

Fireside Chat with Alison Darcy, Founder and President of Woebot

Video Transcripts

Olaf J Groth PhD: Hello everybody, welcome to the Future of Technology course, specifically our fireside chat with renowned speakers, executives, founders of startups. I'm very glad to welcome here today Alison Darcy, a good friend of mine who has been very generous with her time for us at Berkeley and who is the president and founder of a company called Woebot, which is a therapeutic relational bot, an agent, a software agent that helps people understand their psychological dynamics better. Welcome Alison to this to this fireside chat.

Alison: Thank you very much, a pleasure to be here.

Olaf J Groth PhD: Great, why don't we start off with the basics, can you please explain to us what exactly does and let's take the perspective of the average corporate or organizational executive that is new to cognitive behavioral therapy and software bots. Why would this be relevant to that?

Alison: Sure, happy to. Well so there is a very big supply issue in psychological services right now. And it has been actually for very long time. the pandemic shined a light on that, but the truth is that there has not been enough. There haven't been enough clinicians to go around for a long time and we think that everybody who needs one should have access to high quality therapy and a high quality therapist. And so we built basically, a digital therapist and we built Woebot to be a therapeutic relational agent to and to engage with you in a therapeutic process. Not just deliver the content of therapy, which a lot of digital therapeutics do, but also do so in a way that makes sense to people when they are upset and when they're distressed and that is actually talking about what's what's troubling you right.

And so Woebot has grown into a platform where we now can discover and develop new digital therapeutics that are targeted to specific and you know populations and specific problems. And the first few of those we are hoping to seek FDA clearance for, but while we continue to develop the underlying platform technology and with in collaboration with some partners.

So Woebot allows people to get access to something like cognitive behavioral therapy in a way that really maximizes their ability to engage with the therapy itself and the content as well, which I think is different the big breakthrough for us, I suppose, was that robot is able to develop a therapeutic bond with users in the same way that a therapist can develop a bond with clients. And of course, we think that actually leads to better outcomes.

Olaf J Groth PhD: Excellent. Could you indulge us a bit and explain the underlying technology a little. There's AI at the core, but that's such a big bucket term, can you put a little bit more specificity around it.

Alison: It is a huge term. I think when I think about the investments that we've made in terms of this technology, I always think in terms of the user experience. So if you think about what it's like to see a therapist, for example, you know you want to be able to share what's on your mind and you want to be able to authentically you disclose. And you really want your therapist to understand deeply what you're going through and they do that by empathizing, meaning that if

you think about it as a function of empathy right. And then, and you as a person, I also want to know that my therapist has the expertise to be able to help me with my problem.

And so a therapist here should sort of build credibility and also help motivate and engage the client in the correct way so that they're really engaging in a therapeutic process. And if I don't believe my therapist understands me, they haven't to empathize appropriately and I don't think that they can actually help me with my problem, then I'm just not going to engage in a meaningful process with them. And so, assuming that we have done all of those things, and we have engaged and they've, you know, taken me through, guided me through a therapeutic technique, then I want to be able to share whether it helped or not. Did it work? Was it effective? Because if it was effective then we'll want to build on that, and if it wasn't we'll probably want to try something else.

And in each of those five stages, we have aim to replicate with our investments in technology, mostly, as you can imagine, well, what do you use to really deeply understand what someone's going through. That piece is understanding the user state is based a lot on natural language processing. But and then at the end sort of when I have shared whether or not something worked for me, and you know I use that to inform subsequent sessions, with a person that of course I'm describing is machine learning. And so there are you know it depends on the stage of the encounter that we're trying to automate or replicate and but we lean a lot into natural language processing, but also in equal measure conversational design. You know there are very distinct phases in an encounter that are all grinded and very good and clinical care.

And so in lots of cases it's you know, decision trees, designing the you know the conversation in a decision tree format, which actually mirrors a lot of clinical thinking. But hopefully I'm giving you a bit of a flavor of the kinds of tech that underlies Woebot's capability.

Olaf J Groth PhD: Definitely, so this is a fairly sophisticated application of different types of AI. Now, ostensibly you're dealing with a number of people and business partners as customers that are not digitally needed you know. How does the integration work? What is their experience usually? You know, is it easy? Do you have to do a lot of explaining? Is there a disruption right as you bring this technology that touches on very important human qualities like trust and empathy and apology to that, to organizations. Right, the benefits are demonstrably you know significant, but what about the disruption this causes for executives? What should executives keep in mind as they look at this?

Alison: Well, it's a good question because I think that you know this is fairly new and nascent, so the commercial pathways are still being laid essentially. One of the things we have found that conceptually and because there's such a huge need and a lot of these executives are seeing a huge unmet need and the populations that they're serving. They understand this. They understand how disruptive it can potentially be. But what we don't have a good grasp on yet is you know, what it really looks like on the ground? You know how, what are the workflows that we integrate with? How do you interface with a human therapist? Well we don't believe in replacing therapy.

We believe Woebot will be a great tool that sits quite nicely in a comprehensive ecosystem of services. But really understanding what that looks like and people's understanding is really different. You know there's a lot of, as you know, there's a lot of conversation about AI. Whereas really, it's a tool right and it's a lot of how you use that tool. And I think we spend a lot of time talking to our potential partners of buyers how important good designers we try and be as transparent as we can, about the sort of ethical frameworks and the way in which we've

approached what it is that we do you know and being really transparent about user privacy what we will do what we won't and because the devil is in the details right. It all comes down to the nuance of application, and really how something is designed.

And I think the other piece is that it's funny, I think people can either overcomplicate or undercomplicated. And so you know we can overcomplicate by you know just trying to fit something into this like tiny little space and uh, but we can also sort of simplify in a way that's detrimental by just thinking, well, we could go holistic and just you know have Woebot completely replace therapists right. And that's and you actually want to I think phase it in a way because the capacity of this technology and because it's relating to people in a relationship framework goes beyond just the therapeutic encounter and includes things like screening and diagnosis and maybe relapse prevention and monitoring over time. You know the scope is much broader, you can have a longitudinal perspective of somebody health, but you probably don't want to tackle that entire lifespan in one go and just you know have aim for a phase-in rollout and so that's kind of how we try and approach these things.

Olaf J Groth PhD: That makes a lot of sense. What you're really saying is look at the therapist and the bot need to have some kind of symbiotic relationship where both of them are part of the intervention or even the diagnostic and the dialogue. It's not like this book can be let loose on you by itself, and we shouldn't expect that it will perform like that either. It's a tool between the therapist and the patient, I suppose.

So do you see a future though, where you know eventually we could have an autonomous agent by our side whenever we need them. It doesn't necessarily have to be somebody in the middle right. So even for let's just put it back to call it was right. It's very, very important to be emotionally self aware that's the first step to emotional intelligence right and to understand when you're stressed and traumatized and maybe not managing and leading appropriately in your organization. Wouldn't it be great to have a tool like this eventually that tells me when I get up in the morning, look frankly, you know you may want to take it easy today right.

Alison: No, that's right. Just to be clear, like, I think we don't Woebot operates sort of independently as well and people already use Woebot that way. But we do need we feel like there's kind of humans can book end on either side, but they don't necessarily need to be in the middle, it can work alongside. It's basically it's as independent as a sandwich from a meal at a restaurant. You know those two things they're both food, but they're us really differently and one probably doesn't replace the other. You know you kind of go to them for different things.

And so yeah I agree, I think something like Woebot can work really well independently for the right person, and I think it's all about that nuance like really understanding for whom what works and under what circumstances. That's what we do within Woebot but also Woebot in terms of where Woebot sits in the broader health service as well. Yeah I agree, I think we are, you know, we're obviously witnessing more consumerization of healthcare. We have had the interesting thing about my field is that we've had self-directed cognitive behavioral therapy tools for a really long time. They just haven't been very engaging. So there's been there's over 20 years of studies to support the use of self help and guided self help interventions, but the guided self help interventions, that is when somebody checked in once a week and said, you know redirected someone to the right content, but they were going through the content themselves those always had better effect sizes.

And so it was always presumed oh yeah well humans, when this humans in the loop, it would be helpful. What Woebot is really an automated guide, but we're really clear that this is still a self

directed kind of tool. And in lots of ways Woebot is actually in a better position to deliver something like that because it's just so clearly understood that you are really going through this yourself. And yeah, that the breakthrough as well, but again, is that you know sort of develops a bond with people and even though they know that you know the character itself is fictional, but it nonetheless is simple, very straightforward tool to use daily and just kind of keep you grounded right and keep you doing and the habits that you know are good for you, which of course are different for everybody. And so yeah I absolutely see a future where people will have their own you know health assistance and over the lifespan for sure.

Olaf J Groth PhD: Yeah and you know you're hitting on a very important element of this course, right future of technology. The idea that in the beginning, these types of new capabilities, technological capabilities tend to get overhyped and then we understand and you're saying look these therapy, psychotherapy bots have been around for a while, but it's only now that we're getting some real traction.

And we need to be realistic about even what that can do and be. So the gartner hype cycle comes to mind, the S-Curve that we've been teaching, etc. So that fits very nicely you're already hitting on you know sort of a future outlook, I would love for you to take an outlook oh I don't know 10-15 years down the road, you know, give me a positive future for you know this kind of therapeutic AI. You know, you could even describe it more broadly right the field in terms of sort of self awareness self management type of AI.

You know 15 years out, a positive future and give me one that we should stay away from, that's a bad, that's a negative future right. And bring it back, would you bring it back to you know the broad swath of the economy right. Not just the therapy relationships, but can you imagine a positive and a not so good future for this kind of self awareness AI.

Alison: Sure, I mean the positive future is the one that we just outlined right, you have a genuinely helpful assistive technology that kind of speaks to you like a human, you know, provides genuine insights, and enables you to do whatever it is that you want to do in your daily life, and you know and also including saying hey, look I think you know, things have gone beyond what I can deal with here, I think it's time that you kind of picked up the phone and you know, so including handing over to a human, which you know humans will always have that role. And so that's the positive IP place, I think we are headed,

The potential negative for any AI that is involved in processing human emotions and it is of course that it gets exploited, you know. I think I've said before, I believe that things like we should not allow passive detection of emotion because the capacity for exploitation is so great. You know suddenly you discover that somebody particularly vulnerable or having a very negative day where they feel you know they view themselves or the negativity. Well it's just sort of ripe for, you know, advertising right. That is an industry that is based on the premise of telling you you're not good enough and not being good enough. I'm not X enough, where X is any human attribute you want to insert there is one of the most common distorted thoughts that people have.

And so, you know as a psychologist we sort of dedicate our careers towards telling people no, you are good enough and, by the way, "good enough" that doesn't exist, it's not a thing. So that is what I would worry about, so I think we have to be really mindful of that. And again it goes down to just good, solid design, you know and where you have any tool, it can be used for good and it can be as poorly. And you know it's funny. We're so, as you said when a tool becomes so hyped like this, you know. Imagine when the scalpel was invented it was really people were

obsessed about scalpels and people was like oh, this is going to revolutionize all of surgery, and then some people start saying no scalpels are dangerous. That is it, they're completely dangerous. We tend to think of these things as really binary and the truth is, it really depends on how well that tool is wielded. Yeah and so you know, I think we have to lean into that and understand it.

Olaf J Groth PhD: Completely agree with that, you know in leadership right, we are very aware of the fact that somebody getting the ground truth on themselves can be a very powerful tool, depending on what their mindstate, their state of mind is and what their objectives are. But it's also scary isn't it because you know the ground truth as we objectively quote unquote see it expressed in data and the reality that you have in your head about yourself sometimes are two different things. And we may not want to hear the ground truth if it doesn't comply with our reality, sometimes we have to. But if you don't handle that well, you could also completely ruin somebody's motivation or their mental well being, can't you?

Alison: Oh absolutely and I would argue, I mean I wonder about this, whether or not, like in for ok, for the type of mental health problems that we are tackling, this sort of the broad spectrum of depression and anxiety, and you know, for the most part, we don't really think that there is a ground truth right. The ground truth is that person's perspective. You know, it's their how they perceive themselves to be is really the crucial information that you need. So we explicitly say this in one of the kind of beliefs that we have and we have on our website is that even if I even if Woebot could detect your emotion passively, not going to do that. I'd rather ask you how do you feel you're doing. And so all of these kind of ethical questions and what does subjectivity really mean in the context of emotional health, these are just such important conversations for us to be having.

Olaf J Groth PhD: They're huge, they're huge. You know and as leaders, as executives in whatever sector right it's our it's our aim to help people develop themselves and to help them develop right and to be in higher levels of being richer experiences in life and, of course, higher performance as well and that's such a delicate thing to do. And so we do have to keep the ethics in mind and the complex cycle technological dynamics that are at work here.

So grateful that you're a pioneer in this field. It's fascinating because really what this is the year in which we're now going inside our bodies and understanding our bodies much better right. Whether it's through crispr in genetics or whether through a psychotherapy and psychotherapy bots like yours and there's a number of companies out there in your bracket. We're getting inside, we're understanding our makeup much more. And that there's potential for self development in that and of course, also for a lot of safeguards to keep us, keep our privacy and agency right.

Yes, let me ask you, as we have to close out, is there anything I should have asked you that I didn't where you feel, look thinking about global executives hearing this all over the world right in Asia and Europe and Africa and the United States anywhere, is there anything that you think I was missing here that they should hear.

Alison: You know, that's a great question. I don't think so. I mean, I think by the very fact that we're having this conversation, this is the most important thing for you know people around the world and for global innovators and to be doing right now. And I think you know it's ironic that like what Woebot teaches is sort of good thinking hygiene and you know always questioning whether or not you're doing the right thing and where things can go in their ultimate you know manifestation is such a positive thing to do, and always come back to the table, and you know

as long as we continuously evolve our thought process. And I think in the last few years, we've seen what happens when you know thinking gets like extreme on either end and then echo chambers happen and so on. And it's just a tremendously negative thing for the world, but also for one's own development and you know this continuous movement towards enlightenment. So no, I think this has been wonderful. Thank you very much again for the invitation and yeah we will we should check in every few years and see how things have progressed.

Olaf J Groth PhD: Alison with that, I couldn't have put it any better thank you for your generosity and you have our admiration. You're creating the world of tomorrow and making it better for everybody.

Alison: Thank you.

Olaf J Groth PhD: No, I want to thank you and if there's ever anything we can do for you, do let us know. And with that I'm going to close out here and wish you good day until we see each other again.

Alison: Absolutely, thank you very much, my pleasure.

Olaf J Groth PhD: All right, bye.