opposed to you have to go in and write  
code like in python r to do everything  
yeah no that's that's super important as  
uh one of our biggest differentiators is  
that yes you can just do drag and drop  
uh you know to produce powerful you know  
visualizations and predictions uh but  
you know we have an open core philosophy  
so basically all our all or the code  
behind our runtime and and blocks it's  
open source so you can go and modify it  
right i mean uh yeah you can change you  
know in this case you can change the  
margins directly here uh whatever that  
margin is and you we also have support  
for python and r uh so you can add like  
a python block  
and you know if you choose to you can  
you know you can you can add that  
functionality but um you know because we  
believe in integration we believe in you  
know there's also like a very rich  
python community but we're we're focused  
mostly on web technologies and you know  
like if we have to you know if there's  
functionality that is not available you  
can write the python code or the r code  
that lets you unblock that functionality  
so yeah that's that's for sure

so that was kind of the background but  
now that we've done that i guess the  
first thing i'm curious about is like  
what inspired you to start this company  
and go on your own and just do it  
but really the thing that inspired me i  
don't know if you're familiar with  
andrew jang you know like  
not really as a politician but as a as  
someone that has uh  
really showcased the human side of  
automation uh he's he's talk a lot about  
universal basic income and all these  
things right and  
and that's the thing that really made me  
realize that there's something going on  
right like um you know like if you were  
asking me as a kid like hey how is the  
future you know like what's the future  
of automation i would have thought you  
know like in my crazy keep in mind that  
you know like maybe we would have like  
terminators you know like as cashiers  
you know like or something like that  
right and uh you know like uh you know  
something like very dystopian future and  
and that's not really happening but um  
well what really opened my eyes is like  
you know if you look at what is the most  
one of the most common jobs in the us  
it's a cashier right it's you know you  
you pack and you charge for items and  
it's pretty common now today to see  
you know like you know this we already  
have robots right doing that that job  
and you know it's not it's not what i  
would look like or what what i think  
that they look like which is like proper  
robots right but you know they come in  
the form of like self-checkout right and  
self-checkout is automating a bunch of  
jobs and you can only do self-checkout  
because  
you know like you have tools like data  
science and spark that allows you to  
analyze you know like hey what's the  
incidence of robbery and or mistakes  
that people can do and the types of  
items and you have video and and so you  
you basically put all these systems that  
little by little are automating  
different parts of different jobs right  
so  
to me the really interesting thing was  
like oh you know like automation is  
really  
taking taking a big chunk of the jobs  
out there and you know like  
how  
what does the future of jobs look like  
and i do feel like it's a bit of a  
problem that we're going to face in the  
next say 10 20 years yeah  
we started with this very grand vision  
and part of the job on the on this first  
year has been like distilling it down to  
something we can actually build yeah in  
general the solution to me is we need  
two more people and more companies to  
provide resources for people to take  
advantage of artificial intelligence and  
data science right like i think it would

be a better world i don't know if we're gonna get there but it would be a better world if people automate their own jobs because then it's like they're still creating the same amount of value but they can spend more time you know in their hobbies with their family you know whatever they want

uh so kind of like the solution for us is like okay let's try to build a product that makes that a little bit easier right and

in reality it's a combination of education and product and you know like um

there's a lot of things to do to fix beyond just the product or creating just a product

what were the biggest concerns you had going into this

and maybe you could also compare that to the actual problems you encountered and how much they aligned because i know doing something on your own you're like if you have your fears uh and then you have reality

so yeah

yeah i mean honestly um

yeah i mean one of the biggest problems that i knew from the beginning is that i'm a software engineer i've been a software engineer for you know like more than 10 years almost 20 and i knew that i knew that selling the product was gonna be hard and you know mostly because that's not something that i'm like

super familiar with and i you know it's one of those things that i knew that it was gonna be hard

i i knew that it was going to be hard but not to to what degree right i thought you know like i underestimated i didn't know what i did i i did not know and i'm still today i think

the focus for us this year is going to be like okay like how do we reach out people that are interested in using it like you know who's that and you know how do we sell it can we sell it uh so that definitely there was that i think the other one was um a lot of people told me like hey don't be a solo founder find a co-founder

but it's like it's one of those problems that is like chicken and egg it's like well you know like you can't really find a co-founder

you know like that that easily right it's almost like getting married or whatever so i i would say for for people that have that problem of not having a co-founder i would say

it's you know if you're convinced like you should just start it and do it and you know just be open to like people helping you out um because it's also tough to say

hey you know like do you want to quit a job with me

you know like next year i mean that's that's scary right but like if someone sees you and he's like hey i already

quit my job

you know like that you know i feel like

it definitely helps to see someone that

is like okay like they did the first

step and you know maybe they join later

or something yeah and i intend to think

like a co-founder is like marriage it's

like yes if it's a good co-founder and

you have trust and you can build but you

get the wrong one and it can be yeah

then it's very much worse than being on

your own yep yeah that's also for sure i

don't i don't think those types of

relationships you can force yeah you

know it might be better just to do it on

your own uh but you know like it's also

it's also a lot of work right so uh you

know having i think in my particular

case it's not that i have like

100 co-founder but it's more like i end

up finding out you know like a handful

of people that are interested in the

project and are willing to help um so i

consider them kind of like my co-founder

where you know we're walking together uh

but yeah either one way or another one

getting help is super useful i think

yeah

so what advice would you give aspiring

entrepreneurs somebody else who's

thinking they're doing something similar

yeah i i mean it's a tricky one but i

would say you know uh you know they

usually just do it but uh you know i i

do feel like at some point you know if

you're if you're thinking of becoming an

entrepreneur like you should just do it

but um

it's not you know um i i don't think

there's a good time to be an

entrepreneur honestly i don't know how

you feel about that but like uh you know

i you know i think when you get out of

college you have like time and you know

like uh you know you have the energy but

you know like you don't have really the

experience right like the industry

experience of like being there and then

you know a lot of us like you know get

married have kids and then it's like

okay i have some experience but i don't

have the time

and then you know like then you you

you know you might be you know your kids

might be older or whatever and then it's

like okay like now i have the time and

experience but maybe not as much energy

right i mean so i think that i think

that is always really complex like i

don't know if there's like a good time

to be like oh yeah being an entrepreneur

uh what i would say is that you know

they just do it part i don't think it

means like oh i'm just gonna do it and

i'm just gonna do it tomorrow and quit

everything because you know as as we as

we just mentioned is more of a long-term

endurance race right so you know like

there's definitely time for you to think

through and be like okay like what's the

best way of doing it you know like plan

you know like make sure that you have

things aligned uh you know like you  
definitely have time to read books or  
you know like get advice from people  
but but i i do think that the the  
biggest advice is that you know like  
you're never going to be prepared it's  
kind of like being a parent for those of  
us uh or you that are our parents he's  
like no one is prepared you know no one  
is prepared to be become a parent right  
like there's just so much that you don't  
know  
uh at some point you need to do it it  
just doesn't mean that you need to have  
a kid at high during high school right  
it's like you can try to you can try to  
wait for the right time you know like uh  
you know when things are stable and you  
thought it true and you try to prepare  
the best you could but at some point you  
know you're never gonna be prepared  
enough so you know you just do your best  
and yeah and i think one thing i've  
noticed too is when you make a leap that  
like in your case you had a lot of  
software engineering experience you had  
the ai experience and you're going into  
something in that field i think it's  
like if you said i'm gonna you know  
become a magician entertainer in las  
vegas you know yeah your risk is a lot  
higher because you're not in the space  
you know so yeah i mean for for people  
that are in my career path uh well not  
career career stage i would say that  
yeah definitely you know if you already  
work like 10 years in somewhere right  
that has a lot of value and um you know  
one of the things that i uh learned  
recently unfortunately here i think  
it's that uh we could have actually had  
got  
we could have gotten money  
uh without a product from angels you  
know there's different types of getting  
money from friends and family angels vcs  
and i learned that people that have been  
on the industry for a while i usually  
can't get money just by saying he's like  
hey you know like i've already spent  
like 10 years i have this thing i want  
to go in that direction  
uh so yeah like that seems like a  
reasonable path uh just you know gather  
some some experience and then try to  
get some funding um but you know like i  
also did i did not walk that path so it  
might not have worked i don't know i  
mean someone else will have to you'll  
have to interview someone else that does  
the job directly  
you know uh but yeah so that's part of  
the learning process  
yeah i think it's unavoidable yeah yeah  
what about money you know you've got to  
pay your mortgage you got to pay kids  
are expensive you know young kids  
diapers are very expensive you know so  
yeah what do you do for that  
yeah well i i think to us were two  
things uh one is just you just need to  
save money right like i mean uh and you  
can you can do it in

multiple different ways uh but you you  
need to save uh you need to save money  
um i don't i don't know if there's a  
way around it and the other one that to  
us was a bit more of a  
you know it was honestly well i guess it  
was kind of lock or unlock uh you know  
like uh anyways it's uh basically when  
when when i was going to start this uh  
you know  
covet had already started  
and kind of like covet forces to reduce  
our expenses significantly so i think i  
think other people can you know you can  
always lower your expenses right like  
actually before before then we we move  
to a lower like an outsider  
area of the serial area which is a  
little bit more cost effective but then  
like also covered hit and you know like  
that caught you know like i think many  
people's expenses uh mostly because you  
know like where are you gonna travel i  
mean nowhere right like you're gonna  
you're gonna be at home and and uh our  
kids for instance were on on on private  
school here in the seattle area and that  
private school it didn't close but they  
went fully digital and that was that  
wasn't working for us so  
so you know i think i think covet forces  
just to lower our expenses significantly  
which increase the runway because he's  
like okay we already saved and then on  
top of that you have covet and you know  
like now  
but but i i really do believe that  
anyone can uh can reduce expenses it's  
just really painful right and uh  
in our case i think it might have been  
easier because covet forced us to save  
money you know well to reduce our our  
expenses but um  
it definitely would be harder i think um  
you know like if you have a job a stable  
your friends have a stable job and then  
you need to make the leap because he's  
like well you're the only one doing it  
and you know like it feels like you're  
losing a lot and but yeah like i mean  
it's definitely not easy uh but it's  
also not it's not rocket science right  
like reducing your expenses if not  
rocket sci it's not rocket science it's  
just really painful right and  
what i took from that was save money for  
foreign  
reduce your costs  
and in some cases if you have a spouse  
that can help by they keep money coming  
in that can't hurt either you know  
what do you think of the biggest  
challenges in data science and ai  
currently  
and where do you see that going  
yeah for sure so i think um one  
challenge i think for from for data  
science specifically  
uh you know i think  
especially as it becomes more  
um you know like as more people jump  
into this field and uh you know are

i think one of the challenges is how do you find trust and how you trust people uh you know how do you trust data scientists that are good versus someone that is not um yeah i i think i think that's a challenging thing because you know anyone can do a chart especially with tools like tableaux xl or hall 9 you know but and that definitely adds has a lot of benefits but also you know like it makes it a little bit more noisy to figure out like okay who do i trust right and and it's not just a matter of figuring out hey i'm just gonna trust blindly the people that are well known in the area um i have one specific example that i'll mention it um as at the beginning of the pandemic uh there was uh someone uh kind of like doing you know day to day or week week to week updates on the on the pandemic and to me it was frustrating for instance that you know like all the all the charts were were not normalized by per capita so at the very beginning i was like we were you know we were comparing the u.s number of cases against like england right and it's like and you know the the narrative was hey you know like the the the us is doing pretty bad because you know like you know it's growing like a two you know cases are growing twice as fast as england and it really you know it really brought me the wrong way because it's like well yeah like i mean you know the u.s has like you know 300 million inhabitants like i don't know how many inhabitants are in england but like probably you know like a 10 yeah a lot less right like 30 million i i it's it's uh anyway so like uh you know even in those because it's not just a problem of trusting uh you know like the the person the people that are you know that everyone is trusting but it's just like what what data analysis do you trust and you know how do you make sure that they're not biased right and we could be on a better world if we could make changes to the analysis ourselves uh right now in data science reproducibility is like a huge area like being able for everyone to run the same data analysis so for people who are starting out as data scientists do you have any advice and do's and don'ts i think there's currently a preconception that in order to become a data scientist you really need to get a master's you know you need to go through that process of going to college getting a master's and then you you know become a data scientist um so so obviously you know if if people in in uh you know listening to these uh are watching this video uh have the opportunity to go through that you know



standard career path that makes a lot of sense um you know because you know that's that's what seems to be working for data scientists today uh but but i i do question that i i do see that you know learning and uh it's changing a lot especially with the pandemic with online learning all these things so so i think i think the biggest suggestion that i have for you know aspiring data scientists or new data scientists would be to look into competitions like uh you know there's websites like kaggle that you know they you know they can pick any really any uh any challenge to whatever you know degree of complexity they have and you know just practice right and and i think you know i i don't know i mean i don't i don't know the future but i do think that you know the the way college uh works today is likely to change with online learning and the pandemic and all these things so i i think that you know being self self-taught data scientist is something that is going to happen uh and starting starting to happen but you know like it's it's definitely important because you know i mean you you know maybe brian you can elaborate on this but like uh you know like you know you don't want to take just you know one course say you know the whole nine course is like a great way to start and to become a data scientist but you don't want to end there right so you definitely want to have like you know jump from you know from that to something more complex you know to do exercises in kaggle to challenge yourself and you know you need to put the hours right so i don't know brian do you have something to add there by singing to what you said earlier too is like you're in one job and i think a lot of people who are moving into data science i think this is a great thing might be data engineers or data analysts or business not you know domain experts and you know perfect person who probably could very intuitively move into data science say in a hospital if somebody's been working for 20 or 30 years in the hospital doing analysis and now they just have to kind of acquire the additional skills so sometimes it doesn't have to be i'm starting fresh but even just migrating over from other skill sets yeah i know that's great i think i think that's a great point you basically want to leverage what you know right because uh what do you see this the direction now that you're going to be taking cal 9 and yourself i've been technical i've been a software engineer for for many years so to us right now like the challenge is

right like can you know can we get  
people excited uh you know to jump into  
hull nine and like you know try it out  
right so  
really what we're trying to do is  
outreach to people and you know just let  
them know what we have uh helping them  
out you know  
bring them along to concepts like  
uh you know data science data analysis  
artificial intelligence and just kind of  
grow that right so so so to us i mean  
obviously we're gonna keep growing the  
product um you know there's features  
that we want to add like better support  
for programming languages like python  
that really kind of like expand the  
scope of what you can do on hull nine  
but a lot of it is honestly uh just  
connecting to people uh if you have a  
problem you know like or you know  
something that you're like oh i wish i  
could you know i work on a company i  
wish i could do this analysis like reach  
out to us maybe there's a way of you  
know do it in hull 9 and we can help you  
out uh so yeah for us is is kind of like  
you know like the next three six months  
is making sure that there's enough  
people you know uh gravitating around  
hull9 that  
uh find it useful and find joy in using  
it i'm definitely looking forward for  
feedback  
you know if you're listening to this uh  
channel and you play a little bit with  
hull nine please  
do leave a comment or you know send me  
uh you know you can find me on twitter  
or whatever and just uh you know i would  
super appreciate the feedback yeah  
thoughts about going with javascript  
initially  
yeah was that the ideal choice in the  
end and how do you see python and r  
fitting in  
yeah so so actually my uh we you know  
when i was starting the project it was  
not my plan to use javascript um you  
know i i still have like a sketch  
somewhere  
you can probably look at the first  
videos on our on the on my channel  
and you'll see that the original concept  
was hey we're going to create a create a  
desktop application that allows you to  
use something like pytorch uh  
uh you know as a backend 100 validity is  
that the best way of building  
user interfaces is with  
web technologies right including  
javascript you know react native or view  
or whatever framework right so so so  
that's how i started building um uh how  
9 is you know with web technologies i  
you know 100 believe that  
and but but then the interesting thing  
and uh the the interesting interactions  
there were  
once i started going through throughout  
uh towards that path  
i found out it's like wait a moment like  
i can do a little bit more with

javascript right it's like you know like  
you know i basically started delaying  
integrating python and python all these  
things and i was like well i just need  
to do like  
um you know like a chart right and  
you'll see like if you watch my youtube  
channel i'm a very incremental person  
like i don't tend to plan like you know  
three years in advance or something but  
it's like i started coding and it's just  
like just solve the next immediate  
problem next immediate problem so you  
know i built the  
basics of the app of the uh desktop  
application and then i was like hey i  
need to put a chart and he's like well  
javascript is pretty good at charts it's  
actually arguably better than  
python and r charting so i put you know  
like a d3 chart and i'm like that's cool  
and then i was like well i need to do a  
data transformation and it's like should  
i bring python for that and it's like no  
i can do some of the data transformation  
with javascript right so i kind of like  
uh i kind of like fall by mistake in  
you know like into this kind of like  
space of javascript right and and it's  
surprising how far we were able to get  
uh because eventually you know at some  
point i think it was like month a second  
month or something like that uh you know  
we started integrating tensorflow.js  
which is basically a port of  
tensorflow which is one of the leading  
deep learning ai frameworks  
into javascript right and i played with  
it and it's like yeah this is working  
out uh and then you know like six months  
afterwards you know like we we got on  
cheat to join us he's a data scientist  
and he took a look at javascript and he  
he changed  
the product from using javascript to  
using a library called arcaro that  
supports up to a million records uh and  
now now the end of the story is that  
you know we were able to get pretty  
far with javascript but we did hit uh  
you know like an you know like a uh i  
don't want to say a limit but we did and  
we did end up hitting a boundary at some  
point right which is where we're at  
today where we're like okay like we were  
able to do  
so many things with javascript and we're  
pretty happy  
where we're at but like okay like what  
about x and y's and you know like how do  
we do those things and that's where we  
look back and and we were like okay like  
you know there's cases where you need to  
use python or r  
um and you know like still like right  
now our focus is we're pretty happy with  
web technologies and javascript we're  
kind of like invested on that like 80  
and then for the remaining things it's  
like okay just use python train the  
model you know if you really need a gpu  
if the algorithm is not available just

use it there but yeah it was mostly kind of like an incremental approach and i'm still super happy where

well i was actually surprised when i was watching a channel because i was following especially early on and

uh it was very impressive because i'd say i didn't know you could do that in javascript then you're like yeah i found this library like to do this like really

and i was like he's like wow and so i was really surprised to see all these tools like wow this is a huge ecosystem someone is listening and it's already an expert on javascript right

i would actually encourage them to explore like what's out there on the javascript space right because if you were to start all over again being back in time and talk to your younger self for a year or two ago uh what would you tell yourself about this uh event oh yeah yeah that was definitely painful i honestly i'm you know i have i have two answers

the first one is you know i really believe that you know there's i try to live life with no regrets so

you know if you know whatever got you to up to this point you know was where the right choices just because those were the right choices for you and you're up to that point so like i personally don't have any any regrets whatsoever um you know but but i think if i were to tell myself something i i think it it would have had a lot a lot of value for me to not start with the technical tasks

right um you know whatever maybe i had to build a little bit of confidence you know you know as a new entrepreneur but like i i think it would have been um very important for me to start you know to

to block myself from coding anything and and force myself to start with the business task right like

can you try to get money can you try to get customers can you talk to them um can you build a business plan can you you know uh explain what you're trying to solve like all these things are super important

don't go and do those tasks that are like the things that you already know how to do right like go and try to build the product right because those are the things that are really gonna challenge you early on and you're probably gonna figure out that you need a co-founder or you really need to push your skills so um yeah i don't i don't want this answer to

be interpreted as oh you know the business tasks are the most important task you should always start with those

i i i the way that i would explain it is like if you're technical start with the business tasks if you're like a business person start with the technical tasks because those are the things that you don't even know what you don't know right so i guess kind of this is sort of

the wrap up kind of question but what do  
you feel now as sort of looking back of  
successes  
challenges aha moments that you've come  
to  
yeah that's that's really tricky because  
you know  
if you look at the day-to-day thing that  
i've been doing you know like just  
recording daily videos of progress  
it's so frustrating because you don't  
see any progress whatsoever and i  
definitely feel that way right like if i  
look at what i did yesterday it's like  
oh my god like you know same thing like  
things are not moving you know like it's  
just so easy to not see any progress  
whatsoever um you know because you're  
just on the on the grind and you know  
like honestly nothing really changed  
from what i did you know like five days  
ago right it's like same thing right uh  
but if you look you know if i take step  
back and really like at the end of the  
year  
you know i had like a checkpoint right  
and it's like okay should i do this  
another year because you know i you know  
a year is like a long time and i think  
if you look backwards right and myself  
looking at least backwards right if i  
had told myself  
hey by the end of the year you know like  
you'll have you know like a group of  
people that are all passionate about  
working on these and you'll talk to  
investors you know like and you'll know  
how to do this you know you you'll  
create your own company and you'll you  
have already raised money and you have  
paying customers like real paying  
customers maybe not as many as you  
thought you would have but you know like  
there's some paying customers like i  
think they they you know the progress is  
huge and um  
but it you you can only see that  
progress in retrospect  
taking like a you know like a big jump  
of like where where where you started  
where you're at today and i i would also  
say that  
it's not it's not what i expected right  
like you know i i wasn't planning to  
have a team or you know really have  
raised money my goal at the beginning is  
like well i'll just work on this on my  
own and hopefully by the end of the year  
i'll be profitable  
yeah that was that was kind of like  
completely unrealistic  
so yeah i think i look at it i look back  
at it and it was worth it but it was not  
what necessarily what i it was not  
necessarily my definition of success  
that i had on day one  
from somebody outside who's been  
watching videos i could definitely see  
like okay it started with like wireframe  
drawings and sketches and i'm like all  
right then it's like wow there's a  
screen you know and i can see you adding

like data loading components and then  
moving into the pipeline pieces so like  
from what i see now versus what i  
associate a year ago it's a huge  
difference right well let's actually  
finish the questions and everything and  
i want to thank you javier for  
popping in and doing these your  
questions and everything is  
that was a great interview with javier  
we covered a lot of grounds i hope you  
learned a lot about what it's like to  
start your own company maybe got some  
inspiration i know i did i also learned  
a lot technically about it again links  
in the description you can go watch  
javia's day by day progress or jump to  
the end and just see where he's at now  
this year he's starting to go week by  
week i believe to do videos just  
summarizing things  
so have a look at it  
i want to thank you for watching please  
put comments love to hear what your  
questions and thoughts are  
please like share subscribe until next  
time i'm pulling for you we're all in  
this together thank you

[https://www.youtube.com/watch?v=YtJEfTTD\\_Y4](https://www.youtube.com/watch?v=YtJEfTTD_Y4)

hi guys happy South by I feel like what  
a way to kick this off  
um one of the things i love about South  
by Southwest is um i've been coming for  
the last decade and we're always talking  
about what's the next big thing in Tech  
and i would say like artificial  
intelligence and Chachi PT is like  
couldn't be more relevant so glad to be  
sitting here with you  
um how many folks in the audience have  
used chat GPT  
okay so it feels like this is an  
audience that like we can that's good i  
can be very specific on this stuff  
um and remember you guys ask questions  
um i'm Gonna Leave 15 minutes at the end  
to get to it so i want to get to open Ai  
and i want to talk about the company  
behind Chachi PT but i would love to  
start with Chachi BT so let's go it's  
November 22nd you guys release chat GPT  
this is an AI chat bot that's developed  
by openai it's built uh on top of large  
language models a large language model  
called gpt3 You release it November 2022  
over 100 million users in two months  
this becomes the fastest growing  
application in history  
um i just for some perspective it took  
Facebook meta 4.5 years to reach 100  
million users took Tick Tock nine months  
like why was chat GPT the killer app  
yeah i actually think about this  
question a lot because  
for us you know we actually had the  
technology behind it the model behind it  
created almost a year prior so it wasn't  
new new technology right um but the  
thing that we really did differently is

that we did a little bit of extra work  
to make it more aligned so it really you  
could talk to it it would do what you  
wanted but secondly we made it  
accessible right we built an interface  
that was super simple it was kind of the  
simplest interface we could think of  
um we made it available for free to  
anyone yeah and I think that the thing  
that was very interesting was as this  
this app really took off and people  
started using it we could see the gap  
between what people thought was possible  
and what actually had been possible for  
quite some time right and I think to me  
this is actually maybe the biggest  
takeaway is that I really want us as a  
company and as a field to be  
informing people to make sure that they  
know what's possible what's not kind of  
what the Forefront is going to look like  
and where things are going because I  
think that's actually really important  
to figure out how to absorb this in the  
society like how do we actually get all  
the positives and how do we mitigate the  
negatives like in the past I mean I mean  
should we talk about Tay we won't talk  
too much about today but like chat Bots  
are danger like are hard to put out  
there but there was something about what  
you put out there you talk about that  
Gap right that it didn't implode right  
it learned a lot and all of a sudden  
it's almost  
for this whole new era of everyone  
saying could we do this could we do this  
could we do this why now yes so I as we  
were preparing chat apt for release the  
thing I kept telling to the team was the  
most important thing we can be overly  
conservative in terms of like refusing  
to do anything that seems even a little  
bit sketchy that's fine most important  
thing is we don't have to like turn it  
off in three days yeah because that is  
worried when you when you kind of like  
pressed published on this yeah you're  
worried how could you not right like you  
know we've been doing lots of testing  
right we have our own internal red teams  
we'd had beta testers on it hundreds of  
beta testers for many many months but  
it's very different from kind of  
exposing it to kind of the the full  
diversity and adversarial and sort of  
beautiful force of of the world and  
where people are going to apply it and  
so for us I think that you know we have  
been doing iterative deployment for a  
very long time right we've been you know  
ever since you know 2020 June or so is  
when we first released a product you  
know an API so people could use these  
language models  
um we've been making them more capable  
getting into more people's hands but we  
kind of knew this was going to be just a  
different dimension yeah and it was our  
first time building a consumer-facing  
app and so we definitely were nervous  
but I think that the team really Rose to  
the occasion yeah well I want to look I

definitely want to talk about the future  
of Chad GPT because I know a lot of  
folks especially we have a lot of users  
in the audience are curious about it but  
let's look I want to start at the I want  
to go to the Past right because the  
company behind Chachi PT Dali  
um is open AI and this is it's  
interesting because in the Silicon  
Valley world you have like a sexy  
company it comes out everyone's talking  
about it open AI was just kind of the  
opposite it just was kind of like  
hanging out in the background until this  
thing came out until you know you  
put out these products that could shift  
culture and start all these questions  
um and so let's go back it's 2015 July  
and you're in Menlo Park at a fancy  
hotel called the Rosewood I don't know  
if anyone here has been to the Rosewood  
it's certainly a scene  
you're sitting there who's there what  
are we eating why are we there what's  
the topical conversation well I promise  
I'm going somewhere with this well I  
couldn't tell you what was on the menu  
that night but yeah we just want to know  
what Elon Musk was eating yeah okay  
sorry I got ahead of it go ahead so we  
so we were having a dinner uh to discuss  
AI in the future and kind of just what  
might be possible and whether we could  
do something positive to affect it um  
and so my co-founders at opening eyes  
that's Elon Sam Ilya uh and other people  
were all there and kind of the question  
was is it too late to start a lab with a  
bunch of the best people at it right we  
all kind of saw that like AI feels like  
it's going to happen it feels like AGI  
really building human level machines  
will be achievable and what can we do as  
technologists as just people who care  
about this problem should try to steer  
in a positive direction and kind of the  
conclusion from the dinner was it's not  
obviously impossible to do something  
here  
and you felt a sense of urgency I did  
why sure  
um the moment I think I think the thing  
that is easy to miss here right is I  
think now people see chat GPT and they  
say wow like suddenly you feel the  
possibilities right and you both see  
what's possible like not science fiction  
anymore right actually usable today  
um but it's still hard to kind of  
extrapolate to really follow the  
exponential to think well they might be  
possible tomorrow and I think that the  
mode that I have been in for a long time  
has been really thinking about that  
exponential like I remember reading Alan  
Turing's 1950 paper on uh the Turing  
test and the thing that really stuck out  
to me and this was you know right after  
high school was he said look you're  
never going to program a machine to  
solve this problem instead you need a  
machine that can actually learn how to



do it and that for me was the aha moment

the idea that you could have a machine  
that could solve problems that I could  
not that no human could figure out how  
to solve like that's so clearly it could  
be so transformational right there's all  
these challenges global warming you know  
just like medicine for everyone like all  
these things that are kind of Out Of  
Reach yeah I don't know how we're going  
to do it but if you could use machines  
to Aid in that process we want to and so  
I think we all kind of felt like okay  
the technology is starting to happen you  
know deep learning is an overnight  
success that took 70 years right it's  
like you know 2012 there was a big  
breakthrough on image recognition but it  
really took another decade to start to  
get to the point that we're at now but  
we could all see that exponential and I  
think we really wanted to to Really push  
it along and really steer it and I mean  
you at the time so you before you were  
the CTO of stripe this little company  
called stripe and  
you really felt  
felt time Elon Elon we can get into all  
this later but  
um that you guys could build something  
better and you guys could build  
something that was pro-humanity and not  
anti-humanity which is always that fine  
line in technology which I think the  
last decade has kind of taught us yeah  
and I I would I would quibble a little  
bit with you know I don't know that at  
least for me personally that I viewed it  
as we would build something better you  
know in the sense of like you know  
there's lots of other people who are in  
this field doing great work too  
um but I wanted to contribute you know  
and I think it's one thing that's  
actually very important about Ai and  
something that's very core to our values  
and our mission is that we think this  
really should be an Endeavor of humanity  
right if we're all thinking about well  
what's my part of it you know like what  
what do I get to own  
um I think that is actually one place  
where the danger really lies and so so  
tell me about how the company was and is  
structured because now that was seven  
years ago so take us behind the curtain  
I saw something Sam Altman wrote he said  
we've attempted to set up our structure  
in a way that aligns our incentives with  
a good outcome what does that even mean  
yeah so uh we are a weird looking  
company uh in what sense uh so we  
started as a non-profit because we had  
this Grand Mission but we did not know  
how to operationalize it right we know  
that we want to have AGI benefit all of  
humanity  
but what is what does that mean what are  
you supposed to do and so we started as  
a research lab we hired some phds we did  
some research we open sourced some code  
and our original plan was open source  
everything right you think about how you

can have a good impact maybe if you just  
make everything available to anyone that  
can make any changes they want  
um then you know if there's one bad  
actor well you've got seven billion good  
actors who can keep them in check  
and you know I think that this plan was  
a good place to start but you know Italy  
and I we were really the ones running  
the company in the early days  
um spent a lot of time really thinking  
about how do you turn this into  
the kind of impact that we think is  
possible into something that really can  
make a difference in terms of just how  
beneficial AGI ends up being  
and I think that we found kind of two  
important pieces  
um  
one was simply a question of scale right  
the we you know all the results that we  
were getting that were impressive and  
really pushing things forward were  
requiring bigger and bigger computers  
and we kind of realized that okay well  
you're just going to need to raise  
billions of dollars to build these super  
computers  
um and we actually tried really hard to  
raise that money as a non-profit like I  
remember sitting in a room during one of  
these fundraises and uh looking in the  
eyes of a well-known Silicon Valley  
investor who is that uh well I I  
wouldn't I wouldn't share the name but  
uh  
but I he was like 100 million dollars  
which is what we're trying to raise he's  
like that's a staggering amount for a  
non-profit  
[Music]  
right and we looked at each other we  
were like it is  
yeah  
and we actually we actually succeeded we  
actually raised the money  
um  
but  
we've realized that 10x that  
that was not going to happen I mean if  
if anyone in this audience knows how to  
do that as a non-profit like please we  
will hire you in an instant  
um but but we realized that that you  
know that that if we wanted to actually  
achieve the mission that we needed a  
vehicle that could get us there and you  
know we're not anti-capitalists like  
that's not why we started non-profit the  
way open as a non-profit  
um actually capitalism is a very good  
mechanism within the bounds that it's  
designed for but if you do build sort of  
the most powerful technology ever in a  
single company and that thing becomes  
just like way more valuable or powerful  
than any company we have today  
a lot of those are not really designed  
for that so we ended up sort of  
Designing this custom bespoke structure  
it's super weird like we have this  
limited partnership with all custom docs

um you know if you're if you're a legal  
nerd like it's the kind of thing that  
like you know is like actually really  
really fun to dig into

um but the way we design things is that  
we actually have the non-profit is the  
governing body so there's a board of a  
nonprofit that kind of owns everything  
it owns this limited partnership that  
actually has profit interest but they're  
capped so there's only a fixed amount  
that investors and shareholders are able  
to get and that I there's a very careful  
balance in a lot of these details in  
terms of like you know having the board  
have a majority of Entry of of people  
who don't have profit interest all these  
things in order to really try to change  
the incentive and make it so that you  
know that the way that we operate the  
company is comports with the mission and  
so I think that that you know this kind  
of approach of like really trying to  
figure out how do you balance how do you  
approach the mission but how do you make  
it practical how do you operationalize  
it that is something that has come up  
again and again in our history I  
I get the history of I mean artificial  
intelligence like this is nothing new  
obviously so like what is it about now  
that feels like a watershed moment and  
why why now are all companies putting  
money into this why now is this the  
thing that we all are talking about what  
what is it about the technology now yeah  
well I think the fundamental thing here  
is really about exponentials right it's  
like no matter how many times you hear  
it it is still hard to impossible to  
internalize

and I when I look back like we've done  
these studies on the growth of compute  
power in the field and we see this nice  
exponential uh with a doubling period of  
like every 3.5 months you know as  
opposed to 18 months for Moore's Law  
it's been going on for the past 10 years  
or so but we actually extrapolated back  
even further and you can see that this  
exponential continues all the way  
slightly smaller slope it used to be  
Moore's law but over the past 10 years  
basically people have been being like  
well you could go faster than Moore's  
law by just spending more money and I  
think that what's been happening is  
we've been having this accumulated value  
with a slow roll rather than trying to  
do a flash in the pan like just get rich  
quick kind of a thing that maybe other  
fields have been accused of uh AI I  
think has been a much more steady  
incremental build of value and I think  
that the thing that's so interesting is  
normally if you have a technology in  
search of a problem adoption is hard  
it's a new technology everyone has to  
change their business they don't know  
where it fits in for AI for language in  
particular every business is already a  
language business every flow is language  
flow and so if you can add a little bit

of value then everyone wants it and I think that is the fundamental thing that really has driven the adoption of the excitement is that it just fits into what everyone already wants to do well and also in 2017 you know uh model called Transformers right these large language models and this idea that you could treat everything as a language music and code and speech and image the entire world almost looks like a sequence of tokens right if we could put a language behind it that was really an accelerant for a lot of what you're building too yeah I think that that it's uh you know the way they think about the progress like the technological driver behind this is that it's very easy to latch onto any one piece of it right Transformer definitely a really important thing but where the Transformer came from was really trying to figure out how do you get good compute utilization out of the compute Hardware that we use these gpus right the gpus themselves are really impressive feat of engineering that has required just huge amounts of investment to get there and the software stack on top of them and so it's kind of each of these pieces and each one kind of has its time like one thing that's that's super interesting to me looking from the inside was that we were working on language models that look very similar to what we do today starting 2016 you know we had one person AI gradford who was really excited about language and you know like he just was kind of working on building these little chat Bots and like we really liked Alec and so we were just like very supportive of him doing whatever he wanted and meanwhile we were off like investing in serious projects and stuff and we're just like you know whatever whatever Alec needs like we'll make sure he gets um and 2017 you know we had a first really interesting result uh which was that we had a model that was trained on Amazon reviews and that it was just predicting the next character the next character just what letter comes next and it actually learned a state-of-the-art sentiment analysis classifier you could give it a sentence and it would say like this is positive or negative may not sound very impressive but this was the moment where we kind of knew it was going to work right it's so clear that you would transcend just syntax where the commas go and you'd move to semantics right and so we just knew we had to push and push and push Amazon Amazon reviews who knew that this is the real story behind it exactly exactly you always start small um you know every day there's a new headline on how this technology is being adapted I just literally was Googling it yesterday it's like the latest headlines or

companies are harnessing the power of a  
chatbot to write and automate emails  
with a little bit of personalization  
another headline how Chachi PT can help  
abuse survivors represent themselves in  
court if they can't afford otherwise we  
obviously know about Microsoft's being  
in A disruption search from the seat  
that you're sitting in what for you and  
if you could be as specific as possible  
what do you think are the most  
interesting and disruptive use cases for  
generative AI yeah well you know I  
actually first want to just tell a  
personal anecdote of the kind of thing  
that I am very hopeful for  
um so you know medicine is definitely a  
very high stakes area we're very  
cautious with you know how people should  
use this kind of Technology there but  
even today I want to talk about a place  
where I have just been like I really  
want for my own use um so you know my  
wife  
a number of years ago I had a mysterious  
ailment  
um that she had this pulsating pain  
right here on her abdomen bottom right  
side and wasn't appendicitis I you know  
we went to first doctor and the doctor  
was like oh I know what this is  
um and prescribe some antibiotic nothing  
happened went to a second doctor who  
said oh it's a super rare bacterial  
infection you need this other super  
powerful antibiotic took that and over  
the course of three months we went to  
four different doctors until finally  
someone just like did an ultrasound and  
found uh what it was and  
I kid you not I just typed in  
you know couple sentences of description  
that I just gave here into chat GPT it  
said number one make sure it's not  
appendicitis number two rupture to  
Varian cyst and that is in fact what it  
was wow and so the kind of thing that I  
want is I personally in in the medical  
field once I think that I don't rely on  
I don't want it to replace a doctor I  
don't want it to tell me like oh go take  
this you know super rare you know  
antibiotic I don't want a doctor tell me  
that either there's also chat sometimes  
confidently says the exact wrong thing  
it's kind of like a drunk crack exactly  
so you got to be here you gotta be  
careful something something we're  
working on yeah yeah right yeah it's  
actually interesting we're actually it's  
just quick aside we're actually finding  
that our models actually are much more  
calibrated than we realize and can say  
when they're they're right or wrong but  
we currently destroy that information in  
some of the the training processes we do  
so more to say there  
um but but yeah I think this this  
suggests give you ideas really you know  
in in writing it's like the blank page  
problem but I think this for me is where  
generative AI can really shine right is  
really about sort of unblocking you

giving you ideas and just giving you an assistant that is willing to do whatever you want 24 7. and so let's you've now the Chachi BT's been deployed to Millions

um has there been anything that's really shocked you or surprised you

um and how people have been utilizing it

I mean of course yeah I mean I I do think that for me the overall most interesting thing has just been seeing just how many people engage with it for so many just sort of surprising aspects of life right like what well you know I think that the knowledge work is maybe the area that I kind of see as most uh important for us to really focus on and you know we see people within open AI who don't have who aren't native English speakers use it to improve their writing and that you you know at first that there's someone with an open AI who is suddenly his his uh you could just tell it the writing style of everything changed and it was just like way more fluid and just also just like honestly just like way more understandable uh and at first you're like what just happened and uh he literally at one point had hired someone to uh to do the writing for him

um but that was actually really hard it was just like a lot of overhead and he wasn't able to get the points across um but with catchy BT he really was able to and I think that that for me is just like so interesting to see that people just use it as this Aid it's cognitive Aid uh to think just more clearly into and to communicate with others well you always know you have disruptive technology when you put it out there and people misuse it I I remember a decade ago doing like a story on like pimps recruiting women on Facebook right which is like okay you know if someone's using your technology in a bad way like you have something that's hitting mainstream so like can you tell us like what how are people using it in ways that it's not designed for have you what have you learned from putting this out there and what have you learned from how people are misusing it yep um well misuse is definitely also very core to what we think about

um part of why we wanted to put this out there was to get feedback to see how people use it for good and for bad and to continually tune

um and honestly one of the biggest things that we've seen you know we always anticipate all the different things that might go wrong for gpt3 we really focused on misinformation and that actually the most common people the most common abuse Vector was generating spam for drugs you know for uh you know various medicines and so uh you don't necessarily see the problems around the corner for Chach BT one thing we've just seen is people just creating thousands

or hundreds of thousands of accounts in order to just be able to use it much more some people generating lots of spam it's clear that that people are using it for all sorts of different things um I think for individuals uh there's definitely I think actually I would say this is an interesting category of you know to your point where it says something that is confidently wrong my drunk guy point exactly yeah over every line that's right I'm thinking oh because it said that it must be true yeah and that's not true for humans it's not quite true for AIS I think we will get there at one point but I think that it's going to be a process and something we all need to participate in right and and so I mean I would love to get into kind of what we can predict in the future with AI but I before we leave chat GPT this isn't really chat GPT but I feel like we have to talk about Sydney for a moment um people in the audience people who heard of who read Kevin roos's article in the New York Times right so just a little background um you know you guys put chat gbt out there Microsoft Google racing to get searched products out there um the Microsoft releases its own AI powered search of being chatbot and all of a sudden Kevin Roos great writer of the New York Times is playing with it Sid with the Bing chat but it reveals that its name is the shadow name is Sydney um and also try and tells Kevin when prompted a certain way I want to be alive and try to persuade him to leave his wife so obviously that's like an awkward conversation so what are the Garter and I and to be clear Microsoft's an investor and partner this isn't something that open a specifically put out there but I do think it's an interesting point of saying you put this stuff out there the next thing you know like I don't know Sydney's trying to make you leave your wife um so like what are the guard rails that to be put in like what have you learned just after after over the last couple months where you've seen the misuse and what can you put in to make sure that we're not all you know trying to leave our security and others because Bots are telling us to I mean look like there's I think that even the I think this is actually a great question right and I think that even the most high order bit right the most important thing in my mind is this question of when when do you want to release right right and my point earlier of well there was this overhang in terms of this gap between people's expectations what they were prepared for and what was actually possible and I think that's actually where a lot of the danger lies you know we we can kind of

joke about or laugh about this article  
because it wasn't very convincing you  
know just like chatbot saying you know  
leave your wife Sydney was pretty spicy  
very spicy but did not actually have an  
impact you know and and I think that is  
actually in my mind the most important  
thing is trying to surface these things  
as early in the process as possible  
right before you have some system that  
is much more persuasive or capable or  
able to operate more subtle ways because  
we want to build trust and figure  
out where we can't trust yet you know  
figure out where we put the guardrails  
in so that to me this is the process  
right this is the pain of the learning  
and that we've seen this across the  
board right we've seen places where  
people try really hard to get the model  
to do something and says sorry nope  
can't do that  
um we've seen places where people use it  
for positive things and we've seen  
people where people where cases where  
people  
have outcomes like this and so I think  
that my answer is that you know we have  
a team uh that works really hard on  
these problems um you know that we have  
people who build on top of us who  
customize the technology in different  
ways um but fundamentally that I think  
that we're all very aligned in terms of  
trying to make this technology more  
trustworthy and usable and you know we  
do a lot of red teaming internally and  
so that's you know we hire experts in  
different domains we hire just lots of  
people to try to break the models  
um you know when we actually released it  
we knew like we'd kind of cleared a bar  
we felt in terms of just how hard it was  
to get it to go off the rails  
um but we knew it wasn't perfect we knew  
that we had come up with some ways to  
get around it with sufficient effort and  
we knew that other people would find  
more too  
um but we've been feeding all that back  
in we've been learning from what we see  
in practice and so I think that this  
this sort of loop of their being  
failures I think that's important  
because if not it means you're kind of  
holding it too long  
um because you're being too conservative  
and then when you do release it now you  
actually are taking on much more risk  
and much more danger it's not 100 True  
in all cases but I think that that  
heuristic I think is important well I  
think it's also we'll get to a little  
bit later but an important segue too to  
talk about the future of misinformation  
and how we can prep now for what's  
coming with this innovation  
um before we get to it I mean I I think  
one of the most interesting things to me  
is the ability for this technology to  
synthesize information and make  
predictions and identify patterns so I



can you tell me what you think the most  
interesting future use cases of what  
artificial intelligence will be able to  
predict will be like predict disease  
predict stock market predict if you're  
going to get it not you if someone's  
going to get a divorce you know like  
what what could this predict take us  
paint the image of the future well I I  
think that the real  
story here in my mind is amplification  
of what humans can do  
and I think that that will be true on  
knowledge work I think that it will just  
be that we're all it's kind of like if  
you hire six assistants who are all like  
you know they're not perfect they need  
to be trained up a little bit  
um they don't quite know exactly what  
you want always but they're so eager  
they never sleep they're there to help  
you they're willing to do the drug work  
and you get to be the director and I  
think that that is going to be what  
writing will look like I think that's  
what coding will look like I think  
that's what sort of you know business  
communication will look like  
but I also think that is what  
entertainment will look like you think  
about today  
where everyone watches the same TV show  
and you know maybe people are still  
upset about the last season of Game of  
Thrones  
but imagine if you could ask your AI to  
make a new ending that goes a different  
way and maybe even put yourself in there  
as a main character or something  
having interactive experiences and so I  
think it's just going to be every aspect  
of life  
is going to be sort of Amplified by this  
technology and I'm sure there are some  
aspects where people or companies that  
will say I don't want that and that's  
okay like I think it's really going to  
be a tool just like the cell phone in  
your pocket that is going to be uh is  
going to be available when it makes  
sense I think we think a lot at um at my  
company about we're knee deep in  
exploring how artificial intelligence  
can personalize content develop closer  
relationships with the audience which is  
a wide open space and an interesting  
space but also there's so many ethics  
that come up with that so we're  
developing a lot of these ethical  
Frameworks around it I'm curious like  
when you talk about Game of Thrones  
and personalized media and being able to  
put yourself in it when we look at the  
future of media and entertainment like  
would you say this is a new frontier for  
personalized media yeah I think I think  
for sure I mean I I kind of think it's a  
new frontier for for most areas you know  
it may not be it may not be great yet at  
some some domains but I think that we we  
are just going to see just like way more  
creative action happening and to me  
actually the thing that's I think most

sort of encouraging is I think it will  
be the barriers to entry decrease and  
this is by the way how we thought about  
things at stripe decrease the barrier to  
people making payments online  
integrating them into their services way  
more activity happens things you would  
never think of and I think we'll see  
this in content like individuals who you  
know have a creative idea that they want  
to see realized they now have a whole  
creative Studio at their at their  
disposal but also the pros the people  
who really want to make something good  
or makes it something way better than  
than any of the amateurs could and we've  
seen this with Dolly like there's  
literally these hundred page books that  
people write on how to prompt Dolly and  
so I think that skill doesn't go away I  
think it's this like multiplicative  
effect I mean but there will also be all  
these murky questions around identity  
and attribute attribution as these  
models go mainstream so it's not  
perfectly clear what the data sets are  
used to train so when we take a step  
back and this is a more fundamental  
question should an artist's Style with  
models trained on their work should it  
be available to folks um to anyone  
without use of attribution what are you  
guys thinking about when it comes to  
these ethical yeah so we're so we engage  
very closely with policy makers and I  
think this is a really important  
conversation to have you know  
fundamentally we as a company want to  
provide information and to show just  
like kind of what's possible and let  
there be a public conversation about  
these topics like I don't think that we  
have all the answers but we think it's  
really important to be talking about  
right so take from me take me for  
example right I like to put myself in  
the I'm like the beta test I'll put  
myself drivers see so let's say someone  
took all the footage of me interviewing  
folks like you Zuckerberg whatever  
throughout the years  
um and they included my voice my body  
they trained this as like Allure Lori  
model I've already named it I don't know  
please don't do it guys  
um and then I don't know why I'm like  
inviting this  
um but then they launched a podcast  
um using my likeness my style my voice  
hopefully it'll have fabulous style that  
would be all I'd ask but like could they  
do it should they get a cut like should  
I get a say in it like these are the as  
a content creator as someone who said at  
the the center of these ethical  
questions about the future like what  
does that look like yeah no again I  
think I think this is a great question  
um and I I think I think it would be  
kind of futuristic of me to say that I  
have all the answers but I can tell you  
a little bit of how we think about it

yeah um you know as a company  
like our mission to build AGI that  
benefits all of humanity right we've  
kind of felt with this this cap profit  
structure and I really think that an  
answer on this question but more broadly  
how do you make sure that  
all of humanity are kind of stakeholders  
in what gets built and everyone benefits  
and if it's access to these Services if  
it's that you know you're able to kind  
of have your AI personality or this AI  
that you build up uh that represents you  
and and and you know sort of build a  
business with that  
um I think all this is on the table  
um and I do think that there's some  
there's we need some sort of like you  
know like I think that society as a  
whole needs to adapt here like there's  
no question that something is changing  
and I think that we need to lean into  
that question do you think don't you get  
a little black mirror but why not um do  
you see a future where we verify our own  
AI identities and we can license them  
out so like I could license out my  
likeness to some degree yeah you know I  
I think again I think kind of everything  
is on the table  
um I think actually this to your earlier  
question too of like why now what's  
happening now is I think everyone kind  
of Senses it right that we're building  
almost this like  
new kind of internet or something like  
that and in what sense well I think that  
the where content comes from  
you know good and bad ways right how  
it's created like what an application is  
you know there's web 1.0 and 2.0 or  
something and you know I'm not going to  
talk about web three uh but is it too  
soon there you go yeah I know I've never  
never uh yeah uh more to say there uh  
but uh I I think that where we're going  
is what an application is will be very  
different right that you're right now  
you think of this content that was  
written by someone that's very static  
you can't really interact with it but  
we're clearly moving to a world where  
it's alive right you can talk to it and  
it understands you and helps you like  
honestly every time I like go through  
some menu and I keep trying to find like  
where I'm supposed to click I'm like why  
is this still here yeah and I think in  
the future it will not  
um going back to kind of the next  
iteration of  
um Chachi PT and it was built on gpt3  
correct 3.5 okay 3.5 how much powerful  
is the current technology You're  
Building uh  
well I you know we're we are  
continuing to make lea significant  
progress  
um but like blink twice if it's 10 times  
more powerful  
or okay uh-huh three times there we go  
uh I guess I guess all I can say is that  
you know can't comment on unreleased

work but I can say that uh we work really hard both on the capability side and on the safety side and that you know there's been a lot of rumors swirling around about what we're going to be releasing and what's coming out and what I can definitely say is that we do not release until we feel good about the safety and the risk mitigations and I mean and you guys have the ability to turn up the dial turn down the dial and we've seen I joke about Chachi PT confidently it's it does so many fascinating things and it sometimes confidently says the wrong thing like I was asking it my bio and it confidently said three out of four things that were correct right

um so can you can you give any insight maybe speaking like I don't know we could speak around it kind of about what future versions are going to look like will it be more cautious more creative like yeah and let me give you a mental model for kind of how we build these systems

um so there's the first step in the process of training what we call the base model and the base model is just trained to predict the next word you just give it a bunch of text you give it all the good stuff and all the bad stuff it sees true facts it sees math problems with good answers and sort of incorrect answers that you know no one tells it's incorrect answers it sees everything and it learns to predict it learns to just give in some document it's supposed to predict what comes next and has to think through everything of like okay I see some math problem but is this maybe written by a student who doesn't really know that much was this written by Terence Tao like you know it has to kind of infer all these contextual things to figure out just what's the next word um so that model it has every bias it has every ideology it has every idea that has been almost expressed in in this system kind of compressed and and learned and

um in a real way and then we do a second step of reinforcement learning from Human preferences of what we call Post training and here you move from this like giant sort of sea of data of everything to really trying to hint to the model okay you kind of know all this stuff but here's what you really should do right um and here I think there's something that's very important very fraught right this question well what should the AI do who should pick that and that I think is also a whole different conversation and something that we're really trying to get some some legitimacy around

um but that second step is where these these sort of behaviors come from and I alluded to earlier that we found that the base model itself is actually very calibrated on its uncertainty you know

that that if it's it spits out like yeah  
there's like a 10 chance this is right  
10 of the time that thing will be right  
um with with quite quite good Precision  
um but our current post training process  
this this sort of Next Step that we do  
to really say no no this is what you're  
supposed to do you  
we don't really include any of that  
calibration in there you know that the  
model really learns like you know what  
just go for it uh and that I think is  
sort of a engineering challenge for us  
to address and so you should expect that  
even with the current chat gpt we've  
released like four or five different  
versions since December  
um and they've gotten a lot better if  
actuality improves you know that  
hallucinations are a problem people talk  
about those have improved a lot of the  
jailbreaks that used to work don't don't  
work anymore and that is because of the  
post-training process and so I would  
expect that we will have systems that  
are much more calibrated that are able  
to sort of you know check their own work  
um that are able to be much more  
calibrated on when they should refuse  
when they should help you  
um but also that are able to help you  
solve more ambitious tasks like what um  
well you know I think that the kinds of  
things that I want as a programmer is  
that you know right now we started with  
a program called copilot which can do  
sort of you know just like autocomplete  
online and it was very useful if you  
don't really know the programming  
language that you're in or you don't  
know specific Library functions that  
kind of stuff so it's basically like you  
know being able to to get  
and skip the dictionary look up and it  
just does it for you right there in your  
text editor  
um with chat TPT you can start being  
more ambitious you can start asking to  
write whole functions for you or like oh  
like you write the skeleton of writing  
the bot in this way and I think that  
where we're going to go is towards  
systems that could help you be much more  
like a manager right where you can  
really be like okay I want a software  
system that's architected in this way  
and the the system goes and it writes a  
lot of the pieces and it actually tests  
them and runs them and I think this this  
kind of like moving moving the you know  
giving everyone a promotion right like  
making you into into more of the uh you  
know bumping up a couple pay grades I  
think literally and figuratively  
um I think that's like the kind of thing  
that they will do so the future of chat  
tbts we're all getting a promotion I  
think so and then I think so it's not  
too bad I think there's obviously a lot  
of fear around the future of artificial  
intelligence right people say ai's  
coming for our jobs  
um be honest with all of our friends

here what jobs are most at risk yeah  
well the funny thing is the way I think  
everyone used to think about this  
certainly that that I did was it's very  
clear the AI is coming for the jobs just  
a question of what order and clearly the  
like you know ones that don't you know  
that are like menial or you know just  
like uh you know require physical work  
or something like that oh the robots  
will come for that first and in reality  
it's been very different right that  
actually we've made great strides on  
cognitive labor right on you know think  
about writing poems or or you know  
anything like that I and we have not  
made very much progress on physical  
things and I think that that this  
amplification  
is kind of showing showing a very  
different character from what was  
expected but it's also the case that we  
haven't really automated a whole job  
right that you think about I think the  
lesson from that is that humans I think  
are much more capable than we give  
ourselves credit for right to actually  
you know do do your job to do what  
you're doing right now  
these aren't the chat gpt's questions I  
had to follow up and say can you be more  
hard-hitting there you go oh thank you  
Ohio yeah yeah are these the  
hard-hitting ones or no they're coming  
here we go we're about to go into the  
future of truth right after there we go  
perfect yeah um but chat EBT it's not up  
here on stage with me you know there's a  
personal relationship aspect there's  
this judgment aspect there's so many  
details that are are what you want from  
the person in charge but the like  
writing up the actual copy I mean ah you  
know who cares about the specific  
question the chat gpt cannot replace me  
because it won't do the follow well  
probably will be the follow-up question  
my follow-up question is so give us a  
couple jobs most at risk yeah well I'll  
tell you the one that I think is um is  
actually content moderator  
um so jobs what I've really seen is jobs  
that you kind of didn't want human  
judgment there in the first place  
right you really just wanted a set of  
rules that could be followed and you  
kind of wanted a computer to do it but  
like you know and like content  
moderation I think is is just a  
difficult thing like I think we've all  
read about people having to read these  
like pretty horrible posts and decides  
this thing sufficiently horrible or just  
like slightly not sufficiently horrible  
to be disallowed um and that's something  
I already see this technology impacting  
I am  
so that might be a good segue into the  
future of truth right because I think  
we're entering this really fascinating  
exciting and scary era of you have the  
rise of deep fakes he's automatic

automated chat Bots that could have the ability to persuade someone one way or the other

um

what happens to truth and an era where AI just makes fiction so believable well

I have a slightly spicy take here which is that you know I think technology has

not been kind in a lot of ways to to journalism uh and I think that AI and this particular problem might actually

be something that is quite kind and actually really reinforces the need for authoritative sources that can tell you this is real right we actually went out

had humans investigate this that we looked at all the different sides of this thing and this is actually you know

these are authenticated uh you know videos or whatever it is I that can tell you like what happened and what the

facts are and so I think that where we're going to go is away from a world where because certainly you saw some text somewhere that you can trust it's

true

it's never really been the case humans have always been very good at writing fake text

um

images doctored images those have existed since the invention of Photography

um but this gives us the ability to do this at virals 100 right all the bad things that happened over the last

decade if we're not careful looking at this will amplify yes and I think I think this is this to me I I

agree with this right I think this is this is kind of the Crux is that the fact of being able to do these things at

all not new the fact that being able to do it with a much lower barrier to entry that's new and that will I think spark

the need for new Solutions we've never had real answers for sort of chain of custody of information online we've

never really had verified identities all these things people talked about since the beginning of the internet but I

think there was never really a need for it and I think that I think the need will come yeah I

um the folks I was at an event for the folks the center for Humane technology they're the folks who did also like the

social dilemma which in my opinion socialism was great but it's like we've been having these conversations for 10

years before Netflix puts out a doc and asks these questions right so we're at the beginning of an interesting era and

we should ask these questions you know before like we have to do a sexy doc on it in 10 years so

um there was something that was said there that I thought was really important they said that 2024 will be

the last human election meaning by 2028 we will see synthesized ads viral information powered by artificial

intelligence someone releases a Biden

Trump filter tons tens of millions of  
videos are going out there we don't know  
who's saying what

so what can be built now like what has  
to happen now in your opinion to get  
ahead of what will be the inevitable  
downside of this yeah so I think I think  
this is a great question and I think  
this is like maybe also going to be a  
tip of an iceberg kind of problem where  
it's like it's the most visible one it's  
query extremely impactful it's one that  
you know has been very topical for a  
long time but I think that we're going  
to see the same questions appearing  
across all sorts of human endeavor of  
just as there's more access to Creation  
how do you sift through for good  
creation how do you actually you know  
find what is true or find what is high  
quality or you know how do you how do  
you make sense of it

um I think some of this is really going  
to be about what tool people building  
good tools like we've seen this within I  
think the social media space it's like  
even for example uh you know people  
building tools for uh for for cyber  
harassment you know to make it so that  
people can easily block you know various  
uh efforts and things like that

um and I think that we need lots of  
tools to be built here that are really  
tackling this problem and so that's one  
reason that we you know we don't just  
build chat GPT the app actually our main  
focus is building a platform

um so we release an API uh anyone can  
can use this to build applications and I  
think that that you have a an  
opportunity some using traditional  
technology some using uh you know the  
AIS technology itself in order to  
actually sift through and figure out  
like what is high quality curated and  
people want to put their stamp of  
approval on it right

um

you I remember the move fast and break  
things era of meta Facebook remember  
they used to have the signs that said  
move fast and break things I know open  
AI puts these things out there in an  
iterative way and as the philosophy  
about you know limiting growth to some  
degree and and getting uh feedback but  
now I would say because of what's  
launched there's this AI race with the  
biggest companies throwing in money  
investing and we both know that the  
economic incentives don't always align  
with what's best for society

um what do you think we've learned from  
the last decade of tech innovation

um that we must use as we enter into  
this new era where the stakes You could  
argue or even higher yeah we think about  
this a lot like I have spent a lot of  
time really trying to understand for  
each of the big tech companies you know  
what did they do wrong  
and right you know but but like to the



extent that the things that mistakes  
were made like like what are they what  
can we learn and actually one thing I  
found very interesting is that there's  
not really consensus on that answer like  
I wish there was a clean narrative that  
everyone knew and it's just like just  
don't do this thing well I I could give  
an opinion I love it um  
many times and I would say just having  
been across from some of those folks I  
think  
the biggest mistake is you is not  
understanding humans  
in a nutshell right so how I think like  
you know we've got the stamp of approval  
on them right great in the audience okay  
so I think it's you I mean it's um it  
sounds like you've done a lot of you  
guys have done a lot of thinking into  
how you put this out there and how you  
build out these APIs that other people  
can build on who are the people that  
need to build up for for these Solutions  
like who can you guys now that you have  
a seat in Silicon Valley and you're at  
this really powerful place like who do  
you guys bring in that's different  
diverse and interesting yeah so we so we  
do we do quite a lot of Outreach and I  
actually think this is one of the things  
that's going to be most important like  
even for example on uh on how we make  
decisions on the limits of what they I  
should say  
um we've written a blog post about this  
um but we think that this is something  
that really needs legitimacy it can't  
just be a company in Silicon Valley it  
can't just be us who's making these  
decisions it has to be Collective and so  
we're actually uh and we'll have more to  
share soon in terms of exactly what  
we're doing but we're really trying to  
scale up efforts to get input to to  
actually be able to help make Collective  
decisions  
um and this just kind of like question  
of global governance is something that  
has been really core to our goals from  
the beginning and so I think that the uh  
it's just so clear that you do need  
everyone to have a seat at the table  
here and that's something we're very  
committed to and then talking like  
regulation I think it's open AI talks  
about moving at a bit of a slower Pace  
but these tools are being deployed to  
Millions so the FDA doesn't allow a drug  
to go out to the market unless it's safe  
so what is the right regulation looks  
like for artificial intelligence and  
what's happening so yeah this is again  
something we've been we've been engaging  
with policy makers since day one really  
um I did a couple of congressional  
testimonies back in like 2016 2017 uh  
it's so interesting to see the the  
policymakers were already quite smart on  
these issues and already starting to  
engage  
um and I think that you know one thing  
we think is really important is really

about focusing regulation on regulating  
harms right that it's very tempting to  
regulate the means and we're actually  
seeing this right now with like the EU  
AI act that's kind of a question of  
exactly how to sort of operationalize  
some some of these issues  
um and that the thing you really want is  
to really say like let's think about the  
stakes and what really parse apart what  
are high stakes areas what are low  
stakes areas what does it mean to do a  
good job how do you know yeah and these  
sort of measurements and and evaluations  
like those are really really critical  
and so we think the government it's a  
key part of the issue right like this  
question of how do you get everyone  
involved the answer is we have  
institutions that are meant for that  
right um and so should there be a new  
regulatory body for artificial  
intelligence because often remember when  
Zuckerberg went to Congress and they  
asked how Facebook made ads sorry I have  
Facebook made money and the answer was  
like we sell ads you know so really  
understanding because it certainly seems  
like there's going to be all these new  
issues should there be a new regulatory  
body for this again I think it's on the  
table I think more more likely what I  
see happening is like I think that AI is  
just going to be so baked into so many  
different pieces and honestly so helpful  
in so many different areas that you kind  
of can't have the FDA not know about AI  
right you can't have any of these  
institutions be like ah someone else has  
got it it's all good right and so I  
think that you do need some cohesive  
strategy but I think that every  
organization government or otherwise is  
going to have to understand AI and  
really really figure it out  
um well I know we have to wrap soon  
because I want to get to questions but I  
thought we could do a little lightning  
round I love a good lightning round okay  
AI will be sentient when uh a long time  
from now like how long uh  
this kind of question I prefer not to  
comment okay hard to answer most  
interesting use future future use cases  
for Dolly I I think it's going to be I  
just making your dreams come to life  
huh  
in what sense  
it's rendering and like you'll you'll  
get great visions of your dreams  
spiciest take on the future of it is  
spiciest take on the future of AI that  
you're generally not allowed to say  
publicly  
[Laughter]  
oh man uh  
I think that I think we're gonna figure  
it out I think it's going to go well  
you're optimistic I'm optimistic I  
consider myself an optimistic realist I  
think it's not going to go well by  
default but I think that like I think

Humanity can rise to this challenge Elon  
Musk no longer really really involved  
with open AI  
Professor failure  
well I think a failure in our part for  
sure  
um what sense well I think we were not  
fast enough to address uh biases in chat  
GPT and we did not intend them to be  
there um that our goal really was to  
have a system that would kind of you  
know be be sort of egalitarian sort of  
treat all the the sort of mainstream  
sides equally  
um and we actually made a lot of  
improvements on this over over the past  
month and we'll we'll have we'll have  
more to share soon  
um but yeah I think that that people  
were right to criticize us and I think  
that we really uh we really sort of you  
know responded to that it's one of the  
pieces of feedback that I think is most  
valuable fill in the blank a world  
powered by AI in 2050 is  
unimaginable  
okay I like that  
um single most important ethical issue  
we're facing when it comes to the future  
of AI and humans  
this one's hard I  
I think  
I think it's the whole package honestly  
I think it's this question of  
how the values get in there who's in  
control  
how did the benefits get distributed how  
do you make sure that the technology  
itself is safe and kind of used in the  
right ways and the you know sort of the  
emergent risks that are going to appear  
at some point with very capable systems  
don't end up overwhelming the positives  
that we're going to get and so yeah I  
think that it's it's the whole thing and  
at some point to your first question you  
know the sentence question at what point  
do the systems have moral you know moral  
value and the answer today is definitely  
not  
um but you know I am not I don't know we  
need to to engage the moral philosophers  
to help answer some of these questions  
are you guys going to hire philosophers  
uh we're going to hire I think kind  
of everyone across the board like I  
think that this is this is not a like  
this is like this is one key thing to  
get across is like I think that that  
within AI I've definitely seen this  
fallacy of people thinking this is a  
technology problem or just saying like  
look there's the sort of alignment  
problem of how do you make the AI to  
sort of you know not go off the rails um  
but the society thing that's the hard  
part I'm not going to worry about that  
and I think you can't do that I think  
that it really has to be that you engage  
with the whole package and that um and  
that I think is going to require  
everyone I think I like the  
understanding of understanding the

people behind the code that transforms  
uh society and so I've just met you in  
person today but we've spoken a little  
bit and about some of the ethical stuff  
too you're at the helm of one of the  
most important technical technological  
advances of our time what do you you  
want people here to know about you  
um  
well I love my wife I'm not going to  
listen to the chatbot it is fabulous  
he's not being replaced Sydney cannot  
break up that package I  
and you know she actually we were  
talking about this last night she was  
asking like why  
you know why why do I do it because I  
work I work a lot um you know I think I  
you know we give up a lot of time  
together as a result of of just like how  
much I really try to focus on on the  
work and trying to kind of move the  
company forward and  
I hadn't really thought about that  
question for a while  
and I thought about it my my true answer  
was  
because it's the right thing to do like  
I just I think that this technology  
really can help  
everyone can help the world I think it's  
you know these problems that we just see  
coming down the pipe you know climate  
change again being one of them  
I think we have a way out  
and if I can move the needle on that  
and you know I'm grateful to be in the  
position that I am but honestly when we  
started the company what I cared about  
most was I was just like I'm happy to do  
anything you know like first aid two  
people were arguing about something they  
didn't have a whiteboard I was a great  
I'll go get the Whiteboard and I think  
that this problem is just so important  
it transcends each of us individually it  
transcends our own position in it and I  
think it is really about trying to get  
to that good future  
thank you I'm gonna get to some  
questions because people have some great  
questions  
um do you believe that there's a risk of  
a decline in human intelligence as we  
start to Outsource our cognition the AI  
yeah it's this is this is definitely  
something that keeps me up at night um  
although it's interesting to see this  
trend across all previous Technologies  
you know radio television  
um you know I've talked to some esteem  
States people who have said like the  
politicians these days nothing compared  
to Teddy Roosevelt like read you know  
all of Teddy Roosevelt's like great  
great thoughts and people just like  
don't don't read enough anymore and so  
they just like don't think as well  
um  
it's so unclear to me like you know I  
feel like is this true or is it not um  
but I think that what is definitely

important as we see this new technology coming is figuring out how to have it be an intelligence multiplier right so that you know sometimes yeah you do need to solve the problem yourself but what you really want is you want a great tutor you want someone who breaks down the problem to you really understands what motivates you and if you have a different learning style and so I think there's an opportunity here like if you're just blindly like not thinking anymore yeah you're probably not going to learn to think but if you have something that actually is figuring out the how do I help you fish how to help you learn to fish I think you could go way further what is your opinion on this one was upvoted a lot so I'm I'm being true to the audience they have a good question all right what is your opinion on intellectual property rights for AI generated content trained on the work of a particular artist we we talked a little bit about this but the people want more uh the people the people want more

um I mean honestly this is this is I think like an important question exactly I think this is this is like asking a question about exactly how copyright should work you know right at the creation of of the Gutenberg Press right where it's like we are going to need to have an answer we're engaging with the copyright office we're engaging with lots of different areas and I don't I don't personally know what exactly the answer should be but I do think that like one thing that I I do want to say you know not to not to kind of hedge everything here is that I do think that the content creators should be sort of you know it should be a more prestigious a more compensated a more just like just like good thing for people to pursue now than ever and I think if we don't achieve that in some way then I think that something has gone wrong will there be new laws that didn't exist oh for sure I mean there should there should be what do you think they will be like well again I I don't I I don't want to speak out of turn

um I don't want to be too yeah I just don't want to speak out of turn on these issues um but I think that to me the process that's happening right now is really important you know there's a lot of just like conversation about these things people really care and they should

um and that we are trying to figure out mechanisms just within our own you know sort of you know slice of how we implement things and how we um sort of work with different different partners um you know for Dolly for example the very first people that we invited to use it we're artists right because we really wanted to figure out how do we make this be a tool that you are excited about and

that you feel like yes like I want this

I want there to be more of this in the world what I um someone had the question what should I teach my one-year-old daughter so she can have a job 20 years from now

I think that that that the most important thing is really going to be these higher level skills right judgment really figuring out is this good is this bad do I like this do I not knowing when to sort of you know sort of dig more into the details

um and really I think today just just even playing with these systems um like I think that it will be the case that we're going to make you know the next Generations of the dollies and these these other systems just be you don't even have to know language right they should become much more child accessible and I think that children being sort of AI native users I think you're going to find that you're going to figure out how to just use these in totally unimaginable ways

um let's see

sorry this one's not working I'm going to this one okay how can we maintain the integrity of AI models like chat GPT when capital from corporates has entered the space monetizing a tool run by a non-profit and you've I mean a lot of folks this is actually this is what chat gpt also asked me to ask you which is interesting it's very topical and so if you could give us a little more insight because obviously we're very far from when you guys sat at that dinner and said we want to we want to change things and now there is there's money there's profit there's all these other things so how do you guys maintain that yep well I think that our answer to this question

um and you should hold us accountable by the way

um is really about structure right that we've really set up our structure in a very specific way which by the way has turned off a lot of investors we have this big purple box at the top of all of our investment docs that say the mission comes first that we may have to you know if there's a conflict with with achieving the mission cancel all of your profit interests which you yeah you know sends many traditional investors running for the Hills uh and I think that you know like there's part there's a part of the frame of the question that I you know sort of don't agree with which is that I don't think that the existence of capital is itself a problem like I think that you know we're all using iPhones we're using TVs created by companies there's a lot of good things but I do think it comes with great incentives right it comes with this pressure to you know sort of do what's good for you specifically but not necessarily for the rest of society not to internalize those

externalities and so I think that the important thing for us has been to really figure out how do you set up the incentives that are on yourself so that you do as much as possible get people to you know the best people to join you can build the massive super computers you can actually build these tools and get them out there but at the same time if you do succeed massively and mildly beyond anything that's happened how do you make sure that you don't you know once you've kind of gotten to everything you don't have to then 2x everything you know and I think that these kinds of very subtle choices make a huge difference in terms of outcome

um I want to end with a quote from your co-founder Stan maltman he wrote a misaligned super intelligent AGI could cause Grievous harm to agree with harm to the world an autocratic regime with a just uh with a super intelligence could lead could lead to that too successfully transitioning to a world where super intelligence is perhaps the most important and hopeful and scary project in human it is perhaps the most sorry I'm really messing this up

um is the most

um important hopeful and scary project in human history success is far from guaranteed and the stakes boundless downside and boundless upside are there to hopefully unite us all so last question do you Greg is do you think we're heading towards boundless upside and what it and if so what is the one thing that we can do right now to make sure we tip the scales in that favor

yeah so I think I think that what we're seeing is looking very consistent with a slow roll you know people kind of have thought that maybe what's going to happen is kind of nothing and then boom you know like nothing you get either the great outcome or the terrible outcome and I think what we're seeing is much more of a gradual integration and that it's scarier because it's much harder to kind of solve that problem in the lab and in your head right it's not a math problem it's not a it's not a code problem it's a human problem and I think that this is the key

um and so I think that by really engaging with these Technologies all these questions that we don't know the answers to yet

like that's the responsibility not just of us right that's the responsibility of everyone not just in this room but really in this in this world and I think it's going to be you know it's going to be a project of of decades right to really go from where we are to the kinds of systems that we're talking about there and all along the way there's going to be surprising things there's going to be great things that happen there's going to be causes for Joy causes for grief

um and you know I think that they all

happen in small ways now and I think in the future maybe it'll happen bigger and bigger ways and I think that just really engaging with this process right just really everyone educating themselves as much as possible trying the tools to understand what is possible and figuring out how can this fit in right I love the question about what should I teach my one-year-old because that is a hope for the future kind of question right and I think that that I am very optimistic again I think I consider myself this realist realistic Optimist um that you really have to be calibrated you have you can't just blindly think it's all going to work out but you have to engage with all the problems um but I think it is possible that we will end up in this world of abundance and and sort of you know the all the the real good future um I think it won't be perfect I think there will be problems um and there will certainly be many problems along the way but I think we can rise to the occasion do you have children uh not yet not yet yeah we're working on convincing my wife though okay so if you I was gonna say Do you believe that um kids of your friends you're if you end up having children will grow up in a better world I I do think so I think I think we have a shot at it right and again it's not guaranteed like I do not consider myself to to think that any of this is for certain and I think the moment you think that it is that's when things go wrong and so I think we all have to be sort of constantly asking uh what can go wrong and what can we do to prevent that right Greg Brooklyn thank you so much so much thank you appreciate it [Music]

<https://www.youtube.com/watch?v=M91C8-hbHWc>

such a pleasure to be here on p2 um i'm charlie meyerhead i'm the founder and ceo of cogx and it's an incredible privilege to be here hosting our sixth annual cogx festival and our first global leadership summit so i just wanted to firstly say thank you all for being here um it's fantastic to have alexander wang here the founder and the ceo of scale ai and very much looking forward to the conversation um i'm sure alex can be live in a second um and we've got 30 minutes and so what we'd like to do is take 20 minutes to ask some questions and then we're going to throw it over to you uh for your own questions and so there'll be somebody here with a mic just put your hand up and we'll try and get to them as many of them as we possibly can so uh without further ado alexandra are



you there

now i'm not sure you'll be able to see

me can we can we can see you

and we can hear you

amazing i can see you just fine there

might be a little bit of a delay

fantastic fantastic

um so

alexander tell us a little bit about

scale ai i don't know how many people in

the audience have heard of scale ai

before

okay so a few but tell us the story

yeah so i uh i grew up i'm american i

grew up in uh los alamos new mexico uh

and uh my parents were both physicists

so they worked at a national lab here in

the states uh working on all sorts of

cool uh physics and science and so i

grew up you know inspired by science and

technology uh in a in a fundamental way

and and you know so when i was when i

was sort of in college at mit

i was i wanted to work on the most

impactful technology that i possibly

could which at the time um this was back

in 2015 and 2016 clearly felt like

artificial intelligence you know this

was the year when deep mind came out

with alphago which is sort of i think

one of the the early seminal results in

artificial intelligence and i think you

know clearly demonstrated the the

massive potential of artificial

intelligence and and machine learning to

have sort of this this transformational

impact on what computers could do and

it's sort of you know i'm sure we'll

talk about this in a bit but it didn't

take um very much imagination to sort of

peer around the corner and imagine what

would the implications be for life

sciences would the implications be for

medicine what were the implications

before climate change would the

implications be for sort of all these

massive problems that were really at the

heart of the future of humanity um and

so i wanted to to get engaged i wanted

to to build things i built a side

project uh a camera inside my

refrigerator that would tell me when my

roommates were gonna steal my food

and uh

i worked on that for you know all of uh

all of a few weeks before i realized

that it was just incredibly difficult to

actually use build any sort of

artificial intelligence and the tools

and infrastructure just didn't exist in

particular it was almost impossible to

get the data that was necessary to build

these systems so that was this that was

the instrument alexander just remind us

what year was that

this was back in 2016 2015 okay and

exactly and that was the inspiration

behind starting scale and and fast

forward to today we're over 600 people

strong uh raise over 600 million dollars

most recently at a 7 billion valuation

and work with incredible firms like

microsoft paypal

square pinterest etsy uh nvidia and the whole lot so it's been an exciting journey so far well look firstly congratulations that's incredible um pace of growth and uh obviously in the you know absolutely the zeitgeist the technology industry right now i mean it's a very competitive space and and to have started in 2016's actually you know in the scheme of the development of ai is quite late um in in that uh in that journey so you know um i guess i've got two parts of the question you know um how did you you know what was the first thing that you did that got you into the market how did you find that initial foothold um and uh and then we'll go into some of the other problems i know you've been looking at but what was that critical turning point yeah so so uh we were part of this this startup accelerator called y combinator and some of the the wisdom that they teach you very early on at y combinator to to focus very very finely on a very specific industry or very specific problem you know you can solve very very well and almost don't be concerned if that problem seems too small or doesn't seem nearly ambitious enough uh you know if y commenter is full of very ambitious founders and so for us that ended up being focusing on autonomous vehicles and the problem of self-driving uh and and so you know we were we became obsessed with this problem of how do we build and develop safe autonomous vehicles given that artificial intelligence and ai was a is still now a relatively brittle technology how are you supposed to build the proper data sets and approaches and infrastructure and methods to be able to enable safe autonomy and so that was sort of the the foothold market that ended up being sort of the launch pad that enabled us to to solve the rest of the problems we've been able to tackle over time got it and and when you think about that i mean i remember the first cogx festival in 2017 where we were purely focused on ai on its impact on industry government society and i remember in the opening session asking that question how long is it going to be before we have fully autonomous cars and i think the answer came back somewhere between three and five years obviously this is the sixth edition so um and we don't still don't i think have fully autonomous cars why is it so hard to get ai into live production like you know not narrow ai but sophisticated ai if you like deep learning new methods what what is the thing that's stopping that mass market deployment of this technology yeah you know i think if you really look at it it it became increasingly clear both in

my own studies as well as in  
collaborating with many of these sort of  
leading organizations that the data is  
sort of the fundamental building block  
that is that is critically missing and  
this is true for a few reasons but i  
think first if you look at the  
technology first and foremost if you  
look at all these incredible results  
that are happening uh today or look at  
all these things that sort of the likes  
of open ai or deepmind or google ai  
or meta ai are all releasing they're  
fundamentally built off of  
these foundations of incredibly large  
data sets and these foundations of being  
able to use data in an incredibly  
rigorous and and uh frankly  
transformational way and if you think  
about most businesses or most  
enterprises you know  
data was never as important nearly as  
important as it is today you know if you  
think about a a business operating 50  
years ago they didn't have to operate on  
any data really uh in in nearly as  
fundamental ways today then there's sort  
of the wave the initial wave of  
uh oh  
hey alexander you back on  
yeah so sorry for that i guess uh ai has  
not yet solved the problems that we  
needed to yeah  
so i think a fuse tripped here it's  
probably um uh i don't know if they've  
got all the lighting back on but uh  
probably something through the lighting  
on stage or something but apologies for  
that now we you were mid-flow and we  
were talking about how challenging it is  
to get ai into production you were  
talking about the data that's required  
and i would love to go and to talk about  
some specific industries um and then we  
were talking about the uh autonomous  
cars right and i know that's one you've  
spent a lot of time in but we want to  
jump to some others but you were  
mid-flow do you want to finish what you  
were  
saying yeah you know i think the the  
main thing that we see is that that data  
ends up being sort of the fundamental  
bottleneck um to real world ai  
deployments and that's true across every  
single industry and you know most  
businesses are really not built to be  
digitally native or data native in any  
any reasonable way and so this this sort  
of there's gonna be this slow  
transformation over the course of the  
next few years for every traditional  
enterprise to become ai enabled and if  
you look at the companies that are sort  
of the most successful today they're the  
ones that that treat data you know  
basically been built as data native  
businesses so whether that's you know  
amazon and e-commerce or  
netflix in the media or tiktok and  
social media um you know these  
businesses

are modern they're they're digital first  
data native and those end up being the  
ones that actually have the ability to  
scale ai to massive scale they're also  
the ones who are reaping you know  
billions and billions of dollars of  
profit or or value out of ai and so i  
think that what we're going to see is  
this sort of uh democratization of that  
same technology over the course of the  
next few years  
and so like it totally makes sense that  
digital native businesses are going to  
have  
you know  
a data lake have the data in the right  
place in the right form to do stuff  
let's why don't we jump to an industry  
that probably doesn't and i took a quick  
poll i don't know if you were if you  
could hear but we're talking about  
different industries we could dig into  
and one is obviously the government  
right so we we you know  
the uk government certainly has lots of  
different departments doing different  
things but why don't you talk a little  
bit about maybe a use case in in that  
domain  
yeah so i think one of them that's  
actually quite exciting um is one that  
um you know actually the uk is better  
positioned to solve than than the united  
states government for a variety of  
reasons but the the nih within the the  
uk  
um is is actually uh working on being  
able to use uh sort of health data uh to  
be able to understand and better  
diagnose and understand um both  
application towards life sciences so  
application towards  
drug discovery and being able to  
identify better treatments for various  
uh health issues as well as as well as  
application to treatment and sort of  
health care you know how do you use the  
data that you have both collectively  
across an entire  
citizen base as well as individually  
about each person to to guide better  
health care for each specific individual  
and that's something that you know i  
think that's one government use case you  
know there's a host of use cases both in  
the national security but the civilian  
use cases i think are going to be  
incredibly impactful i think we've  
become at least in the united states  
speaking from experience um you know  
americans have kind of become used to  
the idea that uh the government is  
it you know is bureaucratic and  
potentially not very helpful in many of  
these matters but i think that you know  
the hope is that with better technology  
and ai and the ability to utilize the  
massive uh data pools that the  
government has there's gonna be this  
ability to to serve citizens  
significantly better in the future well  
i know we all hope you're right too and  
that the uk isn't a better position to

do that um

are there any other um uh specific examples you want to share around working with government

yeah so so one one use case that we got very involved in um recently was with uh was in the ukraine conflict and so we actually you know one of the one of the most important things in a in a conflict like ukraine or any sort of sort of disaster response or conflict scenario is to be able to react extremely quickly to the to the realities and facts on the ground um and and there's been a huge amount of technology that's been built up over the past you know frankly many decades in the form of satellites and satellite imagery um to be able to enable a very fast response and a very fast sort of humanitarian response the issue is that if you actually dig into it in the united states up until you know frankly even now most satellite data needs to be looked at by a person before the the government's able to actually act on it so whether that's coordinating any sort of military response or coordinating any sort of humanitarian response um you know it actually it is you know the satellite takes the image and you're you're literally waiting for an analyst in the united states to be able to to look at that image why is that and it's incredibly inefficient

um

very ripe

yeah well it's it's human loop but it's incredibly ripe for artificial intelligence and algorithms people to automatically identify whatever's relevant in the imagery you know the reality of satellite imagery is that you know most of it is relatively uninteresting and then every once in a while you have something that's incredibly interesting and incredibly important that you need to pay attention to and so we used our technology to analyze the major ukrainian cities uh kiev kharkiv nepro and identify the damage that was the sort of cause as a result of the conflict at a building and structure by structure level to enable you know a very targeted and pinpointed humanitarian response and so that's been something that we've been extremely excited about and proud of but also something that i think should just be standard in every sort of conflict or every sort of disaster scenario

i mean absolutely that look

it's an incredibly timely obviously very relevant um given the the tragic events in the ukraine and

no question we'd all like to get humanitarian aid to the right place you know quicker um what kind of size problem is that can you share anything about the volume of data you're dealing with and or the frequency of that that

processing

yeah you know i think um i think some of this stuff is public but if you look at the commercial

satellite uh fleets that are that are launched and out there you know that many of them have the goal of being able to image every sort of inch of the earth so image the entire world um every 24 hours and and there's a number of these fleets that are that are sort of operational uh and and active and so if you think about that it's just an immense amount of imagery you know the whole world is being imaged at a at a frequency you know faster than once every day because there's multiple these multiple of these fleets sort of active at once and so um that's just an incredible amount of imagery an incredible amount of data that needs to be processed by these algorithms and and you know the reality is if we're sort of if we're reliant on the human loop approach then maybe you look at less than point one percent of of all of this imagery and and you sort of you actually just discard the rest but if you're able to use algorithms you can have the algorithm prioritize and identify where might there be something that's worth the human looking at and then actually coordinate a much a much finer grain response let's just you know switch gears because i want to make sure we have some time for questions and i'm sure they'll come from across a range of topics let's just jump to um

the area of a sleepy industry i i asked the the audience earlier but insurance i mean insurance is um a hugely important space i mean you know i was listening to an incredible talk actually the other day about how critical it is to the climate challenge um and and how we keep everybody safe um as you know sea levels rise and so on but

what have you been doing in insurance and how do you how do you get that industry ai enabled

yes if you think about if you think about insurance it actually to my earlier point about um you know data native or data first businesses insurance actually historically is one of the is one of the industries that was most data centric or relied the most on being able to perform advanced statistics or

or advanced data analyses on top across you know a wide wide spectrum of customers and so you know i think these are businesses that want to reap the gains of ai and want to understand how ai can help improve their businesses and i think um and i think that positions uh uh them well to actually be able to take advantage of these gains but if you think about the like if you

take a deep dive into any one of these insurance businesses the the sort of process by which claims uh become

adjudicated looks very similar to what i  
just described about satellite imagery  
in the united states government in the  
sense that you know every single claim  
any single ish every single issue that  
you know one of these insurance  
companies needs to resolve uh involves  
this sort of labyrinthine process of  
going from person to person to person to  
person to to sort of go through this  
bureaucratic process of identifying you  
know how much can the insurance company  
reimburse you in any any given scenario  
and and it's one of these cases that is  
almost perfectly molded for modern  
artificial intelligence which is taking  
all sorts of unstructured data whether  
that's photos of the car or other source  
of property  
audio from calls from the adjusters  
doctor's notes lawyers documents etc to  
be able to sort of adjudicate and  
identify  
what is the what is the was the  
appropriate payment amount you know a  
similar approach as well to tie together  
some of the things that we've been  
talking about is there have been there  
are a few insurance companies that are  
actually looking ahead and to your point  
thinking about the the sort of the  
climate issue and there's a particularly  
innovative approach that um that some of  
these insurance companies have taken on  
which is to  
not wait for  
a disaster to occur  
not wait for the disaster to occur but  
to instead uh  
look at use satellite data and other  
sensors to identify when is the climate  
situation getting worse um and and be  
able to proactively pay out when we  
notice that there's climate change we  
notice that there is a potential  
increase in natural disasters or a  
number of these sort of uh satellite or  
just like climate-based indices  
and and it's quite an innovative  
approach to uh to insurance actually and  
it's only enabled because you can have  
ai that's constantly monitoring  
satellite imagery forestry uh looking at  
the soil for in agronomy cases or  
agriculture cases you don't have this  
sort of always-on intelligence to be  
able to identify when is the when is  
there sort of a degradation that  
requires some level of reimbursement  
it's fascinating and um you know  
obviously there's a much bigger topic  
there around uh around insurance and  
climate which we won't have time to get  
into this time just when you think about  
your technology and we have quite a  
technical audience here um uh having  
started around there you know what is  
the hardest challenge that you guys find  
yourself facing across these different  
industries and what is unique about what  
you've done at scale and how you're  
solving that because i said there's a

lot of companies trying to be  
um you know winners in the space build  
scalable platforms and so on so  
it would be great just to dig into like  
some of the technical detail and what  
makes your approach unique  
yeah yeah so to be to be super specific  
so i think i think um you know at the  
sort of highest level the thing that we  
ended up focusing on the most was the  
data and i've sort of been talking about  
data in various forms um throughout uh  
throughout this conversation but but i  
think the first the first insight was to  
be incredibly data centric which is you  
know basically fueled by the belief that  
if you look at any of these modern  
algorithms what's the thing that has the  
greatest impact to their performance at  
the end of the day that really all comes  
down to the data and the data quality  
and then i think you take one click  
deeper on the data you know the the  
realization was that  
high quality data and extremely high  
quality um you know almost impeccable  
data sets comes from this sort of  
collaboration between algorithms and  
humans in the loop that is uh is  
fundamentally you know difficult and  
this combination of both uh  
operationally challenging you need to  
you need to figure out how to get humans  
to look through data and and process it  
in a very high quality way  
as well as a deep technical challenge  
how do you automate  
as much of the process as possible and  
automate as much of the quality control  
process as possible um in the pursuit of  
building very high quality data sets so  
the the sort of the key insight between  
that that i think has fueled a lot of  
our growth and a lot of our um our  
success as a company um is that this  
sort of this combination of operational  
know-how and almost treating this like a  
manufacturing problem in addition to  
taking advantage of the sort of  
bleeding edge insights from the ai  
research community that the sort of like  
combination of those two disciplines has  
enabled us to across all of these  
industries  
build and create infrastructure that  
enables significantly higher quality  
data sets and therefore significantly  
higher quality models than is otherwise  
possible without sort of this marriage  
of disciplines  
got it that makes that next makes total  
sense um and just switching gears for a  
second you know you've taken the company  
to 600 people um you know i think you  
said you had a seven billion valuation  
um and and you've raised a huge amount  
of money this is a huge amount of  
success to have in a very short period  
of time what what is next for scale  
yeah you know i think that that our view  
if you if you sort of take a big step  
back in the in the realm of ai and is  
actually um uh timely given some of the



recent news about um sort of the  
google's ai algorithm and sort of the  
news around that but but our view is  
that you know there's a incredible  
number of very smart people working on  
artificial artificial intelligence that  
there's no doubt about that and so the  
research is absolutely incredible and is  
being done by by incredibly brilliant  
people um but there's sort of you know  
if you look at if you look at the  
industry  
most of the brightest people are sort of  
focused on these time horizons and these  
results that are almost you know too far  
away to be to be really relevant today  
you know i think  
where uh you know a lot of the the sort  
of like leading uh ai organizations are  
sort of thinking about this world when  
we have agi when if you look today we  
sort of have slowing gdp growth and  
slowing productivity growth in most of  
the developed country  
developed countries in the world and so  
our view is really that you know ai has  
already reached a point of being  
incredibly incredibly impactful and  
valuable the technology is already  
useful enough where it can transform  
many of these industries that i talked  
about transform the government and how  
we approach uh humanitarian response  
transform insurance transform  
agriculture and transform all of these  
industries that are at the core of many  
of the greatest issues that we face  
today as a society  
and our goal is really how do we deploy  
the technology that exists today  
in as wide as scale as possible as  
quickly as possible um and and that's  
really the focus and i think one of the  
things that that we hope you know many  
other companies also join us in because  
i think it's going to be impossible for  
anyone to do it alone  
so it's solving today's problems  
obviously  
fantastic to look at tomorrow in the  
future and you know we you know have  
um a purpose and a focus here at the  
festival which is addressing the  
question how do we get the next 10 years  
right but so so for you it's really  
looking at what can be solved today  
with the technology we have today with  
the data that we can that we can take  
advantage of fantastic um i'm going to  
open it up to the audience do we have a  
microphone here brilliant so um do we  
have any questions if you just put your  
hand up there's one here  
i'd like to uh  
i'd like to get back to the human the  
loop issue a  
quick two-part question could you count  
a bit on the logistical issue of getting  
it from the  
uh for instance you were talking about  
the satellite images back to the human  
and possibly even feedback from the

human back to the back to the modelers  
and then a little bit about the type of  
human like it could be an architect it  
could be somebody that's a very  
experienced annotator just very curious  
about that part of the process  
thank you  
you know i think what we find um  
is that you want a mixture of approaches  
or ideally you want a mixture of  
approaches so i think that that  
you know if you if you look at most of  
these use cases there do exist experts  
who have sort of this incredibly deep  
encyclopedic knowledge of whatever data  
is relevant for that particular use case  
so for example for satellite imagery  
there do exist  
people who work in you know many of the  
many of the governments uh many of the  
leading or basically every government  
who having basically this encyclopedic  
knowledge of of what different sorts of  
satellite imagery look like and you want  
them to be as high leverage as possible  
and so the the general approach more or  
less is to to utilize sort of these  
expert humans um and and bring them into  
the loop but enable them to be as sort  
of scalable as possible by minimizing  
the amount of data that they need to  
look at while maximizing the the  
performance improvement on the model um  
so at a very high level that's kind of  
the approach and then at a technical  
level there's a number of sort of uh of  
things that you do in sort of setting up  
the overall life cycle and  
infrastructure to enable that to be true  
do we have another question there's one  
here over on the left  
on the left by the wall here yep  
thank you  
hi there um i just wanted to ask i guess  
about  
data as a commodity like how do you see  
this developing i know you mentioned  
these big businesses that have huge data  
sets and big access if you will to  
leveraging those data sets but  
how i guess do smaller companies play  
and leverage on  
what data the big companies have  
collected  
and where do you see the role for kind  
of entrepreneurs like yourself maybe  
working in other fields  
to  
do that and bring that about and maybe  
make some impact in their fields  
thank you thank you  
yeah no this is an incredible question  
actually and something that i'm quite  
passionate about you know i think there  
was this there was this term that was  
coined um a few years ago that that data  
was the new oil which i think is the  
exact wrong analogy um because you know  
oil is a true commodity oil you know oil  
from one place looks exact same as oil  
from another place but the the nuance  
about data is that data is uh you know  
it's extremely relevant what exact

domain data comes from so if you maybe  
look at that sort of like data scraped  
off the internet like data from reddit  
or data scraped off of amazon or whatnot  
you know that's incredibly um uh  
incredibly abundant and so you know it's  
possible for these large companies to  
build these large  
data pools from from those data sets but  
then if you look at these specific data  
sets that are necessary to solve some of  
these really big problems like in  
healthcare or you look at uh like  
agriculture data sets etc you know  
they're incredibly scarce and they  
basically don't exist you know  
the the datasets in healthcare are  
almost laughable to uh most machine  
learning engineers who try to get  
involved in that in that sort of problem  
domain and so i think there's actually  
still an incredible opportunity for  
entrepreneurs to build companies based  
around these these sort of um  
these areas where there's incredible  
data scarcity or uh for whatever reason  
these pools of data don't exist and you  
know and really  
bring these industries from zero to one  
in terms of a data abundance and then b  
machine learning applied to those  
problems  
thank you for that answer um have we got  
any more questions  
we've only got a couple of minutes left  
any other any other questions in the  
audience one at the back here on the  
left hand side  
so i can't quite remember the exact  
title of the talk but i was wondering  
how quite did you scale scale ai so fast  
like what was the  
if you could summarize it in a tweet  
what was it  
that propelled you so fast  
you know i think that the  
at its core  
um first of all artificial intelligence  
as an industry and as a as a field has i  
think surprised  
all of us those within the field those  
without outside of the field in terms of  
how quickly the sort of capabilities  
have scaled and how quickly the sort of  
um the the technology has has developed  
so i think that that's sort of the  
fundamental backdrop um and i think the  
the other piece to it frankly has come  
from uh this this sort of wisdom that i  
mentioned early on which is to actually  
focus very deeply  
on on sort of problem after problem  
after problem in a in sort of more of a  
serial way rather than try to boil the  
ocean all at once and so again we  
started with autonomous vehicles and  
that was like that was the initial focus  
and then we moved on to working with  
some of the large tech companies on  
problems like e-commerce and that was  
the next focus and then we worked on  
government problems and those sort of

the next focus but each of these you  
know now we've been around for some time  
so i sort of when i list all these off  
maybe it seems like we've been working  
on these um all of these the whole time  
but actually sort of this very  
deliberate slow expansion so that we can  
make sure that each  
area we were actually able to have a  
substantive impact and actually able to  
sort of um build momentum uh  
sequentially industry by industry and i  
think that that fundamentally has been  
probably one of the the core operational  
differentiators of scale relative to  
many other many other artificial  
intelligence companies is has been our  
sort of um  
our ability to focus but also to grow  
sort of in these concentric circles  
rather than trying to sort of throw  
paint at the wall and cover the entire  
surface  
so focus  
and getting one one industry knocked  
down and then moving on to the next one  
brilliant um  
if we don't have any other questions i  
know we're out of our formal time i  
actually had a couple of follow-up  
questions for you alexander the the  
first one  
um  
is  
if you had to give advice to other  
entrepreneurs looking at the ai space  
where do you see the opportunities for  
you know individual founders co-founders  
small teams to go and do something great  
right now what advice would you share  
with the audience  
yeah you know i think i think that again  
the backdrop is just one where the  
artificial intelligence industry is  
growing  
sort of astronomically quickly i think  
it's you know you'd be hard-pressed to  
point to an industry or sector that's  
growing as quickly and has  
as um  
as  
large a potential to provide fundamental  
value to humanity um and that's a little  
bit of a subtweet at crypto um but uh  
but i i think that there's this there's  
this massive um fundamental potential to  
artificial intelligence so i think that  
you know a there's sort of gonna be an  
abundance of opportunity and by the  
nature of  
startups it's almost hard for uh for any  
one person to to identify where the  
nooks or crannies or sort of like um or  
or green fields exist in that sort of uh  
in that overall race that being said you  
know i think that um i think that kind  
of what i mentioned before which is that  
um all of these industries  
most industries are very data scarce and  
so i think that there's always going to  
be an opportunity to actually bring  
artificial intelligence to  
as many of these industries as possible

and i think there's going to be  
you know somewhat of a go fast to go or  
go go slow to go fast within each  
industry because you know these  
industries are you know they're each  
dealing with the advent of ai they  
this is sort of a transformation that is  
that we're sort of mid-stream in um but  
i think that that  
that broadly speaking over the course of  
a decade or two decades is uh is going  
to be one of the greatest  
transformational changes that you know i  
think many of us witness  
well thank you and alexander look i just  
wanted to say congratulations um  
obviously this is an incredibly  
impressive business you built ai is a  
really huge topic here so it's great to  
have you here my final question is are  
we going to see you with us in person  
next year  
i i really apologize for uh for having  
missed this uh in person this time and i  
really hope to be able to make it there  
in person next year and uh that way my  
head will be smaller uh but there will  
be no technical difficulties that's the  
dream  
brilliant well listen thank you so much  
for being here congratulations alexander  
wang scale ai  
you