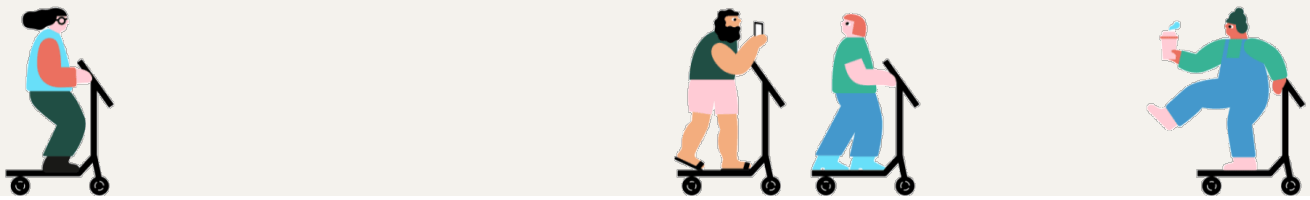
MAY 31, 2018

The Pipeline
A wide-ranging, unabashedly honest conversation about why tech companies aren't diverse — and how to fix them

As told to Joy Shan and Elise Craig

When people talk about tech's lack of diversity, they often talk about the pipeline problem: the idea that there aren't enough qualified women and people of color to hire, which is why the industry is so homogeneous. But to some, the so-called pipeline problem is an excuse. Tech companies, they believe, simply aren't trying hard enough. To better understand the contours of this debate, we talked to teachers, first-time startup founders, recruiters, engineers, venture capitalists, diversity and inclusion consultants, aspiring coders, and programmers who can't wait to quit.



The college student who was squeezed out of the computer science major

Alejandra Ibarra and Jarelly Martin on campus

Advanced Placement computer science was the only challenging class I took in high school, and I became really invested. When I went to UC Berkeley, I decided to major in computer science. I knew I wanted to do something related to tech and low-income communities. I wanted to expose little kids and other generations to it. But it is so ridiculously hard to major in CS at Cal. To get into the major, you have to have a 3.3 GPA in three intro classes.

I actually didn't even take a third class because I knew I wouldn't make the cutoff, even if I got an A-plus. There were 1,400 students in my first CS class, and the lecture hall only had about 800 seats. We would get emails telling us to watch the lecture online. You would wait hours and hours to get help at office hours. And if you

got a bad teaching assistant or bad helper, they'd give you 10 seconds of their time and then leave.

A lot of my classmates would say, "I've been coding since I was 5," or "My dad's an engineer," or "I passed out of CS intro classes, but I'm here anyway." I was like, "Well, I found out what this is last year, and this is supposed to be an introductory class, but it sure isn't." Now I'm a cognitive science major, because it has CS-related coursework. My four girlfriends and I who were pursuing CS, none of us are doing it anymore. Maybe if I started earlier, I could have.

— ALEJANDRA IBARRA, A THIRD-YEAR AT UC BERKELEY

The Oakland high school teacher trying to get students to code earlier

In 2013, I started an intro computer science program. Before then, students were going to college and being asked to take CS classes they hadn't had exposure to. There was a dearth of opportunity. At first, the program only had six girls. The next year, I made the decision to teach AP. To get themselves up to speed, my students took after-school and summer coding programs, like Girls Who Code, The Hidden Genius Project, and SMASH.

That fall in 2014, I had 14 seniors in AP CS, and nine of them declared a CS major on their UC applications. That's when I knew there was something there. I became a manager of computer science for the district, a position paid for by Intel. In two years, we went from 200 sixth- to 12th-graders in CS classes to 4,800.

I have a problem with computer science education being purely vocational, or solely to address pipeline — particularly at the K-12 level. The conversation we should really be having is using CS as a way to get kids to be stronger thinkers: to interact with mathematical reasoning in a way that's fun and gives them a physical project to work on. That being said, Oakland Unified School District now offers computer science in middle school and ninth grade. Change is coming.

— CLAIRE SHORALL, VOLUNTEER AP CS TEACHER AND FORMER MANAGER OF CS AT OAKLAND UNIFIED SCHOOL DISTRICT

The software engineer on tech's black tax

Here's the thing about pipelines: When you come from MIT or Stanford or Yale or Harvard, you have people within your network who can tell you about the unique hiring process at places like Google. MIT has had a course on how to prepare for them. But if you don't go to those schools, you have no idea what you're going into, particularly if you're a person of color, because you don't have people in your network who have done it, or even tried. I was a computer science major at UC Irvine. After I had been working for a while, I got a call from Google asking me to interview for a job, and I prepared by studying brain

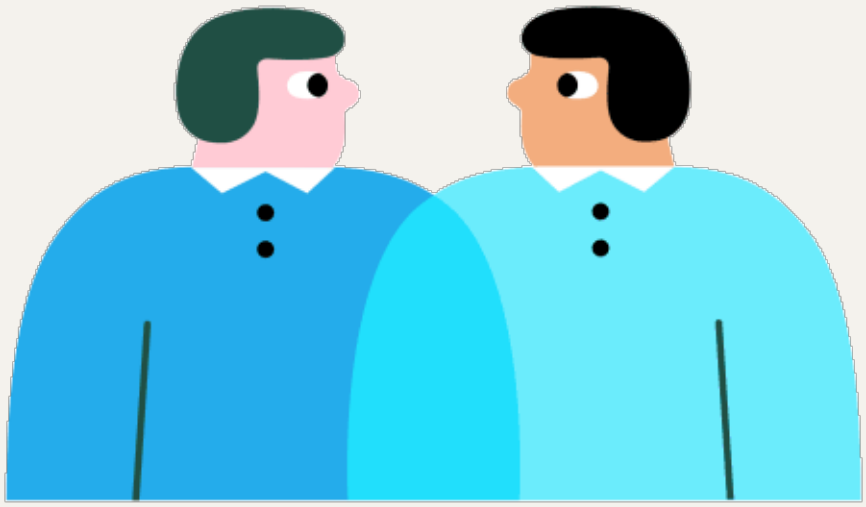
teasers. I failed the interview.

It wasn't until later, after I ran into a recruiter who was really the first person in Silicon Valley to be in my corner, that I learned how to prepare. She explained that Google's interviewing process is rooted in first- and second-year CS principles. Most of my experience up to that point hadn't involved any of that stuff. I had to go back to the textbooks and literally dust them off.

You have to work two to three times as hard as a nonblack person to get as far in your career. In the black community, that's understood as the black tax. This is something that fathers teach their sons. The black tax has shifted for me. Now it's about educating people in Silicon Valley about what it means to come from a diverse background, to struggle and ultimately succeed. If you want to have Black History Month programming, who are you going to reach out to? If a diverse school group comes in, who do you want them to see? The few black people around. It's a tax.

— ANTHONY D. MAYS, SOFTWARE ENGINEER AT GOOGLE

The recruiter on why startups stay homogeneous



I was this startup's first inbound hire — the first person hired not through a mutual connection, but who had just applied online. The CEO and VP hired friends from college. One engineer referred a bunch of former co-workers from a startup that went under. It was a lot of, "Hey, brother, come work here." Or, "Hey, brother's girlfriend's friend, we have a role open." That's how startups are built: You hire your friends, and your friends are typically similar to you.

The company was fewer than 30 people, and my job was to double the engineering team within a year. As a recruiter, you just have greater access to a homogeneous group of developers.

Recently, there's been a huge push for people of color and women, and now we have lots of programs targeting this lack. But some of them have just started. The turn happened in the last four years, and a large number of these bootcamps produce junior-level people, but what if you're hiring senior people? The higher in tenure you go, the less diverse the candidate pool.

— A TECHNICAL RECRUITER AT A STARTUP

The manager on the challenge of waiting for the perfect candidate of color

The first five years that I worked at Box, we never really talked about diversity. It was all, Hire as quickly as you can, Ivy Leagues only. If candidates didn't come from top-15 schools, we didn't hire them. There were situations when we had really qualified individuals who went to junior college or never graduated who had done amazing things in the work world, and we wouldn't hire them.

In the last two or three years, there was a major change. It went from, We're going to hire only the best, to, Oh crap, we don't have that much diversity. Junior college applicants who were automatically getting denied were now being looked at. It became this polarizing topic. There was the activist side of the house that was all about diversity, and the other side that was like, We can't

lower the bar. This was not a conversation I wanted to be in. It was too heated. I could change the way I was hiring for my teams, but I was not going to get into this debate where you're never going to be on the winning side.

After the change, there were a couple of key roles that we delayed filling to hire someone diverse. We didn't have any black representation on our leadership, and we went almost six months before we hired a rock star black leader. Then we didn't have a head of marketing for almost eight months. We were literally not hiring men because we wanted to hire a woman. You're sacrificing short term for long term. In for-profit businesses, where time is of the essence, that's a hard trade-off.

At my next job, when I was going to build a team, I had to write a hiring description for the website. I found an existing one and edited it. I sent it to the recruiter and asked her to make it more fun. She came back and said that we have a policy of running descriptions through a program in Grammarly to make sure that they're gender-neutral. She showed me some of the edits. In the description, I said candidates should be "competitive and have a winning attitude." Those words appeal to men.

To make it gender-neutral, you say, "This job is for someone who wants to do the best work of their lives and thrive in an environment that lets you do your best work." For both men and women, instead of saying, "This person will," you use "you" and talk directly to the applicant. Only 80 percent of my original job description was gender-neutral, so she rewrote it until it was at 90 percent.

— A MANAGER AT A LARGE TECH COMPANY

The hiring manager who saw nine men apply for every one woman

I've been hiring engineers for at least a decade at Motorola, Qualcomm, and Google. At Google, I was one of the hiring managers for Android. We were trying to fill jobs that required a mix of skills — hardware, software, and a background in sensors. To fill those jobs with diverse hires is not easy — it was largely a male pipeline. General programming roles may get more women, but with research positions, and those that require a mix of engineering skills — there just aren't enough women. The numbers in this case were almost 90:10 men, sometimes as high as 95:5. You can't come out with a diverse set of hires when the input to the pipeline just isn't diverse.

One of the fundamental mistakes we make is pushing hiring managers to make compromises. The perception that men walk away with is that someone is here because of the push for diversity. That leads to workplace discrimination.

I started talking to men about diversity issues. When men become aware, they start to help and start teaching these subliminal biases classes. When women teach these classes, men dismiss that as feminism. But when men step up and advocate, other men tend to look at that more openly.

When it comes to startups, I think we have another issue: Women are inherently not risk-takers. A lot of startups get flak for not having enough women, and I had those opinions before I had my own startup. It looks nice on paper to say that we must consider diversity as we hire, but the reality is that moving toward our goals often takes over. We have to focus on what helps us grow the fastest with the limited amount of resources we have. Right now at my company, it's still an 80:20 split. We literally have one person in engineering now who is a woman.

— VIDYA NARAYANAN, FORMER GOOGLE TECH LEAD AND CEO AT URBAN 13

A venture capitalist who wants women and people of color to think bigger

The pitches I hear from women and people of color are usually not frontier tech. Not many folks are building stuff in AI or VR/AR. Instead, they're trying to build traditional businesses that work on traditional technologies. I meet founders who are trying to build a new website or HR technology, but it's like, Yo, those spaces are mad-crowded! Quantum computing has the potential to be the next big computing paradigm, but throughout my experience of looking in this space — I've encountered probably about 100 people — I've only seen four women or people of color. We just need more folks.

From a self-preservation perspective, it makes sense. By virtue of the historical position of women and people of color, we're not encouraged to be risk-seeking, and I can see this in my own community. But it also has to do with capabilities. There are all these programs and bootcamps that target minorities, which start at the beginning of the funnel — high school kids, for example — but they're learning technologies that were innovative ten years ago. The programs are lagging.

— A VENTURE CAPITALIST

The woman who quit her last tech job over unequal pay

I made $90,000 at my last job at an ad and design agency, and a huge tech company offered me $105,000 for a role on their design team. I asked for more because I think you should always negotiate. I was told this was their limit.

A year in, at a team event with snacks and beer, I was hanging out with a friend who had the same job. I asked him if he'd had a raise. He said no. When he was hired, he was told his salary was at the upper end of his level. He got a napkin and drew a chart with $100,000 on one end and $150,000 on the other. He put an X closer to $150,000. I suspected he made at least $25,000 more; I feared it was $40,000. I learned it was $45,000.

We started at the same time. He's older. He's a guy. He's a dad. His title had "manager" in it, but he didn't manage anyone. We did identical work. We're both responsible for large important projects. We had been in the same field for the same amount of time, but he came from tech, and I came from an agency. We came from different pay scales. Still, the size of the gap was frustrating.

I started gathering information from sites like Glassdoor, chatting with him, and building a case to bring to my manager. That conversation went well, but that was August. Decisions about raises weren't made until March.

During that time, I was stewing, and I was less and less interested in the company—particularly when raises were finally distributed. They offered me $117,000, which was a decent raise, but still so far off. It killed my morale. I did my job, but I gave zero fucks about staying there.

—A DESIGNER AT A LARGE TECH COMPANY

The woman who spent thousands on programming classes

In college, I never quite found the thing I wanted to do. After graduating, I got a job at the Google café, but it was repetitive. My girlfriend said, “Maybe you want to go into programming. There are a lot of free resources online, and you can see if you like it.”

In high school, I had maintained websites on free platforms; in middle school, I got a scholarship to learn HTML at Stanford. But I never thought about tech as a job. I spent hours researching classes and Googling different things: “What does a front-end programmer do?” “What is full-stack engineering?” Whatever I could find, I’d read it.

The first paid course I took was through Coursera. I really enjoyed it at first, but there were times I’d cry because there wasn’t a lot of in-person help. I wanted the classroom experience, so I applied to Dev Bootcamp in San Francisco and got in. I got a scholarship from Lesbians Who Tech for half of the tuition.

At Dev Bootcamp, I was working on projects for eight to 12 hours a day, including weekends. In 2016, I decided to leave my job so I could pour all my focus into learning to program. My girlfriend and I had a plan: She would take care of finances, and I would focus on school. My friends had also put together $4,000 to give me, as their own little scholarship. I used that as my living stipend.

The first part of the Dev Bootcamp program you do remotely, then you take a test to see if you’re ready to advance to the on-site phase. They give you two chances to pass. The first time, I didn’t pass. I felt better about my chances the second time. I understood the material better. I had asked other students for help. I had gone to office hours. I thought I’d do well, but I failed a second time.

I was kicked out of the bootcamp, and my scholarship went away. I had to pay back tuition for the time I spent on the remote course,

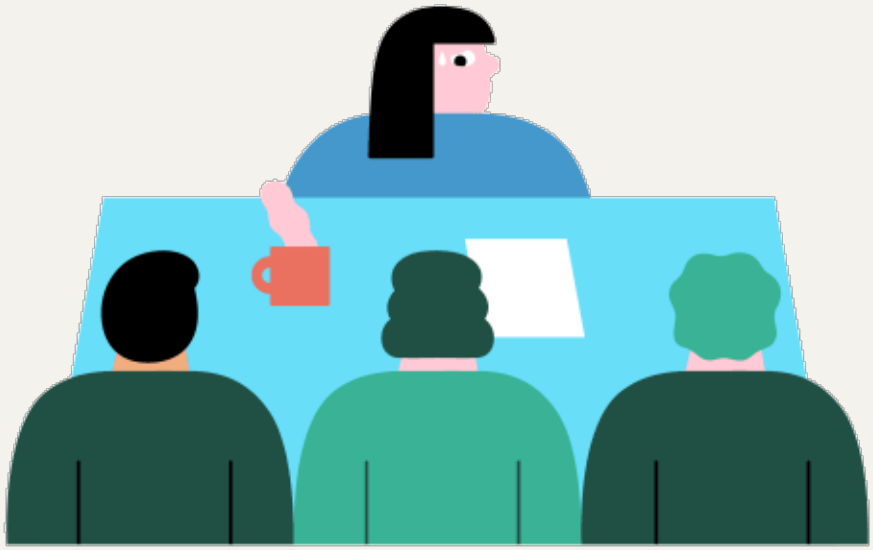
so I was also in debt. The full tuition of Dev was $13,000. With my scholarship, it was around $6,000. Since I only did three months, I had to pay $1,200. I was like, Oh my god, I quit my job, now this happened.

I took some time to get my mind in the right place, then dove back in. I finished some free online courses, then I came across [a distance-learning program called] Udacity. It cost a little over $1,000, but you can go at your own pace. I completed Intro to Programming in 11 months. This was the first time I'd ever finished something.

Toward the end of 2017, I tried to find tech jobs, but it was hard. I also tried to look for internships, but they usually want you to be going to an accredited school. That's one big difficulty of navigating online courses: A lot of companies don't see them as accredited. I'm currently a receptionist and admin at a clean-energy company, so even though my job isn't directly in tech, it's still a big move for me. I'm doing something I don't hate.

—SHANA HAGOOD, A RECEPTIONIST AT A CLEAN-ENERGY STARTUP

The diversity and inclusion consultant who wants tech to move beyond tokenism



A good 80 percent of the companies that invite us in believe that the “diversity issue” is strictly male/female. They’ll quote us numbers: “40 percent of us are women,” and they think it’s the end of the discussion. Right away we follow up with, “Where are your poc, your people with disabilities, your LGBTQ people?” Some companies, especially if they’re new to diversity and inclusion, think that if they have one woman or one person of color on the team, it’s diverse.

In general, we help companies understand the individual needs that applicants have that would be different from those of your average white male. In a lot of cases, our candidates haven’t been through a technical interview before. They’re extremely intimidating. You’re asked to answer a question on the spot — there’s no easing into it. It’s usually men who have this style of interviewing. So you’re there in front of three men, and you’re asked to solve a question, usually about some algorithm.

And for many coding interviews, the problem they give you is specific to a business challenge they’re trying to solve, which no candidate would understand if he doesn’t know that company very well. So we encourage interviewers to give candidates problems they understand instantly. One example would be around virtual pets. Come up with a code that would make sure your pet eats on time, gets enough water. This is a more real-world problem that anyone, of any background, can understand.

— TASH JEFFERIES, A DIVERSITY AND INCLUSION CONSULTANT AT HIREKIND

The former Silicon Valley executive who thinks the diversity debate is overblown

When I look at the diversity movement today, it's gone completely off the rails. It's hijacked by activist groups or people with something to gain— diversity consultants, software firms that have come up with diversity software.

The diversity bureaucracy is an organizational force of its own— especially in bigger companies, which create huge departments for this kind of thing. But for all the years, all the billions of dollars spent, the percentage of underrepresented people has hardly budged. It's not working, and I'm not surprised. It really is a pipeline problem. It's not as though there are more candidates who are women and minorities and we're not hiring them. If you try to hire more of them, then by definition you're lowering the percentage of the other candidates you let in and discriminating against white males.

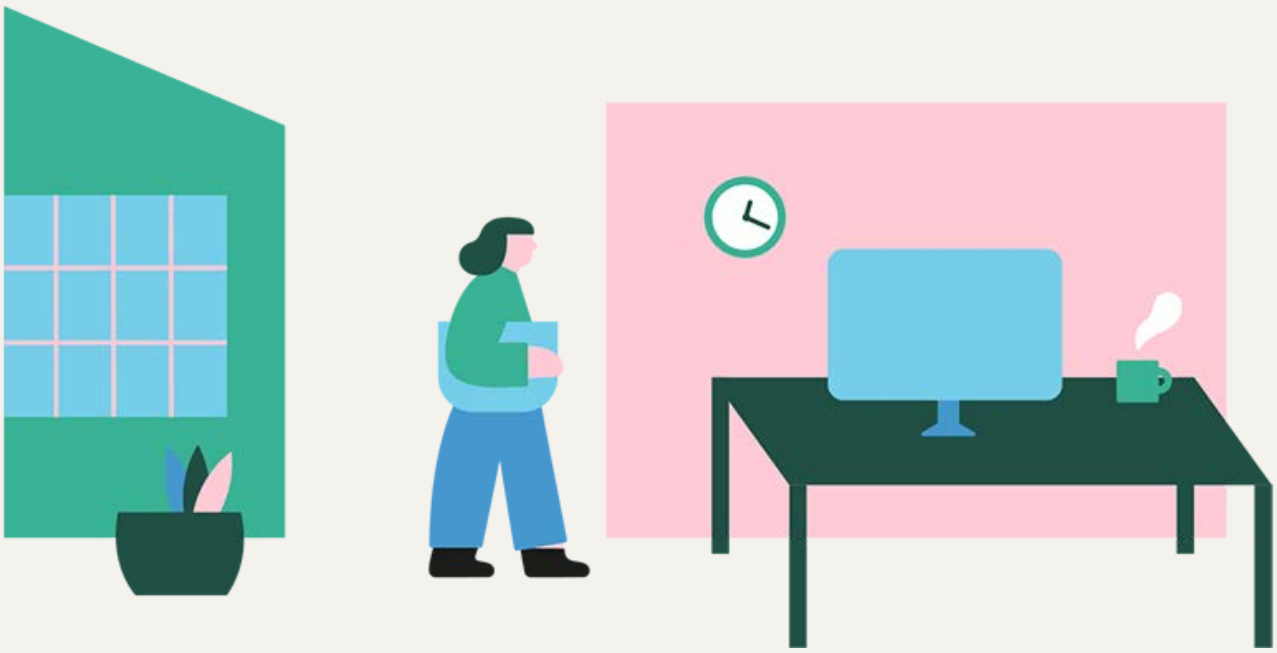
It's ludicrous to think that companies like Apple, which is run by an openly gay man, or Facebook, co-run by the woman who wrote Lean In, would have institutional bias. Women and minorities are underrepresented in the candidate pool. Certain minorities are not graduating college at high rates, and they're certainly not choosing STEM fields. When I was coordinating hiring in the '80s, white men were all we could find. I so wanted to say, Could you find me some women, some black people? But it was illegal. I felt you could not do that. Don't you think Apple and Google and VC firms would kill for more underrepresented people right now? They literally can't

find them.

I started from nothing and worked my tail off. I took personal responsibility and moved up the chain very fast. I wonder if I would've made it in this world or even gotten into college with this level of angst against white males.

— STEVE TOBAK, A FORMER TECH EXECUTIVE, NOW A PARTNER AT INVISOR CONSULTING LLC

The software engineer on returning to tech after a three-year maternity leave



By the time I was ready to go back to work, in 2017, the programming language had changed. Recruiters will name whatever the modern technology is—Angular 2.0 in my case—and say, Oh, you haven't done it, but can you add it to your résumé so we can get it submitted? Without those key words, it was hard for them to arrange even a call. They think that if I can just cram a couple of questions in a new language, I might be able to clear an interview. But I would have had to spend months preparing.

One of my friends sent me a link to PayPal's Recharge program, which helps

women get back into tech jobs. I didn't get an offer with them. But I thought there might be other companies doing the same. That's how I came to know about Path Forward. They have internship programs with several companies, and I applied for one at Lending Club. There was an interview process, but it wasn't too technical. I started on October 9.

They assigned me a project with deliverables and deadlines and a buddy to help me settle in. I had been working on Windows, but they worked on Macs, so he showed me some things. I had one-on-ones with my managers and got constructive feedback. By January 29, they hired me as a full-time employee.

When one of these bigger companies has accepted that you have a gap of three years and is willing to invest in you anyway, that's so important.

— MAMTA TREHAN, A SENIOR SOFTWARE ENGINEER AT LENDING CLUB

The venture capitalist saved by the baby at the conference

In grad school, I went to a conference where this professor brought a baby. She set the carrier beside the lectern, and as she was presenting, she was rocking the carrier with her foot. It's an image that has stuck with me to this day. Now I knew you could go to a conference with a baby, and you could pursue world-class academic work with a baby. A few years ago, I went to South by Southwest, and I'd just had a baby as well. I carted him around in a carrier or a stroller the whole time. Jamie Viggiano, who was the VP of marketing at TaskRabbit, a company I funded, later told me she remembered seeing that. Less than a year later, when she had her baby — she was trying to figure out, How do I do all the things I need to do? — she harkened back to that image of me.

Leah Busque, who founded TaskRabbit, started her career as an

entrepreneur just as I was starting my career as a VC. I was introduced to her, I invested in her, I convinced her to take my money. She's the first investment that I made. Now, almost ten years later, her company has been sold to Ikea, and she's becoming a VC. I love that life cycle. It's the life cycle I hope for. When we ask, Where are all the female VCs and all the female entrepreneurs? — that's the story. It takes ten years to create that full loop.

— ANN MIURA-KO, CO-FOUNDING PARTNER AT THE VENTURE CAPITAL FIRM FLOODGATE

A woman of color on the struggle of raising capital

One investor we met was really upfront. He told me, "The way you'll need to raise money is completely different from how a product manager at Google would do it. If you're a PM at Google, or if you have a Ph.D. in robotics and experience building hardware, then you already have a track record of being successful in tech, which means that your company is a lot less risky from an investor's standpoint." I'd never worked at a startup. And I was a woman of color, so it's riskier to invest in me because there's not much previous proof of women of color fundraising past series A.

This investor looked at my slide deck and my pitch and was like, "You're being too modest. You need to own what you and your teammates have achieved." He advised that I'd want to go to angel investors first and ask for a 5K, 10K check as opposed to a $2 million check. I had to start by building social proof — if a first group of people show they have skin in the game, it's easier to convince other folks to jump in as well, because you're already vetted. It's hardest to get the first investor.

— RUBI SANCHEZ, FOUNDER OF COCOON CAM, NOW PRODUCT MANAGER AT THE COMPUTER MARKETING COMPANY ADROLL

An entrepreneur on why growing up poor makes it harder to launch a startup

Immigrants are generally good at starting businesses — cafés, grocery stores — but founding a startup in Silicon Valley has requirements that are different from any other business: the time frame and growth rate. For startups, you have to go from zero to a billion dollars in value within seven to ten years. Very few actually do that, but investors look for this specific class of company.

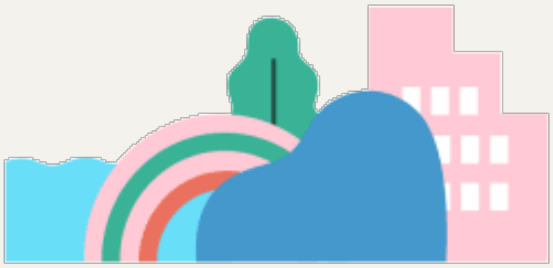
When you receive capital, you're supposed to spend it. So if you raise $5 million to $10 million, you have to spend it in the next 12 to 18 months because that fuels growth. A lot of companies that break down could be sustainable businesses if the founders toughed it out over 20 years, but the capital in Silicon Valley doesn't want you to do that — the investors would fear that the money wouldn't get returned to them.

Growing up, I spent so much time trying to get another dollar and stretch it. We used to collect aluminum soda cans and bring them to the recycling truck and get $10 out of it. When you receive funding and all of a sudden you have to spend it, it's immediately difficult if you're constantly in resource-conservation mode. You have to practice operating as though you have no resource constraints. For example, what if I have to hire an engineer, but the engineer is negotiating for a higher rate, and though I have the money, I don't feel like I can spend it. But then if the engineer refuses the offer, I could lose the game completely.

Poverty is harder to talk about because it's harder to see. I walk around — an Asian guy who went to Stanford — and everyone assumes I'm yet another Asian engineer. The reason people who grew up poor aren't founding companies is because they're always getting jerked back into reality — your dad calls you with money problems; your brother injures himself at work. The self-preservation mode kicks back in.

— RICKY YEAN, FOUNDER OF UPBEAT PR

The senior engineer who thinks the problem is geography



A good portion of the tech industry is centered in Silicon Valley. If not Silicon Valley, then Seattle. If not Seattle, then New York. If not there, Portland. With the exception of New York, those places are heavily skewed toward white populations. For people of color, when you recruit at their schools, you're asking that person to leave an environment where they feel safe and have a support network. It's super expensive in Silicon Valley. It's super white here, and there's really no upside except that you get to work at a tech company.

I would rather be somewhere like Atlanta. But I've been in the Bay Area for ten years now. I've discovered Oakland, but I can't afford a home there because people in tech have decided it is a suburb of San Francisco. Home ownership is important to me because it's something black people have been excluded from, and it's important for building generational wealth.

Fifteen years in the industry is all one needs. It's a nonstop tire fire. There are women in the industry who have their number — the amount of money they need to get out. Mine is $4.2 million. If anyone wants me out of tech, they can put $4.2 million in my Square account.

— ERICA JOY BAKER, A SENIOR ENGINEERING MANAGER AT PATREON

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