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Turner's Fantasy VC Portfolio I [Originally published August 27th, 2018]

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27-34 minutes

I originally tweeted this on August 27th, 2018 before I set up this blog. Re-posting it here in an easy to read format.

Below is a fantasy football inspired fake VC portfolio I put together this summer, followed by a short investment thesis on each company.

Date	Company	Sector	Investment	Total Raised	Stage	HQ	Underrepresented Founder
7/8/18	Lambda School	Education, Labor	250,000	4,100,000	Seed	SF	No
7/14/18	6D.AI	Augmented Reality	200,000	TBD	Seed	SF / UK	No
8/4/18	WeeCare	Education, Labor	200,000	4,000,000	Seed	LA	Yes
8/10/18	Jyve	Labor, Retail	250,000	16,000,000	Series A	SF	Yes
8/18/18	SuperHuman	Enterprise	150,000	TBD	Seed	SF	Yes
8/21/18	PlayVS	Esports	200,000	15,000,000	Series A	LA	Yes
8/23/18	Ride Report	Mobility, GovTech	250,000	n/a	Pre-Seed	Portland	No
	Total	**Total**	**1,500,000**				**57%**

The portfolio hits augmented reality, education, enterprise productivity, esports, labor productivity, on-demand labor, retail, and mobility as a service.

A major theme is companies with clear revenue prospects and business models that I think competitors will have trouble bolting on to their existing distribution channels and product lines. I also tried to stay as early stage as I could as that's what I'm most interested in.

Over half the companies have at least one underrepresented founder (non-white, non-male). I did a very broad search, kept an open mind, and considered any company I thought could have venture-like returns, which is how I think VC should be done. Not only do I believe the best investment opportunities are originally overlooked by the market, I also personally believe in backing founders looking to make an outsized positive impact on the world.

Note: Since I first posted this on Twitter in August of 2018, five of these seven companies have raised follow-on rounds (that I know of), with two raising two rounds:

- ***Lambda School** raised its Series A, led by GV with participation from Stripe, followed by a Series B*
- ***Jyve** left stealth and officially announced its Seed and A rounds led by Signal Fire*
- ***Superhuman** raised a Series B, led by Andreessen Horowitz and included First Round Capital*
- ***PlayVS** raised its Series B, which included the LA Dodgers, NEA, Science Inc, Crosscut, Coatue, WndrCo, Adidas, Samsung, P Diddy, and Google's SVP of Corp Dev, followed by a Series C*
- ***Ride Report** closed its Seed Round, which included Homebrew and two social impact funds*
- *I also realized my investment sizes were unrealistically large, and cut each down by 10x*

LAMBDA SCHOOL

Stage: Seed / **Total Raised**: $4.1 million
HQ: San Francisco / **Underrepresented Founder**: No

Website

Lambda School is a live and interactive online school that teaches software engineering, design, and data science. Students don't pay tuition until they're hired and making at least $50k in the field they studied. They then pay 17% of their income for two years, capped at $30k (more here). Lambda seems to have found a for-profit education model that solves: 1) the access and affordability of education, 2) tech's diversity pipeline problem, and 3) the lack of skilled technical workers.

Traditional academia is not incentivized to get students employed; just admitted. Lambda works backwards to create curriculum, looking at data to find labor supply shortages, and then builds curriculum for those jobs. Lambda treats its students like a portfolio of investments, not a revenue stream, and appears to have found the correct alignment of education incentives. Lambda has taken the current college model, shorting a bond (*guaranteed repayment)* and buying a call option (*big upside, could be worth zero)*, and turned it into buying a protective put (*miss out on a little upside, only downside is the opportunity cost of time and foregone income).*

The current education model incentivizes out-sized risk taking by students, typically by those in the worst position to take risks. Those who do take that risk then typically take less risk elsewhere: buying houses and cars, starting families, or moving to different cities – due to excess student loan debt… all things that stimulate the economy. For many consumers, student loan payments can be equivalent to the cost of owning a car or the cost of housing.

Due to being an always-on, 30 week curriculum, Lambda can quickly iterate and adapt to changes in the hiring market. Students also move through Lambda's $30k program as quickly as six months, and could earn upwards of $250k while their peers complete a comparable traditional 4-year, $40k/year university program. Considering compounding, this head start could make a significant financial impact on many students lives.

Lambda has an interesting marketplace dynamic where it can tap the capital markets to fund itself. Investors buy the rights to student's income share agreements they sign with Lambda, giving Lambda a negative cash conversion cycle and reducing Lambda's balance sheet risk. Investors have long looked for ways to short the student debt crisis, and now they can: buy going long Lambda students, who will likely have above average credit profiles as software engineers, data scientists, etc. upon graduation.

Another interesting aspect of Lambda school is the alumni and network effect. Most students are remote, so Lambda graduates are quickly putting down roots all over the world. As they enter hiring roles, they are likely to favor fellow alumni. They also appear to be highly regarded in tech circles, of which have begun abandoning traditional 4-year degree requirements. Non-degree holding candidates may actually eventually become more favored in entry level roles, as they are likely to be younger and further from starting families and likely to have less commitments outside of work for a longer time frame than older bachelor/masters degree holding counterparts. I could also see Lambda taking the marketplace approach used with investors to job placement, letting recruiters and hiring managers bid on Lambda students based on performance metrics. They could even let hiring companies buy out (and forgive) the income shares instead of investors.

There's also upside for Lambda to help students launch companies in exchange for equity instead of an income share. Lambda could also evolve the dynamic discussed earlier and allow income share investors to participate in seed rounds. It's clear they will keep adding ancillary curriculum lines and most young entrepreneurs are learning via the internet anyways. Lambda is positioning itself to offer something similar to Y Combinator, and due to the types of applicants that Lambda attracts, there will be problems solved by Lambda graduates that Y Combinator graduates don't even know exist. If Lambda is really training the best, why would they go work for someone else?

RISKS

The biggest risk I see to Lambda's model is that students don't get that "going away to college" independence, which is a very important aspect of maturity. What is that worth? It's also worth questioning if traditional college has even done that right in the first place? Lambda appears to be addressing this, experimenting with Lambda-provided laptops, stipends, and most recently student housing (all included in the "no cost until you get a job" model)

I also see a need to get awareness of Lambda's curriculum into high schools and big companies. One of the reasons the student debt problem is such a structural issue right now is that society pushed college as the primary path to be successful in life. If Lambda can integrate with not only high schools, but also corporate training departments, it will help increase awareness and further cement it as a premier player in the future of education.

6D.AI

Stage: Seed / **Total Raised**: TBD
HQ: San Francisco, Oxford / **Underrepresented Founder**: No
Website

The next major operating system will be built on top of the camera, which eventually evolves into a smartglasses-centric mixed reality world. The Augmented Reality (AR) market is expected to reach $85-90B by 2022; with projections it eventually exceeds $1T. Whoever can create and control the AR Cloud, the trillions of digital data points referencing exact locations in the physical world that index the real world similar to how Google indexes the web, will create tremendous shareholder value.

6D.AI provides developers a smartphone camera-enabled API to build real-time, 3D crowd sourced maps of the world. 6D has positioned itself as a cross-operating system AR ecosystem for developers before we reach ubiquitous use of smartglasses. Reaching that point may be over a decade away, and getting there will be a slow, gradual process. Numerous things are holding it back, primarily fitting the tech into fashionable, affordable, and functional smart glasses.

AR is truly a revolutionary concept. In the words of 6D CEO Matt Miesnieks: “through all of history we have consumed visual content through a rectangle (from stone tablets, to cinema, to smartphones, etc.) and AR is the first medium that is completely unbound.” Initially, the most successful apps and experiences in AR will be features tacked on to native mobile apps (think 3D arrows giving you directions in Google Map or Snapchat lenses). Eventually, technology and consumer adoption of AR will get to a point where entirely new experiences that have not yet been imagined are capable. Watching entire AR-aided concerts or sporting events as a fan at a stadium, exploring old buildings that have been completely re-imagined in AR, or interactive 3D games or pieces of content that play out over a user’s living room or an empty warehouse are a few potential use cases that come to mind.

Matt has a nice piece explaining where the true value-add will come in AR, which is in controlling the AR Cloud. It is a relatively easy read in comparison to his overviews of Apple’s ARKit and Google’s ARCore, both of those very informative as well. Matt describes the AR Cloud as such:

“The ARCloud can be thought of as a machine-readable 1:1 scale model of the real world. Our AR devices are the real-time interface to this parallel virtual world which is perfectly overlaid onto the physical world.”

Matt predicts that there will be many different versions of the AR Cloud, presumably each of the major players having its own version or perhaps overseeing some sort of open network. He also describes a need for a trusted, third party solution with no perverse incentives (not one the incumbent tech platforms like Facebook, Google, Apple, etc.), and I completely agree. While, I think it is nearly impossible to accurately predict exactly how a concept like the AR Cloud will evolve, 6D already has a head start getting developers creating a network of AR-enabled experiences. It seems to be well-positioned as developers look for ecosystems to build in as AR continues to gain momentum with consumers.

WEECARE

Stage: Seed / **Total Raised**: $4.2 million
HQ: Los Angeles / **Underrepresented Founder**: Yes
Website

My first hand experience raising a child has helped me appreciate that every child-rearing household spends a lot of time, money, or both on childcare. This is in the form of 1) paying someone else at least minimum wage to watch the child (money); 2) additional commuting to deliver child to the right daycare (time); 3) a parent removing themselves from the workforce to raise the child (time AND money); or 4) multiple other combinations of the above.

WeeCare helps education professionals launch and manage their own in-home daycare (think AirBnB for daycare). There is currently a huge supply/demand imbalance nationally with a 3:1 ratio of kids needing care to kids in care. This has led to pricing of $1,500-3,000/month per child depending on location. WeeCare offers rates 30-40% below market. The platform appears to be very user friendly and helps manage the entire process of running a daycare - licensing, curriculum planning, marketing, billing, parent communication, tax, and all other back-of-house functions to save time for someone spending over 50 hours per week watching children. My hunch is there is not a big overlap of child education professionals that are experts at running their own small business, but WeeCare founder & CEO Jessica Chang ran two schools of her own before launching, giving her unique experience to bring this concept to market.

WeeCare is a marketplace matching supply (educators) with demand (parents with kids), and one of the traits of a successful marketplace is tapping into unused capacity on the supply side. In-home education reduces the barrier of entry to starting a daycare by allowing educators to leverage their personal mortgage/rent payments for business use. Educators with young children can also earn an income teaching other children while still spending time with their own. Despite WeeCare's below market pricing, it says take-home income in their early cohort of educators is significantly higher than industry averages. This is because traditional day care centers have higher overhead costs and many child care professionals in traditional daycare centers have zero ownership of the business and make near minimum wage.

Licensed daycare is a $48B industry that continues to grow, partly driven by more women entering the workforce. The US home school market is an adjacent opportunity, as parents choosing to home school could also earn income teaching other children. The US home school market consisted of over 2 million students in 2017, with the average family spending $500 per child per year, for a total of $1B. The average public school spends 19x more per student at $9,963 per year (not including CapEx or R&D), and the home school market could expand significantly as the US education system evolves to meet the needs of the modern workforce over the next few decades.

I think there is potential to grow the platform beyond a daycare service in the US and into either an international provider of in-home education or an education-centric marketplace. California is said to have the nation's toughest in-home licensing laws, and WeeCare should see early tailwinds expanding beyond its home turf.

I like the in-home education space and looked at WonderSchool based out of SF as well. Both companies are battling for the same SoCal market, and I think the one that can show better metrics and go on to raise a larger round will have success expanding nationally/internationally. Being local to LA, the third largest regional economy in the world behind New York and Tokyo, I think WeeCare has a much larger backyard opportunity.

RISKS

A big risk to marketplace business models is users transacting off-platform. I feel like this is a common occurrence on Care.com and Wag, the baby sitting and dog walking marketplaces. Those are likely to be less frequent or smaller aggregate annual payments, whereas both parties would want income and expenses from full-time childcare to be recorded properly for tax and bank proof of income purposes. Uber worked well because it was a commodity service that consumers needed fast - you don't want to wait 30 mins for a car. The current state of the childcare market leads to wait lists of up to a year, something that WeeCare helps fix by adding additional supply.

Despite being a localized service, there is still some headline risk. Controlling supply of daycares will be critical for WeeCare, and negative PR in one market could affect both educator and consumer perception of the WeeCare brand in other markets.

JYVE

Stage: Series A / **Total Raised**: $16 million
HQ: San Francisco / **Underrepresented Founder**: Yes
Website

Jyve is a business optimization platform and talent marketplace that enables brands and retailers to quickly scale and optimize their labor forces. On the consumer side, it takes an Uber-like approach to give employees flexibility in location, time of day, and type of job performed. On the enterprise side, it's a modern day staffing agency that allows businesses to quickly scale workers in the same way AWS lets companies scale computing infrastructure. Jyve's initial customers are grocery retailers using on-demand labor to stock shelves and see per-job analytics, but there are lots of opportunities to expand to other industries and change the economics on labor costs and provide analytics on workforce performance.

Jyve's customers get cheap, scaleable labor (avoid paying for down-time) and don't have to pay benefits. For workers, it takes the on-demand workforce popularized by Uber and Lyft and applies it to physical labor. Many workers want the flexibility to choose their own hours and don't want to commit to the same job for 40 hours per week. Jyve helps manage this, as it would be difficult for nearly any corporation to manage this sort of system on their own (perhaps Target could with Shipt).

The US staffing market is estimated at $145B in 2018, but Jyve is a structural change which I believe could change the way large corporations think about their physical labor force and significantly expands

the TAM in the same way Uber expanded the TAM of the taxi market.

Jyve is creating standardized work processes, and I could see these evolving those to a point where each of Jyve's corporate customers adopt its work processes for different aspects of their business. This would allow a delivery person, cashier, inventory clerk, fry cook, or accountant to perform the same task at each of Jyve's corporate clients (or even different tasks at the same client). As it scales and adds more product lines, it will be easier to convince customers to jump on board and adopt Jyve's processes in exchange for labor cost savings and margin expansion. Speaking to one customer, they are already using Jyve in over 30 stores and they would like to adopt it chain-wide for all the reasons mentioned above.

Aside from just the labor cost savings, Jyve is positioning itself to offer data analytics to retailers. A/B testing is a common, and very powerful, tool used in tech-first businesses, and Jyve could help legacy CPG and retail customers take advantage of the data already being generated from their stores and shelves.

SUPERHUMAN

Stage: Seed / **Total Raised**: TBD
HQ: San Francisco / **Underrepresented Founder**: Yes
Website

Superhuman is an email client that is 10x better than existing email (demo here). It centers on hotkeys, quick response templates, AI triage, undo send, read receipts, follow-up reminders, and scheduled messaging to help users quickly hit and maintain inbox zero. The hotkeys are very intuitive, almost like bringing Excel shortcuts to email. Superhuman uses an invite/wait list system, and manually on-boards new users in-person which shortens the learning curve and causes users to quickly evangelize the product.

Superhuman's shortcut model allows for mouse-free email. Actions that may take 60 seconds on a traditional email client (adding To's, CC's, Subject, standard intro sentences, etc) can be shortened to less than one second with pre-made and user created shortcuts/hotkeys. Superhuman's mobile app also allows for shortcuts, giving users mobile email capability that's otherwise impossible on other clients. These shortcuts don't specifically have to be keyboard-based, and I'd bet we see voice shortcuts soon. Users can also create siloed inboxes (think the Social / Promotions tabs up top in Gmail) using customized inbox filters to optimize their workflow: "From the Team", "From Customers", "Newsletters", etc. Superhuman has these out-of-the-box inboxes for every type of role (sales, reporter, investor, etc). The learning curve, custom inboxes, and shortcuts increase stickiness, making it harder for users to move to another service and lose their customized email productivity.

At $30/month per user, Superhuman has an ARPU of $360, likely giving it extremely high gross margins that can be invested back into the business. This high sticker price means it must provide value immediately and also ensures that customers feel they must use the product since they are paying for it. I believe this subscription model actually gives it an advantage over legacy ad-supported email products because it does not need to optimize for ads. This has allowed them to make the product run extremely fast compared to other email clients. Superhuman claims it cuts email time in half, and at $1/day, it pays for itself if someone's time is worth $100/hour and they cut two minutes of email per day.

CEO Rahul Vohra sees its software as a productivity coach, and that likely represents the short-term product road map. The team studies its user behavior and takes the best practices from the top 5% of users and rolls them out to the rest of the user base. I see a lot of opportunity to expand into and integrate other enterprise categories like calendars, to-do lists, word processing, spreadsheets, messaging and voice communication, and other non-standardized tools like sales and recruiting. The dominant enterprise email clients Microsoft Outlook and Gmail have started down a path of tweaking their UI to compete with Slack's messaging features, leaving them vulnerable to products that actually improve productivity. Superhuman also integrates with users social products, hinting at potentially introducing Salesforce-ish features as the product matures. Positioned as a productivity product, Superhuman could also introduce messaging features at a time when teams are starting to question Slack's value-add.

The management team appears to be very hands-on with early customers, which includes the CEO personally doing the in-person on-boarding on occasion. The team also has previous exits in the same industry. The founder & CEO previously founded and sold popular Gmail plug-in Rapportive to Linkedin, and another co-founder previously co-founded Rapleaf/LiveRamp to Acxiom.

PLAYVS

Stage: Series A / **Total Raised**: $15 million
HQ: Los Angeles / **Underrepresented Founder**: Yes
Website

Over 200 colleges in the North America currently offer esports scholarships, but the recruiting pipeline is very informal and many talented players fall through the cracks because the ecosystem is very early in its development. PlayVS has an exclusive contract with the National Federation of State High School Associations (NFHS), the NCAA for high school, to build the infrastructure for high school esports (more here). This will allow students to play esports on behalf of their school and compete for state championships, just like traditional sports. The platform organizes try-outs, forms teams, schedules games, and aggregates stats in real-time. It also provides recruiting tools for players, recruiters, coaches, and parents. PlayVS is launching as PC only, starting with MOBA, Fighting, and Sports genres, and says it will never do FPS or Battle Royale genres.

Currently, eSports are very under monetized based on time spent and viewership numbers. The fall 2017 League of Legends world finals attracted a peak of over 80 million viewers, with the event as a whole attracting 1.2 billion total minutes of viewership vs. 370 million in 2016 (340% YoY growth). The February 2018 Super Bowl attracted 103.4 million viewers, which was a drop of 7% from the 111.3 million that brought in $419 million in ad revenue in 2017, whereas the *entire* esports ecosystem is growing rapidly and projected to generate only $906 million in 2018.

Esports is unique in the sense that publishers can create and iterate on any desired experience: different games to optimize different skill sets, different game types and game flows for different monetization strategies, and different types of spectator experiences. This has benefited new game sales, as publishers are able to create new concepts that draw interest from players, but has also made it more difficult for any one specific league or tournament platform to amass viewership numbers similar to any one of the traditional sports leagues for a long enough period of time to gather meaningful advertiser interest. A third party platform could gain the permanent spectator reach, similar to ESPN, and give brand partners confidence to sign long-term sponsorship deals. Traditional sports tend to be regional and struggle to transcend cultural barriers (aside from maybe soccer) to reach truly global scale, whereas the most successful esports titles have the potential to scale globally.

One of the draws of high school sports is the recognition of peers, and PlayVS has an exclusive agreement to be the official platform for all US high schools. Socially, sports help give purpose, structure, and guidance in life. Society is now starting to realize that certain aspects of gaming can do that just the same (communication, teamwork, strategic thinking, leadership, persistence), yet the there is still no mature system in place to provide the same sort of structure as traditional sports.

PlayVS has exclusive reach of high schoolers across the US, and could choose to stay an infrastructure play or eventually create its own games as well, becoming something like a combination of the NFL and ESPN. The infrastructure is primarily software, and theoretically, a mature league will have lower CapEx than constructing new billion dollar state of the art stadiums every few decades. There are existing streaming platforms and gaming networks in place: Twitch, Discord, Steam, XBL, and PSN to name a few, as well as existing esports leagues, and even high school-focused leagues. PlayVS's exclusive rights to become the premiere platform for high schoolers gives it a significant advantage, as high schoolers represent the prime demographic for capturing the initial attention of both viewers and players.

RIDE REPORT

Stage: Pre-Seed / **Total Raised**: n/a
HQ: Portland / **Underrepresented Founder**: No
Website

The US transportation industry totaled $1.4T in 2016 (or 7.5% of US GDP), over $4.8T globally, and is on the cusp of being transformed by a combination of connectivity and data. Transportation has historically been dominated by vehicles that provide nearly zero data for policy makers. US municipalities have relied on unsophisticated data collection practices and federal subsidies to build and maintain infrastructure, which has led to misaligned incentives and sub optimal city designs. US cities are not cash flow positive, needing to consistently tap the capital markets to remain solvent. Gas and city income taxes have not kept up with what's needed to maintain US infrastructure and cities are starting to explore per-trip taxes to fund the difference. Cities will need a neutral, trusted third party to measure and facilitate this process.

Ride Report is creating Stripe for city streets, allowing cities to accurately monitor and tax infrastructure usage. The company partners with Mobility as a Service (Maas) companies to provide a dashboard and

toolset for city planners and policy makers to manage the influx of micro mobility and convergence of modalities (cars, bikes, scooters, public transit, self driving pods, etc.) that are unbundling individual car ownership. Ride Report offers a Waze-like dashboard for cities and provides seamless data sharing to help them accelerate the informed development of modern mobility infrastructure. It also provides an API for MaaS companies to easily share their data with cities.

Ride Report's standardized third party solution is already gaining traction with cities and transportation providers. It saves MaaS companies time by providing one data standard across every region they operate, and gives cities a more sophisticated third party solution than what they could build in-house.

For a century, Americans collectively relied on one item for transportation: cars. We are in the process of switching to another: apps. Cars are getting bigger and faster, yet have dis-economies of scale in cities as they decrease traffic flow. Intra-state highways were built as an engine for economic growth, and new infrastructure needs to be built to support the continued growth of cities. Self-driving cars will not solve all use cases and are much more expensive than other emerging forms of transit. The car is being unbundled as scooters and bikes are more efficient for intra-city commutes, and have already picked off shorter trips from cars in the most image-conscious US cities like LA.

All these new forms of mobility are being controlled by tech-first companies that collect and analyze how their vehicles move around the world. Uber and Lyft know more about a city than the cities themselves. Public and private transportation are colliding and they need to speak to each other. Policy makers want access to this data, however the companies do not want to make it available to competitors. Dockless micro mobility companies have given trip and vehicle data to cities from day one, which has forced all other MaaS companies to look for ways to share data with cities as well. Ride Report has positioned itself in a unique spot to provide value for both the private and public sectors, in a way that will allow it to eventually move both vertically and horizontally to offer other ancillary services to both parties.

RISKS

Micro mobility may reach mass adoption. There is lots of pressure from car owners whose lives and self-identity is structured around car ownership. Cars and their related infrastructure are currently being subsidized, and as per-trip taxes are implemented and cars become more like software with faster replacement cycles, it's likely that we continue to see a societal migration towards MaaS.

MaaS companies could provide data directly to cities, bypassing Ride Report. I believe that a third party solution is actually easier for them than going direct, as a standardized, third party data reporting solution saves time and money for both public and private players across all global markets.