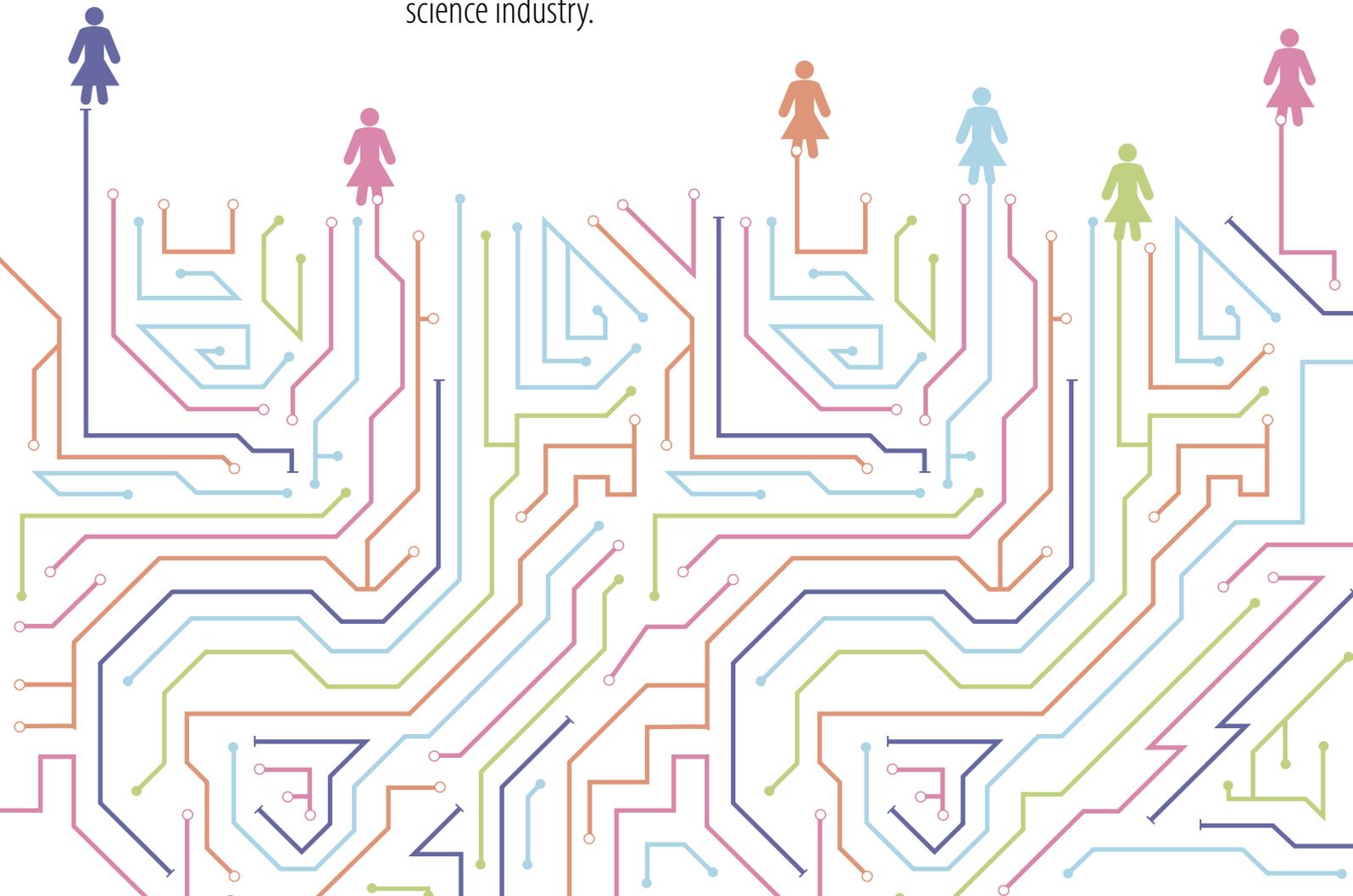


HEIDRICK & STRUGGLES

# Debugging the high-tech industry's gender gap

A documentary filmmaker and a panel of technology executives discuss the challenge of achieving gender diversity in the computer science industry.



Men continue to vastly outnumber women in computer science professions. According to the National Center for Women & Information Technology (NCWIT), in 2014 women made up just 26% of the computing workforce. At the top of the corporate ladder, the picture is even bleaker: that same year, women held just 6% of chief information officer (CIO) positions.

Even more striking is that despite the astronomical growth projected in technology industries — NCWIT estimates 1.2 million computing jobs will be available in 2022 — women's interest in studying computer science has declined. Women accounted for 37% of computer science bachelor's degrees in 1985 but only 18% in 2013.<sup>1</sup>

What's behind this trend? That's the question that director and filmmaker Robin Hauser Reynolds set out to answer. Her new documentary, *Code: Debugging the Gender Gap*, explores the lack of gender, race, and socioeconomic parity in the computer sciences sector.

To shed light on the computer science gender gap and its impact on talent and competitiveness, Heidrick & Struggles recently convened two screenings of the film and held subsequent panel discussions with Reynolds and five technology executives: Kyla Brennan, founder and CEO of influencer marketing firm HelloSociety; Rachel Franklin, vice president and general manager of The Sims Studio and executive producer of *The Sims 4* at Electronic Arts; David Haddad, president of Warner Bros. Interactive Entertainment; Richelle

Parham, former CMO of eBay; and Gabrielle Toledano, executive vice president of human resources and chief talent officer for Electronic Arts. The following article, adapted from the discussions, features the panelists' insights on the challenges along with suggestions on how to solve them — from focusing on the computer science talent pipeline, unconscious biases, and the messages we send our children about “appropriate” roles to the importance of diversity in hiring and support from other women in the field in helping to shape the computer science workforce of tomorrow.

## Where are the women?

At a time when business, society, and government are all urging students to take up STEM (science, technology, engineering, and math) fields, filmmaker Robin Hauser Reynolds began by attempting to answer a troubling question: why aren't more women studying computer science in college? What she found is a lack of support throughout the talent pipeline.

**Robin Hauser Reynolds:** I started out thinking the problem wasn't so complicated. My daughter was studying computer science in college, and she was 1 of just 2 women out of 35 people. For the first time, she started expressing academic doubts. She felt like she didn't fit in. At the same time, Staci Hartman, the film's producer, had a daughter working in a tech start-up, so we had two different perspectives of young women trying to enter these male-dominated environments.

The conventional wisdom is that if you want to get a job out of school, you should know something about computer science. But it didn't seem like there was a lot of support for women studying computer science in college. In the course of making the film, we found that girls and women really lack support all along the computer science pipeline, from youth through college and on into their careers.

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<sup>1</sup> National Center for Women & Information Technology, “[Women and Information Technology: By the Numbers](#).”

At first we just thought the problem was sexism. Then we realized that it's actually a deeply rooted cultural problem. I don't know that anybody can put a finger on a single reason that women aren't well represented in computer science and other technology industries. There are compounding reasons including the stereotype of a coder and the lack of role models. The most surprising thing we learned was that there were more women in tech in 1984 than there are now. That's shocking.

The film is about understanding what diversity — gender, race, as well as socioeconomic diversity — can bring to the table. Having diverse teams will give companies a broader perspective that will ultimately result in products that serve a greater breadth of humanity.

**Gabrielle Toledano:** For me, the film underscored the prevalence of unconscious bias. It doesn't mean that people don't want to change the underlying problems or that those people are bad. But there's unconscious bias every day, absolutely.

I experienced it myself. I was best at math and chemistry in high school, but I went to a private girls' school that didn't even offer calculus and chemistry. I had to go to the boys' school down the street to take those classes. When I got to Stanford, I took calculus my freshman year, and the homework was hard so people formed study groups. The engineering school was mostly men, and I found myself without a group to do the problem solving. If you're a minority, you're going to have this crazy dynamic as long as the majority is male.

So now I'm in tech, working in HR, and I see that the problem is bigger than just the tech industry. It is stunning that we're so behind as a country — not just in computer science but women on boards, women in Congress, women in leadership positions in general. Films like *Code* help because awareness is a critical step for both men and women. We all have to speak up and defend what is right.

## Needed: A cultural overhaul

A report released last year by the Center for Talent Innovation found that in the United States, women in science and technology fields are 45% more likely than men to leave the industry within a year of entering the workforce. The survey also found that more than one-quarter of women in these industries feel stalled in their careers, and 72% perceive bias in their performance evaluations.<sup>2</sup> Among the culprits cited by the panelists: "microaggressions" and a dearth of support for women in the field.

**Kyla Brennan:** In my company we have 32 people in-house, and only 7 of them are men. So we've created a bit of a "girly bubble" at HelloSociety, and while we're very excited about the fact that we're a women-powered company in tech, we still have to remind ourselves what's going on out there. And I sometimes forget what it's like for others until I look outside of my company and see examples of bad behavior that would understandably make women want to leave this industry.

**Robin Hauser Reynolds:** There are absolutely times when it's about saying, "Hey, that behavior is not OK." Yet even when it's not like the *Mad Men* days, women say that it's death by a thousand cuts; it's "microaggressions" — the behavior that slowly builds up until women get so fed up that they leave. That's not exactly something you can just blow the whistle on.

**Rachel Franklin:** Having groups that are helping to support women at that critical stage is really important. At Electronic Arts, we have little groups that get together and talk about what's happening. It's really important for us to say, "Hey, we see it; we are talking about it. Express it if you're running into problems." We have a great culture at EA, but we can still do more.

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<sup>2</sup> Jena McGregor, "Keeping women in high-tech fields is big challenge, report finds," *Washington Post*, February 12, 2014.

**Gabrielle Toledano:** I used to hate when people would say, “Well, let’s get coaches for women,” as if women need coaches and men don’t. But now I’ve come around to realizing that we simply don’t have enough role models. So I do think women need to have more support — sponsorships, mentoring, coaching— not because women need it more than men do but because we have to accelerate their careers.

**Richelle Parham:** One of the things I find is that women often have a lot of mentors, and men often have a lot of sponsors. Mentors talk *with* you, but sponsors talk *about* you. You need someone who’s going to talk about you in the boardroom or during review time because you’re not in the room. Sponsors advocate for you, often putting their own reputation on the line for you. If you have a good balance of both mentors and sponsors, then you’re in a great place.

Earlier in my career, after I left Digitas but before I joined Visa, I realized that I had a core group of about seven people with whom I could talk about my career. So I formalized it and turned those men and women into my own personal board of directors. These people have been critical in my career and the decisions I’ve made. They care about me and my success, and they are often my sponsors as well.

We need people fighting for us, but we also need to step up. I had lunch with a woman last week, and she asked me, “What should I be doing differently?” And I said, “Well, you just named 10 things that you’ve done that are amazing. Who knows about these things?” And she said, “Well, I don’t want to talk about . . .” And I said, “You need to tell people about your accomplishments. It doesn’t have to feel like you’re bragging. You’re talking about great stuff that you did that impacts the company in positive ways. Tell people. Send a note to five people. Let them know the great things that you and your team are working on. It reflects well on you, and it’s helping the

company.” Women often don’t want to share all the great things that they’re doing.

## “Be what you see”

A considerable contributor to the gender gap in computer science is the talent pipeline — and the fact that unconscious bias against women in STEM fields begins at an early age. A recent report from the National Bureau of Economic Research suggests that one reason girls don’t do as well as boys do in math is because teachers expect less of the girls.<sup>3</sup> The panelists discussed how different societal messages and more role models could encourage more girls to study STEM.

**Robin Hauser Reynolds:** The problem is our gender bias. We need to stop feeding our children the message that girls are good at some things and boys are good at other things. That’s cultural. In sixth or seventh grade, girls stop raising their hands in coed school. It’s sad. They don’t want to be perceived as the smart girl.

But that isn’t to say that all girls have to be into science. We need to instill the confidence in our young girls that they can be good at math and writing, that they can be good at art and computer science. It’s not that you’re right-brained or left-brained, or that you’re a girl or a guy, but the fact that you can and should be able to pursue anything you’re interested in. That’s why it’s a cultural problem, because there are all sorts of unconscious biases that we perpetuate as parents and teachers.

We tend to let our boys play in the sandbox with trucks and blocks and get messy and dirty more than we do our girls. We give more scientific explanations to our young sons than we do our daughters. I certainly wasn’t conscious of it, but I’m sure I did that as a mom as well. So if you’re a parent, pay attention

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<sup>3</sup> Amanda Marcotte, “[Teachers Give Girls Better Grades on Math Tests When They Don’t Know They Are Girls](#),” *Slate*, February 10, 2015.

to how you treat your kids, especially if you have both girls and boys. Each of us should put as much confidence in our daughters as possible. Let them know they can be anything they want to be.

Hollywood also has a role to play. We have to have women in lead roles in movies who are smart and mathematical and scientific and brave heroines and doing amazing things. These are our girls' — and boys' — role models because you cannot be what you cannot see. A young black girl may think, "Well, I don't see anybody like me as a computer scientist."

**Gabrielle Toledano:** When the television show CSI came out, suddenly there were more girls interested in studying forensics and law. So we've seen how Hollywood can really have a huge influence on changing the stereotype.<sup>4</sup>

**Richelle Parham:** When I was at eBay, I became an adviser to Girls Who Code — a program featured in the film — which was founded with the goal of teaching a million girls to code. We hosted an eight-week code camp for girls, and we wanted to make sure they had access to the people at eBay, so we brought in engineers and other professionals to speak

to them every week. That was important because I believe that for you to see what's possible, you have to have it in front of you. These girls really got inspired from those interactions.

As part of the program, we hosted a two-day "hackathon" with the girls, and at the end they had to present to eBay's executive leadership teams — me, our chief technology officer, and other senior-level folks. These girls weren't creating small things. One girl wanted to find other people who love to read, so she created this online book club app. Another girl loved the space program, so she created an app that actually followed all of the different missions that were in place. There were all these big, big ideas.

So one of the judges — our CTO — asked the girls, "What was your biggest challenge?" And one of the girls stepped up and said, "The eBay API."<sup>5</sup> She said, "You know, every other API that we touched was actually easy to use, but the eBay API was very difficult." And he said, "Well, what should I do about that?" And she said, "Well, let me tell you . . ."

This is what we need. We need diversity of thought. It's diversity of opinion. It's diversity of how you

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<sup>4</sup> For more about the role of Hollywood in gender equality, see Geena Davis, "Addressing Unconscious Bias," *McKinsey Quarterly*, February 2015.

<sup>5</sup> Application program interface.

*Each of us should put as much confidence in our daughters as possible. Let them know they can be anything they want to be.*

represent yourself. The fact is that a 14-year-old girl felt comfortable telling the CTO of eBay what was wrong with his API because she had a hard time creating something that we asked her to do.

## Bridging the gap

Getting more women into the technology field will require hard work, new hiring practices, and honest — and sometimes painful — self-reflection on the part of senior executives in the tech industry. The good news, according to our panelists, is that positive change is already happening in companies around the industry.

**Rachel Franklin:** We have all types of people that work on *The Sims*, which is fantastic. We already have a lot of female employees, including women engineers. Can we do better? Yes, and the only way to get better is to look at our own numbers and say, “Do we have enough candidates coming in for these positions that are female?”

**Robin Hauser Reynolds:** Women want to be hired on merit; they don't want to be hired and placed on a shelf or just serve to check off a diversity quota box. I think that's the most important thing. Hire a woman and then actually put her to work and give her the equal opportunity to take on that next challenge so that she can also rise up.

One of the ways that Etsy has been so successful in increasing its number of female engineers almost fivefold<sup>6</sup> is by diversifying its interview panel. It's human nature for people to hire others like themselves; we relate to somebody who played the same sport or was in the same fraternity. Bring on a woman to your interview panel, bring on someone from a different socioeconomic background, bring

on a person of color, and then get everybody's perspective on whom you should hire. Just by doing that you're going to have to look beyond your own biases.

**Gabrielle Toledano:** What I've experienced with tech is this sincere need and understanding that we need more women, more diversity.

The *New York Times* recently ran an article<sup>7</sup> on cultural fit — “the idea that the best employees are like-minded” — and how, for many companies, determining “fit” has changed from a business analysis of who will thrive in the organization to a personal judgment of whom the interviewer would rather hang out with. It's the mirror effect of hiring. And that's what they base their choice on. We see this in the venture capital industry. Then you end up with a company full of people who can't identify with these product and service ideas. For example, someone might say, “We're going to sell jewelry online.” It's a huge business. But if the investors can't relate to it, if they think about their wives and say, “My wife wouldn't buy jewelry online,” then you're out of luck. So you have to diversify the decision makers.

**David Haddad:** At Warner Bros., we talk a lot about talent; we measure it, we discuss it. We ask, “How do we create an environment where the best and the brightest want to come and create games for the various market segments — and make them more successful?” Fortunately for us, the gaming audience is diversifying, and with mobile gaming we've seen a lot more females working in that environment.

It strikes me that this is a competitive gap for our country. We have to figure out how to get more engineers and more problem solvers. Computer code will drive so many things in our future, and our

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<sup>6</sup> First Round Capital, “[How Etsy Grew Their Number of Female Engineers by Almost 500% in One Year](#),” *First Round Review*.

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<sup>7</sup> Lauren A. Rivera, “[Guess Who Doesn't Fit In at Work](#),” *New York Times*, May 30, 2015.

country will not remain competitive unless we really address this. The lens of talent is how we're trying to address it.

**Kyla Brennan:** I'm only three and a half years into the industry, but everywhere I look there are girls and women who need role models in this space. And while we all have had amazing role models and mentors who are men, the people I go to most often are some of the women in the industry. We should all look to do the same for other women at some point.

**Robin Hauser Reynolds:** One of the cofounders of Airbnb told us that the hardest thing he did was hire the first woman engineer, because that woman has to be somebody who can really handle that sort of atmosphere. But once you find one woman that can handle that, it's much easier to attract more women and more diversity, and then you start being better able to create a welcoming environment that is comfortable for all.

So just consider what's going on around you. Consider some of the unconscious biases that you or others might carry. Help instill as much confidence in your daughters as you can; let them know they can be anything they want to be. If you're in a hiring position, diversify your hiring group. Have a more varied group of people interviewing candidates because that will bring in a different perspective.

And if you're a woman in tech or in business, look around and help somebody else coming up. Women need to support women, too. We need more role models. ■

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