

Shalini Trefzer, Founder of LeapSecond Consulting+

Strategy, Navigation and Execution in AI

Shalini talks strategy for start-ups, bias in AI and machine learning, and tackling diversity in the societal systems that assign value.

- 04:32 The number of people who know AI and know how to use it needs to increase dramatically.
- 08:43 An experience of bias led Shalini to wonder how we challenge machine learning bias, it is hard enough with humans.
- 14:38 It is imperative for leaders to understand the ethics and consequences of their AI offerings.
- 17:36 We need to be aware of where we are and where we wish to go and what the gap is between, then figure out what we intend to do about it.
- 20:46 We need to approach diversity by tackling the systems that assign value to gender, skin color, background, etc.

Ashwin Krishnan: [00:00:23] Another edition of the UberKnowledge podcast. Today's guest, let me actually chronicle her journey, and then I'm going to turn it over to Shalini to talk about it in her own words; the why behind the journey.

[00:00:37] So initially, working on hazardous waste management projects and civil engineering consulting, then moved to join a haloed Silicon Valley company, then jumped the pond to Switzerland and joined one of the most storied healthcare giants. And now, does consulting with startups with the focus on AI. Yes, artificial intelligence, but I'm not done. She also serves as a contributing editor for the Diplomatic Courier, a global affairs media network, and along the way, she has also built up credentials that include AI applications at MIT, project management at Stanford, finance college at Novartis, PMP certification at PMI, and the environmental engineering degree.

[00:01:17] So I will take a breath. Hand it over to Shalini to talk about this non-traditional journey. What made you go through this, and where are you right now in that journey?

Shalini Trefzer: [00:01:33] Hi, Ashwin. It's great to be on your podcast. I'm actually calling in from Switzerland and out of my home office. So, hey to everybody. Thank you for having me. My name is Shalini Trefzer, and Ashwin has chronicled my journey in 70 seconds. It took a little bit longer than that in real life. [laughs]

[00:02:00] But yes, as he mentioned, I have a degree in environmental resources engineering. And I must say that what I learned in engineering school was really the art of basically learning. Learning new things and somehow making them happen in the real world. And I've always had a fascination for how you take a concept or a framework that you learn someplace and then apply it in the world of business. Always interested in business applications. So, this is how I started off my journey into the world of technology. And you heard the rest from Ashwin.

[00:02:40] So you want to know where I am right now, I think I'll start with that. I'm in a very interesting place because I think that with my background and just with all of the transformational changes that are happening in the world as a whole, I find myself at a bit of a crossroads. And I do believe that I might have just transitioned beyond what is a traditional corporate career because I'm not just out of school; I've had a number of working years behind me. And I am also now stepping into ... I'm kind of straddling — but I'm not old enough or haven't been in the workforce long enough to assume that I would have a corporate career for the remainder of my working life — so I'm straddling these two worlds between what was the old way ... When I graduated from school, we looked for jobs and you eventually got hired. Somebody paid you. You knew you basically worked for them. There was a lot of implied loyalty. There was this concept of lifelong learning, but within a particular environment. And I certainly understood that there was going to be some manner of mobility in my career. But I'm not a gig economy worker; I'm not a native gig economy worker. Now I find myself

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straddling these two worlds. So I have come to the conclusion that in this long career of working for truly top notch teams and amazing managers, great people, really talented colleagues, who have worked on some pretty important products, that I have learned a lot of skills which will help me make the bridge from what I knew to what I now know.

[00:04:32] And I see that there are a lot of companies who are using artificial intelligence and various manners of intelligence to make a difference in the world. And I have the skills which will help them really bring their strategy, their navigation, and their execution to a new level. And so, this is where I have now found my niche. And I work with companies from around the world, as well as companies closer to my physical home.

[00:05:05] I help each one of these companies translate their vision into reality. Some of their applications are very interesting. There is, of course, AI in healthcare, machine learning in business intelligence applications; there might be an application of intelligence and learning applied to industrial systems of food production, etc. This is now where I am in my journey and it's a very, very interesting place to be.

[00:05:37] It's also a new place to me because what I'm very good at is execution and working with leaders to make their visions happen. And AI, as we all know, it's a field that some people know very, very well; let's put it that way. And it is a field that everybody, I think, has to know very, very well at some point in time. And just the way that I mentioned that construct, I think it's clear that there is a gap, and this is the space in which I am attempting to make a difference.

Ashwin Krishnan: [00:06:17] Excellent. Let's talk about that. You mentioned that there's a percentage of people in the world who understand AI really well and probably even using it to great effect, and there is a much larger percentage of folks who need to know AI. But one of the fundamentals is about the data set and algorithms, right, and the term unconscious bias is starting to become much more commonplace these days. I'm going to reference an article that you wrote, which I found extremely eye opening. To be honest, it showed a lot of vulnerability and self-awareness, kudos to you for that. If you would, in your own words, just talk about what that incident was that sparked your mind, and then let's get more into the technical side of things.

Shalini Trefzer: [00:07:11] I think you're referring to a cultural assumption that was made around me, correct?

Ashwin Krishnan: [00:07:16] Correct.

Shalini Trefzer: [00:07:17] Yeah. OK. At some point in my journey in Switzerland ... and I live here because I'm married to a Swiss person and therefore a good chunk of my family is Swiss. So I don't have roots in this country, but I'm certainly working on establishing a community for myself and really a sense of belonging. Part of this

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journey for me was really trying to see, you know, what kind of community initiatives are available. And I found one which had been started by somebody with a story very similar to mine. And this organization had Swiss folks as well as expats and people living here from a variety of different backgrounds. And I still recall that I invited one of my colleagues — and keep in mind, this was a volunteer effort, so I was giving time to this effort — and my job was basically to interface between this organization and a lot of established institutions in the city of Basel to host events and gatherings where expats and locals could get to know one another. I don't know if those are the politically correct terms. I'm using them a little loosely here.

Ashwin Krishnan: [00:08:41] Yeah, that's fine, I think.

Shalini Trefzer: [00:08:43] You know, who knows who belongs where. But anyways, this gentleman, after we had worked together for about a year, came over to my place for a coffee. We were discussing an ongoing project. I invited him over; just imagine the scene: he's sitting in my chair, looking out my window, and drinking my coffee. And then he looks me straight in the eye and he says something along the lines of, "You know, I still remember the first time I met you. It was your first meeting. You walked in and you started sharing your thoughts and your opinions within the first ten minutes."

And he said it in a way which made me feel like he wasn't very approving of this. And I asked him, is that the case? And he says, "Yes! I said to myself, who is this Indian woman? And how dare she assume that she knows things we don't," something along those lines. I started laughing and said, "Oh, and your second thought was, 'oh, you opened your mouth and she's American.'"

[00:09:50] Really, I laughed at it because, you know, sometimes you just have to laugh. If you don't laugh, your other options aren't very attractive. But I thought about it a lot. And I said to myself, wow, I certainly don't box myself in, in those same terms, but he seems to be doing it. He's volunteering his time to an organization where it's expected that he's going to meet people from different backgrounds, and he's still doing this. He's not aware that it could have a negative impact on those that he's actually trying to welcome and integrate into his culture. And I don't think any of it was meant in an intentionally hurtful way because, you know, he certainly had lived abroad and so on. But it was just so interesting to me to see that he had this really unconscious and barely acknowledged bias. It seemed so normal to him and that really got me thinking; it got me thinking a lot about how the business world operates. I got to thinking about how it's challenging enough when it's a human with whom you share a common language, and so therefore, maybe you could eventually convince them of a different perspective or even share a different perspective with them, whether or not they get convinced. What will you do when this is a machine? How will you unearth such a bias with a machine and what can be done about it?

Ashwin Krishnan: [00:11:35] Yeah, so that leads into the question that I have for you as an AI consultant for startups.

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Shalini Trefzer: [00:11:43] I'm not really, I should clarify that quickly. I'm actually not an AI consultant in that I'm not going in to build AI systems or to design AI systems. What I do is take a product, and many of the products I work with are AI driven, and I apply those into the business world. My title says strategy, navigation, and execution tailored to the startup. Really my focus is on the CEOs of the startup at this point and typically their vision involves AI.

Ashwin Krishnan: [00:12:21] Thanks for the clarification. This is even more pertinent right now because the people that you connect with are the C-level executives in startups, and a majority of them have AI in their systems. OK, there is the Shalini, whose older gentleman friend was open about his feelings or his misgivings with you opening your mouth in the first 10 minutes of the first meeting, and then all the follow-on thoughts about how does this human bias now get institutionalized when we codify machines. At a C-level and looking at everything that's happening right now, whether it's the Facebook-Cambridge Analytica, the Google Nest microphone, over and over again, there's a clear understanding that the decision making of how AI systems need to be designed with ethics in the framework is a cultural shift that needs to start at the C-level, at the executive, right?

[00:13:33] So, two questions. One is, is there enough understanding in your mind as you work with these executives and try to translate their strategy and vision into a tangible business, that, yes, bias needs to be acknowledged. In fact, I'm referencing a Google article, which actually has four pillars to make Googlers understand that, hey, there's unconscious bias everywhere. They talk about affinity bias, the halo effect, perception and confirmation bias, groupthink, on and on and on. Now this is Google, and they have tons of data and they have obviously high IQ, Mensa-caliber people who can actually understand it and grapple with this. So in your role, how do you get this point across to executives who are trying to raise funds or go for a IPO exit? Do they really care or think about this? If so, why? If not, how do you get them to think about it?

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Shalini Trefzer: [00:14:38] I can start off, potentially, with a concrete example. A few days ago, I introduced one of the CEOs that I'm working with — early stage startup and very interesting concept and eventually will be dealing with a lot of data — I introduced them to a digital policy expert in my network. We talked about it, and they got to hear from an expert what best practices currently look like. What should they watch out for? At what point and what kind of help do they need? So I think this is the approach that I'm taking because I typically refrain from commenting on any of the specific ongoing dilemmas around ethics, except if it's backed by an article that I've read or data points that I've gathered from a validated source, etc. I'm trying very, very hard to make sure that I'm speaking from a basis of documentable knowledge to say, here's a body of knowledge, let's take a look at this. However, all of us have opinions, and I certainly have mine as well. My opinion is that it is imperative

for leaders to be very aware of what ethics means and how that translates into their particular type of artificial intelligence application. What are the unintended consequences? What is it displacing precisely? What kind of value is it bringing? I have personally worked with very aware and dynamic leaders who really want to do the right thing and who do, do the right thing.

[00:16:30] To answer your question, of course it is tremendously important that we understand to some extent what it is that we intend to do, and what it is that we actually do, and that this gap is kept track of. I find that the systems move so fast that sometimes it's very difficult to understand exactly what the consequence of a particular application will be and where that consequence is likely to show up. There was a very interesting speech, not really a speech, a presentation where the speaker in Zurich was talking about delayed gratification, for example. And the idea was that those who were capable of delayed gratification — I think this is the case, that this is the study — showed greater propensity towards business success. I hope that I'm not misquoting, but it went in this direction.

[00:17:36] Then one of the professors at the university, who happened to be from India, raised his hand and said, "This comes from a place of Western or prosperous bias because you have to realize that in order to defer something, there needs to be a basic assumption that this thing is available for you at a later point in time. There are places in this world where there is true scarcity. You cannot make the assumption that if you give this apple up today, two apples are going to be available to you tomorrow. Therefore, you need to consider this unspoken bias." When we talk about the world, and I think that's where I come from, I always at some point in our conversations, I always refer to the fact that the world with its 7.5 billion, or is it 8 billion now, people, I always ask the question: how are we representative? How representative are we of the interests of the global population? Be aware of where the gaps are between what we're trying to do, and what we're actually doing. And then what do we intend to do about those gaps? I come from a very execution-minded perspective, so I'm always looking to say, just tell yourself the truth and then let's build towards that truth. And it can change, that's OK. We just need to ensure that we are always aware of where we are and where we wish to go and what that gap is and what we intend to do about it. So, I keep the questioning in this framework.

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Ashwin Krishnan: [00:19:25] Great. So let's move to the final question, which is actually a good segue from where you left off. The topic of diversity and inclusion.

Shalini Trefzer: [00:19:37] Yes.

Ashwin Krishnan: [00:19:38] You've been in large companies and small, so have I. And to be honest, for many, many years, maybe decades, it was really an HR checkbox item: do we have enough women in the workplace? Do we have enough minorities, like you said, expats, immigrants, so on and so forth? That is no longer the case. Right now, it's becoming existential. So given your journey, and especially your journey,

where you moved from Silicon Valley to Switzerland, you've changed industries, you've obviously amassed a variety of very interesting certifications and degrees along the way, what kind of bias was Shalini subjected to, both conscious and unconscious? How did you overcome that? And most importantly for our listeners, particularly young girls, women in the workplace, what advice would you have for them as they encounter or may encounter in the future biases that are both conscious and unconscious? How do they go about tackling that?

Shalini Trefzer: [00:20:45] I think we should really shift this conversation to two places, and there's a lot of shifting of this kind of conversation on what should you do as an individual human being? Well, there's only so much you can do as an individual human being, but there is a system which is holding certain things in value and holding certain other things in a position of lowered value, and that system thereby rewards and punishes accordingly. And I think that the major part of this conversation needs to be shifted to the systems which are assigning value. So, ask yourself the question of who is assigning Shalini's value? Is it her clients? Is it her employer? Is it her boss? Who? Then tackle the issue primarily at that level. Because once the value that's been assigned to a particular color of skin or accent or background or technical education etc., if the value shifts, then behavior will follow. I think that there are probably certain biases at a very individual deep-down-inside level. And I'm not qualified to deal with those or to help people with those. But I do believe that there are a lot of biases which can be eliminated by examining the value that we assign to various aspects. If we truly want to be diverse, then I think that there needs to be some deep thought into what is of value in a business network. Is it purely limited to quarterly return on investment or profit or is there something else? Is there perhaps an impact to the world that can be measured and treasured? And who is making that impact?

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[00:22:48] As a human society, if we're serious about including different types of people, then what they are good at has to have value. If you rate a fish for its ability to climb a tree, well, guess what, that fish is going to constantly fail. But it's very good at being a fish. The question is, does a fish have value or not? And if a fish has value, then you can essentially evaluate that fish based on what it's supposed to do, which is not climb a tree. I think, therefore, this is what needs to be examined. Is climbing the tree the only thing of value in our world, or is swimming also of value; is some other activity also of value?

[00:23:36] This is one of the reasons why I'm participating in the Diplomatic Career Network because it is a bridge between those that are taking action — the thinkers, doers, and influencers of the future — with policy. I'd love to see a lot of deep thinking happen around the policy aspect. How do we support technology which will improve the lives of humans? How do we do it in a real way and actually let people across the world benefit from it? If that makes sense, I'm not sure if I expressed that properly.

Ashwin Krishnan: [00:24:16] No, you did. I just want to reiterate the incident that you talked about, and just for the benefit of listeners, the recognition that you had that this individual at that meeting wasn't particularly pleased or happy with the way you spoke up and then you reaching out to him and having a conversation. I think a lot of it is to recognize patterns and not take a position of defense or offense right away, but just try to understand the other person's point of view and be able to establish a rapport. You may continue to have differences of opinion in terms of how you see the world, but as you get to know the other person, I'm sure there is going to be a much more cohesive view of understanding where the other person is coming from.

Shalini Trefzer: [00:25:09] Very true.

Ashwin Krishnan: [00:25:10] You've done a lot of that, so I just wanted to call that out. I know we're wrapping up right now. So just given where you are, I know you've chronicled your journey amazingly ...

Shalini Trefzer: [00:25:19] Thank you.

Ashwin Krishnan: [00:25:22] What would professional fulfillment look like for you, let's say in five years from now?

Shalini Trefzer: [00:25:28] In five years from now, I would like to have really found a sustainable path for myself to continue working with interesting companies, interesting startups, CEOs with great visions and continue helping them along this journey of making those visions come true. I'd like to be able to look back upon it and say that I have perhaps contributed to this conversation around what is valuable in our world and how we go about measuring and treasuring that value. That would be amazing. And of course, when I say sustainable, I mean that for me as well. I'd like to be able to have a good, healthy livelihood.

Ashwin Krishnan: [00:26:15] True, very true. So, again, Shalini, I think this has been an amazing conversation. I think we've chronicled, like you said, your life journey in 70 seconds.

[00:26:22] We did the same through the topics of confirmation bias, conscious bias, and the role AI plays in startups and their journey towards success. I will remember the measure and treasure; I think those are those are wonderful shout outs for the listeners. So, again, Shalini, thank you for your time. I'm looking forward to future conversations.

Shalini Trefzer: [00:26:46] Thank you so much for this opportunity to share. I look forward to your continued success and to be with you here again.

Ashwin Krishnan: [00:26:54] Thanks, Shalini.

Shalini Trefzer: [00:26:56] Take care. Bye bye.

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