URL: https://ecorner.stanford.edu/?post_type=video&p=56925

Transcript

(techno music) - [Voiceover] Who you are defines how you build.. - Let's start with a little bit about me and how I ended up here.. I grew up in the Bay area.. Both my parents are software engineers, PhDs in Computer Science.. Seem very obvious that I was going to walk down this path in tech.. I came to Stanford not exactly knowing what I wanted to do.. Thinking maybe Computer Science or something in this domain, which surprisingly was not that straightforward for me.. When I took my first couple of courses in Computer Science, I was intimidated, and decided to not major in CS.. It was, so I ended up doing electrical engineering because I felt like, still technical, but at least no one has been programming a EE circuits since they were eight.. The way I felt like many of my classes in Computer Science had been..

So I switched over into electrical engineering, decided I didn't like that at all.. So I was trying to figure out my way out of EE.. And only ended up majoring in Computer Science because one of my friends had essentially dared me to do it.. I knew I was gonna do a co-term, like a great deal, get a master's degree with only one extra year And I've been thinking of doing it in some other field, mainly because I was chickening out with doing something technical and my friend dared me.. That's how I ended up doing EE and Computer Science at Stanford.. And it was just very lucky to be here in the valley.. Ended up doing some pretty cool internships, but also very unintentionally.. So I, you know, wandering around the career fairs at Stanford, ran into Google and Facebook in hosting their booths, and mainly just to get the free gifts from these companies, had to turn in my resume.. And it turned in to getting these internship, so very unintentional path.. Even though I'd grown here, I still didn't quite know what I was going to do, and wasn't very confident in my direction..

Was very fortunate to be connected to the Mayfield Fellows program through a number of friends I had who had gone through it.. That was my entree into the world of actual startup, Silicon Valley, entrepreneurship.. And so, when I graduated, I was debating where I should go.. I was thinking doing one of the big tech companies.. It was very cool to go work at Google or Facebook, but having just done Mayfield, I thought I should maybe give the startup thing a go.. And I ended up joining Quora, a question-and-answer site.. Back then it was only four people, so I was a 5th person to join the team.. This was pre funding, super early.. Ultimately I decided it was worth the shot.. It wasn't really that risky as a software engineer..

I figured if it went out of business, I would just go be a software engineer somewhere else.. And that was an amazing ride at Quora.. I actually discovered what it means to be a software engineer, which I somehow hadn't learned, despite getting two degrees in engineering from Stanford.. It wasn't I was actually on the ground, building a product at Quora that I realized how fun it was to be building.. But at the same time, there's something that felt a little bit off.. And I hadn't identified it when I was in school, or even during my internships, but just something felt wrong.. And, about a year into working full-time, I seriously questioned whether I should be in tech.. Even though I loved coding, I love building the product, I just felt like I didn't belong.. And I didn't know what it was until I realized that maybe it had something to do with gender, and my identity, and who I am.. When I looked around me, the industry, there were just not a lot of other women..

That realization started to kick in.. I started to see that there were actually potentially systemic issues.. But a longest time, I think I didn't want to realize this, because Silicon Valley is so bought into this idea, the meritocracy.. The people with these shiny degrees, and who are the startup founders, and success stories, these people deserve it because they are the best.. And the best people always succeed.. And the people who are succeeding are the best people.. And I was very fortunate to have some of these markers of privilege, and these credentials.. I had two degrees from Stanford in technical fields.. I had done all

the right internships.. So I wanted to believe that I deserve my success..

I wanted to believe in this system of meritocracy.. It was a pretty rough realization for me that the system isn't fair, and a little bit embarrassing to think on how late I was to become a woke to this idea.. I didn't participated women's groups in college.. And I wasn't particularly aware of feminism, or social justice, or any of these things.. The way I try to console myself about this now is that, if I weren't embarrassed about where I was 10 years ago, I hadn't been growing enough.. But it was a pretty belated realization.. At the same time was just concurrently working at Quora because it is this user-generated content site, we need a lot of content on Quora.. All of us as early employees also wrote a lot of answers just to try to make the site seem more interesting.. And one of the few topics of, like, I could write confidently about was my experience being a woman in engineering, a woman in tech.. So, inadvertently started becoming more vocal on the subject just because we were trying to fill the site with content..

And it was actually really great experience to hear from other people who would write back to me privately and say, "Thank you so much for voicing "these experiences.. "Like, I'm not in a position where I can write "about these issues, but I feel the same way." And I also heard from people who are not women in engineering, but say, a Black person in tech who said, it's not quite the same, but there are also no other people that look like me in the room.. And I started to see much more how prevalent the patterns of marginalization are.. So that it was, I guess, the beginning of my starting to become woke journey.. After Quora I went to Pinterest.. Pinterest was also very small when I joined.. It was about 10 people.. So again, very fun startup journey.. For a while when I was at Pinterest, I just wanted to focus on the engineering side.. We were scaling like crazy..

We're doubling the user base every month and a half.. So, we just had plenty of work to do, and I was much more focused on building out the start up engineering side of things.. But one thing that was really remarkable about my time at Pinterest was it was the first place I felt like I was treated as a software engineer, and not a female software engineer.. And that was a big realization for me, because I had never known before what it would feel like to be treated this way.. Even when I was in school, there was no overt discrimination.. But, being one of only, say, two women in a Computer Science classroom, it did feel weird.. For example, if I was sleeping in class, the professor would always know because I stood out a little bit too much.. Bit I always thought there was something at unusual about being a woman in all of these places that I was in.. And at Pinterest was the first time I felt like I was treated as an engineer first.. That was a really nice revelation to have..

And so, I was so encouraged by that culture at Pinterest, I started again to pick up some of the discussion of diversity issues.. In 2013, as Tina mentioned, I wrote a medium post calling out the technology industry about it's lack of data about diversity.. And the origin of this was that I'd gone to the Grace Hopper conference, which is the big conference every year.. Annual celebration of women in computing.. Now, it's over 10 thousand people that go.. Back then it was a little bit smaller.. And I'd heard Cheryl Sandberg talking about how dire the situation was for women in technology, how the numbers were dropping precipitously.. And I just realized that there weren't any numbers.. And it was so ironic that bring in an industry that's so data driven, that we didn't have data on diversity.. As an engineer I'd had to build out AB testing frameworks, I'd instrument every product launch I'd done..

We poured over the metrics, all these dashboards.. It was because we cared about those things, and we wanted to optimize them.. But the fact that there was no data on diversity signaled to me that we were trying to hide the problem or minimize it.. And we weren't actually serious about solving it.. And so this medium post I wrote was just a call, it was a question, there was a call to action.. And I didn't really expect anybody to respond to it.. So surprisingly a lot of people followed up and sent their numbers on women in engineering.. I still run this repository and people still submit their data.. But some of the key learnings there were to me that people actually did care, and just didn't know what to do.. But giving them very concrete action item, which was count up your number of women in engineering, count up your total number of engineers, and submit that someplace so we can start building up a benchmark..

The very easy concrete action, people were very happy to take it.. They just didn't know what to do before.. And that ended up kick-starting that whole wave of disclosures were Google followed up in May of 2014, Facebook, LinkedIn, Microsoft, Apple, all these companies are now in the pattern of releasing annual diversity data reports, which is pretty cool.. Unfortunately the numbers have not been very good in the last 5 Years.. So now, often times people will ask me, "So great you did this thing in 2013, where are we in 2018? "How much has happened in the last 5 years?" And the sad thing is, there hasn't been a ton of progress.. There's very slow progress in the numbers, the percentages of women in engineering.. A lot of VC firms have, in the past year, hired their first female partners.. There's a little bit of progress there.. There's been some backsliding on racial diversity.. So this nonprofit Ascend has done some analysis of this and seen that while White women in leadership has increased their percentages, every other ethnicity has lost ground in leadership..

So, we're backsliding there.. There's a lot of talk about diversity and it's getting more nuanced, but hasn't got much beyond that.. Some of the things that are nice to see in the discussion of diversity is that we are starting to talk about diversity as more than just gender, and more than just White women, for example.. We're talking about diversity and inclusion, no longer just diversity.. But thinking about once you have different people in the room, do you actually incorporate everyone's opinions and allow everyone the same chances to succeed? We started to advance some of our terminology around things like gas lighting, which I didn't realize was happening to me.. But, this idea of making people feel like they're crazy,

and feel like things are in their head when they talk about these issues.. When I first started talking about being female in tech and maybe having a different experience, and the men around me, I was told that there was no sexism.. And just because I believe there was sexism, I was projecting it around me.. Now I know that there's a term for this, which is gas-lighting.. And it's good that we're starting to advance some of the vocabulary to identify with things and make progress around them..

Some other things that have happened in the last few years has more of a spotlight on VC, the Venture Capitalists, and not just on the tech companies, which is good.. They're a very important part of the ecosystem.. VC's are the ones that decide whose start-up ideas even get a chance to try to make it.. But unfortunately, I think some of what's happened with all this discussion of a diversity is that it's turned into diversity as PR, or theater.. Sometimes diversity is used as a way to get deal flow in VCs, which is unfortunate.. At the same time I do think it's better that people at least say that they care about diversity, rather than not saying that they care.. So at least it's the general trend that people will say that diversity is a good thing.. And, hopefully we can just start to close that gap between what is said and what is done.. Some of the things that have happened in terms of what people are saying in these pledges, it's now very en vogue to have pledges.. The White House did a big coalition with a bunch of tech companies in 2016, asking them to pledge to have goals around recruitment, retention, and promotion of minorities and women, and to release their diversity data, and to build partnership, trying to increase the pipeline..

About 80 companies signed onto this pledge.. It was like, a great press thing in 2016, and a year later, only 17 of the firms had actually followed through on anything.. There's still a little bit of a tendency for people to say nice things and not actually follow through, which is something we'll have to counter.. There's also starting to be some backlash.. The New York Times ran some articles recently, a few months ago, about how the men in tech think it's gone too far.. And, some of you may know about the Google engineer who wrote a memo last summer talking about how the diversity efforts were misguided.. I was not a huge fan of his argument, but there were a number of men who were very glad that he was giving voice to some of these opinions that he had.. You know, some of the questions are like, why is it so hard to make progress? And I think some of it is that people like this Google engineer, James Seymour, want to hold on to their position.. They're in a position of privilege and power, and they don't want to give it up.. And that's very understandable..

People don't like losing things.. People want to believe the meritocracy, just as I did before.. They want to believe that the system is fair.. And the people that have succeeded want to believe that they deserve their success.. So it's very hard to dismantle these feelings that are very deep down.. Even for the people that are very committed to change, it's difficult to change culture and processes.. And these things take a very long time, so it's hard to see immediate games.. And sometimes that can be frustrating when efforts are being put out there and we don't see immediate changes.. And, particularly in the start-up world, where you're doing a lot of trade-offs, long term versus short term.. If you're in an start-up that only has so much runway, and you just need to ship your product, and get some customers, it's hard to prioritize diversity, in that short term..

But what happens then is that you start to accrue this diversity debt.. So, similar to technical debt, if you start doing things in ways that aren't sustainable, it works in the short term because you need to get over that hurdle.. You need to hit that product launch.. But as that debt accrues sometimes, at some point it becomes so much that you can never recover from it.. And there are some companies that have gone so far down these paths, it's kind of unclear if they all will be able to fix their problems, and pay down that diversity debt.. It's easy to keep doing things the way that we've been doing them.. One example of something that accrues diversity debt is the way a lot of companies do hiring, which is based on referrals.. And it's easy to refer people from your network, that you know, that are similar to you, that you've worked with you in the past, and bring them in.. It's very easy to get going like that.. What happens then though is because these networks, social networks tend to be very homogeneous, you end up just perpetuating the demographics of your initial teams..

And the further along you get, the harder it is to change that.. Once your team is thousands of people and they're still doing all these referrals, and everybody looks very similar, it's very to shift very hard in the other direction.. Okay so, lots about problems.. It'd be nice to also talk about solutions.. So a couple years ago, I and a few other women in tech, who would often get together and talk about these issues, were frustrated about all the talk of problems, as I just laid out.. And we thought we should actually start trying to focus on solutions and see what we could do, instead of having the same conversations over and over again.. What came out of those initial discussions, a couple of years ago, was a nonprofit called Project Include, which I'm now a finding advisor to.. The idea was that we need to start giving people solutions.. And there are people who want to do the right thing, and just don't know what to do.. We were often getting people asking us for one-on-one coffee so we can get them some brain dump on what they could do around diversity..

And we thought it would make more sense, it would be more scalable if we actually just wrote down those recommendations and tried to compile these resources to make it easier for people.. But as we came together, we also thought about what it means to have sustained solutions, and ones that actually make change in the long term.. And, we started with core values.. The first of these is true inclusion.. And this idea of not just all be for gender first, which off at ends up being White woman first, because of that proximity to the power structures now.. Think about inclusion that actually encompasses everybody, so instead of widening your circles of exclusion, getting rid of those circles of exclusion altogether.. Thinking about intersectionality, so it's not just gender, and race, and class, and religion, but all these things are crossed with each other, and all these different dimensions of people's and entities, and thinking through solving that in a very holistic

way.. We thought it was important that there be comprehensive solutions that are not just this tactic here, and this other tactic here.. People are very into this idea of having a three-point checklist of top three things I can do.. They want to hear about things like the Rooney Rule, which is just make sure you have some diversity in your candidate pool..

And then that will result in better metrics downstream.. They just wanna have these easy check-the-box solutions, but it's not that easy a problem to solve.. It's culture.. It's processes.. It's really deeply ingrained power structures.. And, I would treat diversity, and now it gets to many other things that companies are trying to solve, and say around growth, and trying to acquire users, and monetization and sure there are blog posts of people who say, "All you have to do to solve culture "is these three things." Well that's never the full story.. And people spend a lot of time thinking about, what are the different ways that we can grow our consumer software company? There's all these different hacks you can try, and lots of different tactics you will read about from other people.. But in the end, you need to have a comprehensive strategy.. And you may be able to pick and choose some of these different tactics from other people, but you need to think through the problem holistically.. The third core value we had was around accountability..

That comes from metrics.. Was we had seen before, not having any sort of metrics, it was very easy to say we are working on the problem, and never see any gains.. We though it was important that around diversity and inclusion, we're actually setting goals, and measuring ourselves against those goals.. And sometimes we're going to miss those goals, which is fine.. Sometimes you miss your growth targets, or your sales targets, but that doesn't mean you don't set them.. So that's been very core to all the work that we do.. What we ended up doing as this group of eight people, is we just wrote down everything that we knew to be best practice.. Knowing that best practices are gonna change, and we're gonna learn more about what works and what doesn't work.. We wanted to put a steak in the ground.. Write down those things, and also start to build a community around those, were we can update them..

So, a little bit like open source software.. Where, people who are solving some problem will write a bunch of software.. Put it out there, Other people who want to find some benefit can use it.. If they make extensions, or they want to add to it, or they want to help maintain, they can also be part of that community.. So thinking of the diversity and inclusion work and recommendations as almost like open source, and try to pull in these learnings from the community as well.. And so, we have this resource out on the website.. We also have started doing more programmatic work through Startup Include.. But, we actually have cohorts and companies that come in, and we help them to instrument a lot of the diversity and inclusion numbers.. So it's not just demographics.. It's not just how many Black women do you have in engineering? And, how many Hispanic women do you have in leadership? And that's just those demographic numbers..

But also things like, how included are people feeling? The sorts of things that people study in engagement surveys, like, does everyone feel like they have the same chances to succeed? Do they agree with the direction of the company? Do they feel confident in where the product is going? And so, we help these companies to measure this data.. We're still building out those base lines and those benchmarks.. We think it's really important that we start to build community around this.. We also recognize that we're a small part of the ecosystem and there are actually a lot of great people doing work in this space.. Some are doing it professionally, so there's a good number of nonprofits and for profits doing work in diversity and inclusion.. I think sometimes it will just be hard to see change because these are just such hard problems.. And it will take a long time before we see success.. There are also a lot of people who are working on this as a second shift emotional labor, on top of their normal jobs.. People who are software engineers or leaders, and they just do this on top of what they already do.. So, I do think it's important to give a shout out to those people..

We just need more in that.. I think ultimately tech leaders need to take responsibility here because they set the proprieties.. Diversity and inclusion, even though everybody says it's a priority, is not actually a priority if everything else gets prioritized above it.. If companies are consistently prioritizing the speed of hiring over diversity and inclusion, that is what's gonna happen in those companies.. So it really has to be driven top down.. We can see some success with grass roots efforts, but really leaders need to take on more of that responsibility.. I think for people in this room who are listening to this, later there are gonna be questions like what can I do? It's great to see all you leaders starting to do certain things, but what can I do? How can I be helpful? I think for students, you actually have a lot of leverage as candidates that people want to recruit.. One of my friends who's a software engineer in the industry said, when she gets recruiting messages, she'll use that leverage she has as a viable candidate to ask companies hard questions.. So things like, "What are your diversity "and inclusion numbers?" So hopefully the company has tracked diversity and inclusion numbers.. And hopefully they're good..

You can ask about things like gender breakdown, or racial breakdowns in engineering, or leadership on the board.. You can ask about things like family leave, parental leave policies.. Are you offering paid parental leave above and beyond what's required, which is very little by the law? One interesting one that my friend asked about was, do you have trans inclusive health coverage? It's difficult for some of these people who are marginalized groups to have to ask for these things.. If you're in a position where you have some privilege and you have some leverage, and you just ask these questions, it helps to tell companies that you care about priorities and you care about this.. And, it will help them to prioritize these things as well.. It also just gives you useful information about the company and the culture, and if you want to join a company like that.. For people who are looking to start companies, or end up being leaders in companies, you can also use leverage that you have to ask these questions.. For example, if you're a founder and you're raising money you can, especially if you're a hot startup and VCs are trying to get in, you can ask these VC's about their diversity and inclusion numbers and what their efforts are..

There's recently a pledge going around, Founders for Change, where these founders are asking the VC firms that they may be taking investment from, do you have female partners? And, are you making investments in a diverse set of entrepreneurs? One of the projects I've been working on recently has something called Moving Forward and what we've been doing is to publish anti-harassment policies and points of contact.. So those are really basic things that came out of the MeToo movement last year..

We're realizing a lot of firms don't have guidelines around what is appropriate behavior or not, or what should be the follow-up, and where is the accountability.. We've been asking founders when they're talking to VC firms to ask if they have these anti-harassment policies, and if not to join on with this Moving Forward movement.. It's not a huge ask, but it does help the shift that ecosystem a little bit.. For founders and people are leaders in decision-making rolls, you can hire diverse teams and make that a priority.. It's very easy to hire from your networks.. I know how it feels.. I want to hire people that I've worked with before and I know really well.. But I think it's also really important to look outside your networks and get more of that diversity in the room.. And it may take longer, but it's worth it in the long term.. For everyone, and not just the people, especially those who are not for marginalized groups, you can use the privilege and position that you have to advocate for others..

One of the most powerful things is thinking about who's not in the room and advocating for them.. And I see this even in our diversity and inclusion circles and the people that I work with, sometimes we get very fixated on the particular groups we are advocating for.. So, there's women in tech.. There's Black and Brown people in tech.. And I also realize there's many people who are not even represented in the room because they're so marginalized.. There's no native people in many of these rooms.. We don't have a lot of diversity of religion.. We're not talking about, what is the experience like to be Muslim in our tech companies.. So there's so many other people who are not even in these rooms.. So that exercise of thinking about who's not here, and can I try to at least give them a little bit of a voice, or at least call attention to the fact that they're not here..

How can we start to solve these problems? I think it's important that we don't just let the people who are from underrepresented groups do all the work of trying to push for diversity and inclusion.. It often happens where, the one woman in the room will be asked to do the work of diversity, plan this panel, or to invite the speaker, or mentor the younger people.. And, I think that a lot of times those people from underrepresented groups will feel some of that burden to do that work and they want to do it.. But it's also unfair to ask those people to do all that work all the time.. And so, for those people who have more bandwidth, aren't necessarily from those groups, to be able to spend that time to advocate for others is really powerful.. It's a bit tricky sometimes because you want to amplify these voices that aren't heard as much, and help to bring people into the room, but you also don't want to take up the space there.. So there have been some cases of people who wanted to be helpful, but ended up hogging all the limelight.. Instead of giving the stage to people who are traditionally underrepresented, or aren't getting that stage time.. Another thing that all of us can do is push for just better processes in general.. In startups in particular, it's pretty easy because there are often no processes at all..

So, introducing some basic ones can be very helpful.. Around things like hiring, for example, a promotion, when I first started working at Quora and I was told an interview people, they just through me into a room with people, and told me to come out with a yes or no answer, which is very standard for startups.. It's like, just go, there is no processed yet.. But, much better practice would be actually having rubrics and having criteria for what you're looking for.. That helps to standardize.. It also helps remove a lot of bias.. There's been interesting academic research on this.. If you don't ask people to specify what they're looking for upfront, they'll let their biases come in, they'll justify it later.. There is a really interesting study about hiring for a police chief where people were shown resumes, one of a man, one of a woman.. And in one scenario, the man had more experience, the woman had more academic background..

The people choosing would chose the man.. They would justify it by saying, "Oh we want somebody with more work experience, "cause that's what this job needs." And then, the other scenario, the man had more academic experience, the woman had more work experience.. They still chose the man, and said, "Well, we just really need more "academic experience in this." So that would back into their choices with these justifications.. But when the people are choosing were told to write down their criteria ahead of time, they would be consistent with it.. So if they said they wanted to have the academic background, then when they were presented with the two resumes, and the woman had more of her academic background, they would choose her.. So there's actually a lot of really great research about how you can mitigate your biases.. And some of these things are just, they just make more sense.. It's not just about diversity and inclusion.. It's just making these processes better.. So writing down rubrics, around not just hiring, but also promotion very valuable..

A lot of times in companies when you're thinking about who's going to lead some new project, or who's going to work on this interesting new opportunity, there's not a lot of process around it.. People would just think who do I know who might be interested in this, who might be good at this, and would tend to fall in the same biases there.. If it's written out, when we're choosing a tech lead, these are the things we're looking for, This is our process.. We're gonna look at everybody who's at a certain level, and has been with the company for a certain amount of time, and consider them.. Then you actually end up with a much better decision.. And it has a side benefit of helping diversity and inclusion people from the underrepresented backgrounds.. Looking forward, I think there's just a lot of hard work that still needs to be done in this space.. A lot of stuff is unknown.. There are decades of research on diversity and inclusion.. I think it's very important that we look at what's been done already, what's been done in different industries, and all the academic research..

A lot is also unknown.. The tech industry is one that moves very quickly.. Startups are changing all the time.. We'll have to experiment and figure out what works and what doesn't work.. Then we can take some of the same approach we have towards building products and building companies and apply it to things like diversity and inclusion.. Try different things, instrument them, look at the metrics, see what works, doesn't work, iterate on it and keep trying.. So some of the cool new things that are happening, for example, more companies are playing with apprenticeship programs, looking at having longer on ramps for people who are coming from the less traditional background, but recognizing that they have a lot of potential, as long as they're given the mentorship and onboarding, and that capacity to learn.. Not everybody is going to be able to be productive as an engineer after on month on the job, for example, but some people, if you give them a little bit more time, they will be very productive.. They just need a longer on ramp.. A few companies are doing these apprenticeship programs..

Companies are trying different hiring practices.. In engineering, for example, coding on the Whiteboard has been kind of a mainstay of software interviews for a long time.. Companies are trying to move away from that, into things that are more representative of actual on-the-job work.. So, coding on laptops with access to Google and Stack Overflow, which is more representative of the job.. And the interview's actually sussing out how they would perform on the job.. So, I think there's a lot of interesting room for experimentation here, and there are cool companies working on this.. I think there's a lot of things that are in play right now.. And they just haven't been running for long enough for us to hear about them, but I'm very excited to see some of those write-ups, what comes out there.. Another space that's really interesting is looking at the intersection of new technology fields, and how they relate to diversity and inclusion.. A couple of really hot spaces now, for example, blockchain, cryptocurrencies, and AI..

I think there would be challenges for diversity and inclusion in those fields.. For crypto, for example, it could be a really cool new tool for inclusion, financial inclusion, or it could be a new form of digital colonization where we go into these different spaces and tell like, this is a new way you're gonna do banking and finance, and not including them in that.. That's a tricky one.. It's also this whole new paradigm of digitization where the economics are embedded in the technology itself, which is very different than the early internet.. So it's kind of hard to anticipate what's gonna happen here.. There are some numbers, although none of these numbers are very accurate, there are some numbers that say that most of cryptocurrency wealth is held by men.. Like 95% is held by men.. That's going to have a lot of ramifications when the economics are so embedded in the system that are getting built.. So there'll be new challenges there.. How do we get people in? There are some efforts that have been, let's get some of these coins to everybody in the community, but the problem is, for people who don't know the space, who don't value the cryptocurrencies, they immediately change it to fiat currency and cash out..

Then the people who are the believers are again holding all the coins, even if you had a really concerted effort to distribute them initially.. So there will be interesting challenges here with AI.. Also really interested as we are thinking, we are looking at how our biases get embedded in technology and products.. It's pretty the great that you have these interactions on your website, or your app, and there can be biases in what products are getting built.. But what's even more dangerous about something like AI is that there's biases in the data and it's hard to even examine what's happening there.. You can have things like these runaway feedback loops, where we've seen some of this happen with NewsFeed on various social platforms.. There's a really interesting book on this called Weapons of Math Destruction, by Cathy O'Neil.. She talks about some of these models where there may be some bias originally in the dataset.. Some biases in the Hero six that were used for the feature selection in the models.. But where it gets worse is when the outputs of these models gets used as inputs again..

You start to see problems like using these predictors for recidivism in the criminal justice system, and continually perpetuate the systemic inequities.. And so you have to think about ways to tamp down those feedback loops.. Sometimes we don't even understand that they're there.. So there are researchers working now on interpret ability of machine learning models.. It's gonna be very important going forward as these intersect with these domains that have regulation and you need to be able to explain.. But, there's technical work that needs to be done.. It's research, so it's hard to know where we're gonna come out on that.. One thing that is also promising about AI, machine learning, is that we can also know how to use it to solve bias.. So, there are companies like Text Geo which helps you to look at your job postings and see if they're bias towards male or female candidates, and help you to remove those and suggest alternative words.. There's some interesting research I was reading from a couple years ago is, some models over text..

They did that where having gendered relationships between things like, doctor and men, and nurse and women, when they could identify the gender bias, they could also go into the models and actively de-bias them and remove that bias.. Which is pretty powerful if you think about it.. With humans, even if you identify bias, you can't really get rid of it very easily.. People will acknowledge that they have biases and they need to work on it, but you can't just go up and like zero out your vector, and make sure that all future decisions are unbiased.. But, you can do that with AI models potentially, depending on which ones you're building, if yo know that you want to intentionally remove the biases here.. There's other research happening, and how do you decorrelate different things? Say you're building models, financial models and you're not supposed to use race, this is actually regulated in some industries.. You're forbidden from actually using race as an input to your models, but there are proxy variables, so looking at zip code, for example, you could end up basically getting the same biases embedded.. There are people working on how do we do post processing around the output of these models to actively decorrelate.. So, there's a lot of really interesting work happening.. I'm pretty excited that the technology industry is just changing so much..

It's doing so much to set the direction of our future.. And it's gonna change how we interact with each other, how we

interact with the world.. There's a lot of really cool opportunity to make positive change.. So, yeah.. (audience applause) - [Voiceover] Can I start with the first question? - Yeah.. - [Voiceover] So, this is all about hiring and bringing people into existing organizations? Are you also seeing a trend of more women or other minority groups starting their own ventures, or is that in the industry of venture capital where they're saying, "I'm not gonna wait to be anointed, "I'm gonna go and start my own organization "and do it differently." - Yeah, there's definitely a lot of these firms popping up.. So, in the venture world, a lot of new funds have female and minority partners.. A lot of the funds also do tend to be small though.. So they receive funds from maybe series A.. So, they're starting to make some change in helping entrepreneurs to get funded at an earlier stage, but there's still a lot more to be done there..

If you look at total investment dollars going to female founders, it was still only two or three percent of total VC money.. So even if there's some work being done, in the early stages, and we can talk about higher percentages of women getting funded in the seed stage, at the later stages it's still pretty bad.. It's hard for founders, female founders, underrepresented minority founders, because they're still running up against the gatekeepers of capital now.. So it might be easy to get a little bit of funding early on, but it's still difficult.. - [Voiceover] I have two questions.. Should diversity be an end in itself? And the second thing is, what are the actual numbers that if you saw them you would get the best success at that company? - [Voiceover] Can you repeat the question? - Yeah, so, two questions.. One is, should diversity be an end in itself.. And the second question was, what are the numbers that would be a success? That's a really good question on diversity as an end in itself.. I think people will have different responses to this.. Some of the justifications around diversity now are just very commercially motivated in order to get people's attention..

I think there are justifications on the moral front.. We should just include everybody.. It's not necessarily that diversity on your team should be in and of itself, but it's more the bigger picture.. Everyone should have a shot at being a part of this industry.. And, we shouldn't have these circles of exclusion.. So it's about the moral argument, you think about what opportunities are we giving to people.. On the business side, diversity has been shown to make teams better in the innovation context.. So if you want to be in innovation, which the tech industry is, having diversity on your team means that they're more creative.. They've been shown to have better financial outcomes, and just generally produce better results.. Which intuitively makes sense when you have people coming from different backgrounds, they no longer carry the same assumptions..

They realize that people may be approaching things from a different way and they work a little bit harder to justify their options and their arguments.. So it's just generally better for business.. You think about the consumer case, we're trying to build technology products for everyone.. It makes sense to have representation of those people in the teams that are building.. Sometimes you'll miss out on really obvious things cause you're lacking those perspectives.. For example, when Apple Health Kit first launched, iOS8, it was this thing you could track everything.. You could track your steps.. You could do things like, your sodium intake and all these different quantified self things.. But they didn't have period tracking, which is for half the population.. A very important form of quantified self that they've been doing manually for a long time..

Those kind of oversights would be less likely with more diverse team.. In terms of what would be kind of a good goal to get to, I think around gender, getting to 50/50 is the most obvious success outcome.. And that's not just 50/50 representation overall, that's in leadership as well, and all the decision making roles.. If we're looking at startups, it should be 50/50 in equity in the cap tables.. So what happens right now is a lot of times companies will have women in the non-technical roles, like support roles, like the ones that don't get a lot of compensation or equity.. Even though overall it looks great, like 40, 50 percent female in these companies.. If you were to look at where the wealth is actually gonna be in the terms like the equity, it's still very very skewed.. On race it's a little bit harder to day because it's hard to know do you want to benchmark to the city you're in, which seem too small of a geography, or the state, or the country, or the world.. A lot of Silicon Valley, for example, has immigrants coming from all around the world, and a lot from Asia.. And so, a lot of times people will say in Silicon Valley, and in tech, the Asians are way over-represented relative to the US population, where we're only 5%..

Some of that's just driven by immigration.. So benchmarking to the world might be slightly better in some cases, but still doesn't quite make sense.. We're primarily building for some companies primarily building for a US audience.. I think it will depend for each company on the race and ethnicity side of things.. Some people depend on the target markets.. And so, if your product is a consumer product and it's selling to a particular audience then having more of those people represented in your workforce is good.. But, I don't think there's a hard and fast rule of what the targets should be around race and ethnicity.. We talk about gender and race because those are the easiest ones to track and measure.. Those are the visible ones.. There's also many other forms of diversity that are sometimes even impossible to track..

We require self identification and not everybody is going to self identify.. So, some of those are even harder, but I think it is important to acknowledge that we just generally want inclusive environments where everyone can succeed.. And some of the visible markers will give you hints like that.. In the back.. - [Voiceover] I'm an economist and we have very similar to demographics in that CS has.. And before when you were on your last point, so about this idea of a goal for gender diversity to be about 50/50, right.. The issue that I immediately think of is the pipelines.. I was pulling up Stanford Daily's numbers on the Stanford CS and my majors during your talk and it looks like it's about the same in both at like 70/30 men, women.. So I was just wondering about during your time at Stanford, do you have any thoughts about how to get more women and other underrepresented groups excited about majoring in CS and related majors? - There's lots of thoughts on pipeline.. The first reaction is a lot of times people will use the pipeline issues as an excuse for not solving other issues around retention and

inclusion..

That's just the first thing.. However, there are actually pipeline issues.. If you look at the numbers as you were, and I think it's a muti-part problem.. There's people who are doing really great work on the culture side of things.. Movie like Hidden Figures are great for getting Black girls excited for technology when they see three Black women who are NASA scientists helping to launch, you know, rockets.. So I think on the culture side, it think that's important, trying to mitigate some of those stereotypes that may exist I pop culture.. I think movies like The Social Network, which came out in 2010 may actually be harmful because they perpetuate the idea of the nerdy hacker sitting in their basement in the dark coding by themselves.. The culture piece is important.. I think drawing more of the link between what a field of study is and what you can do with it is good.. So in Computer Science, engineering in particular, it's often very unclear for little kids what they can do with this field of study..

This is a bit of a generalization, but a lot of little girls, for example, are interested in helping the world and doing good things for the world, so they want to be doctors and nurses, or veterinarians, or teachers.. Cause they know that this kind of profession helps them to help other people.. But they don't know that being a software engineer could help them help the world in a very scaled way, in a very different way.. So drawing the link between what it is this field does, or what it is this thing is, and what kind of impact you can have, can be helpful.. All this is like a generalized problem.. It's like helping people understand what are potential career paths in this world and what can you do with that.. I think there's also things that are within the control of schools and universities.. Coming into Stanford, we didn't have to declare majors.. So you can have a lot, a lot of people could potentially become CS majors.. And in my case, I chose not be become a CS major for my undergrad because I was so intimidated..

I think there's now a lot of pretty active efforts to think about how do we make the curriculum more supportive? How do we make the environment generally better? Some of the things that happened in classes that I took at Stanford, for example, where the one professor that after we turned in our problem set would ask us, "How long did it take you to do "this problem set? "Zero to 10 hours, raise your hand.. "10 to 20 hours, raise your hand.. "20 to 30 hours, raise your hand.. "30 plus hours, raise your hand." And I took 30 hours to do my problem set.. I didn't know if other people were being truthful when they raised their hand at zero to 10 hours, but it was very intimidating to see that.. And it made me feel more like I didn't belong there.. It didn't occur to me until later that people had very different calibration, self calibration.. There are things like, they're just the examples that are used or the programming assignments.. If they are interesting and relevant to people's lives, then people are more likely to want to do them.. Trying to filter out, or to build different paths for people who have more experience, or less experience is good..

So it's not as easy to be intimidated by the person sitting next to you who has been coding since they were eight.. That happened to me with some of my classmates who had just been coding for a long time.. Some had done software engineering internships when they were in high school.. And when I looked at them next to me, I just felt like I, there was no was I would never catch up.. It turns out that it didn't take that much time to catch up.. It probably would have been one or two courses.. But, I think splitting out people from different backgrounds is helpful so people aren't getting the wrong impression of what's happening around them.. So, that's not even that hard to do, and it's not that far away from industry.. But people will say it's a pipeline problem, it's not enough people studying in universities.. That's actually not that far away..

We could have actually solved that problem there.. I think Stanford has made pretty good gains in CS on that front.. My year graduating from Stanford 09, there were three women in Computer Science.. So now that it's 30%, that's a pretty big improvement.. Obviously there's still a lot more to be done.. - [Voiceover] I noticed during your talk you frequently used phrases like privilege and technology colonization and I'm curious about how in the words you work with, those people who are in positions of power, instead of maybe blatantly asking them to act on their privilege, or like to work with you because they're not familiar with it themselves? - Yeah.. - [Voiceover] Will you repeat? - Yeah.. - Yeah, so, the question was about specific terms like privilege and colonization, and trying to relate to people who may be in positions of more privilege and conveying to them sort of work that needs to be done.. Yeah, it's a very tricky topic.. I think ultimately it's about building connections to people and using terminology and examples that make since..

We're talking about marginalization, people feeling out of place.. Everyone has had some experience where they've been out of place, like they haven't felt like they belonged.. And it's one that some people have every day walking into the offices.. But even for the White men in tech, they've had experiences in the past where they didn't belong.. So, being able to connect on those fronts is helpful.. Some people are further along in their studies of these issues and they'll know more of the terminology.. Other people aren't as far, so using the words that make sense in different context is good.. Just like generally on, we have like a philosophy of advocacy and working with people, there's a whole range of peoples opinions, and there's this whole spectrum.. I think on the one end you'll have people are the advocates and activists already.. On the other you have skeptics and people who may actually be pushing back against diversity efforts..

And then you also have a lot of people in the middle that are dispositional inclined to help with diversity and inclusion, but don't have all the language yet, or don't know, they don't have all that exposure yet.. I think focusing on that middle group where they want to do the right thing, but don't quite have the language yet, or don't quite know what they can do to be helpful is probably the best use of advocacy time.. And, it's good to be gentle.. Try to cerate safe space where people can say

things and they may not have the right terminology.. And they may say things that are slightly incorrect, but helping them to work through that and become good allies is where i try to focus, and I think it's a good place to focus energy.. - [Voiceover] You had mentioned that, how one of us can participate, do you have like a cheat sheet or checklist some of the resources list there something you can see for participation? - Yeah, that's a great question.. The question is about, is there a cheat sheet or a checklist of things that everybody can do to help out.. So, one thing that is very difficult is to give one checklist of things, because everyone can do different things.. And for different people in different positions, there are different things that will be more leveraged or not.. So if you're a hiring manager there are certain things you can do in your capacity as a hiring manager to make sure that hiring is more inclusive..

If you're an individual contributor, it will be different again, and depending on who you are, what experiences you've had, it may also be different.. So there's not like, one checklist.. One resource I would call out is Project Include.. It's the nonprofit I co-founded.. We do have a lot of resources on there.. And those are primarily focused on tech startups, but some of those things are generalizable, or you can take inspiration from some of the recommendations on there.. But the Project Include resources are organized to everything from how do you define culture to implement culture to how do you do training for managers, and generally, how do you resolve conflict.. And so, there's a lot of tidbits in there that may be helpful depending on who you dare and what kind of role you're playing in your company, or in the ecosystem.. - [Voiceover] You spoke about a recent report of companies but actual hiring, but what about applications? How many people actually applied for the job, and the diversity there? - No one has released those that I have seen in a holistic way.. I tried to push some companies to do that and got a lot of pushback on that..

So, I think there were legal concerns around that, around potential discrimination.. So, if there's any difference in the representations of people in the hiring pipeline to actual hires, that's grounds for a discrimination lawsuits.. So a lot of companies are very skiddish about that.. They don't want to put that out there unless there is a very compelling reason for them to do that.. I do think a lot of companies look at it internally, because they want to see where the drop off is.. If there's differences in the application pools to the referrals, to the outbound.. I think it will be hard to get that data publicly because of the legal risks.. - [Voiceover] How is possible for a company that is very big and with hundreds and hundreds of employees that if they don't already have diversity, how do they change and have diversity? - The question is around big companies that don't have diversity, how do they change to actually get it? And this is one of the challenges that is very real right now.. Big companies can't shift their numbers that much.. For companies that are hiring very quickly, and hiring a hiring relative to their current base of employees, they can shift their numbers..

For very large companies, they're hiring to fill attrition, maybe a little bit of growth, but it's hard to change numbers substantially.. One other thing I would tell companies like that to look at is the inclusion metrics and engagement metrics.. So even if you don't have a lot of diversity in your team right now, you can try to make the people who are there feel very included.. And look at the differences in inclusion metrics sliced by different demographics.. Do the female engineers feel as included as the male engineers? Are they as confident in the direction of the company? Do your Black women in these different functions feel as good as the other people, like the White men in these functions.. So there's interesting analysis you can do there and those things can actually be moved in the short term without changing hiring.. I think it's something that companies do need to look at a lot more at.. It's very easy to do press around your diversity numbers and our demographics, but what's arguably more important is that people who are there feel supported and included and that they actually have a chance to do well.. (audience applause) (techno music)..