EMOTIONAL INTELLIGENCE:Tech's Damaging Myth of the Loner Genius Nerd - Claire Cain Miller, AUG. 12, 2017

The Google engineer who was fired last week over his memo wrote that most women were biologically unsuited to working in tech because they were more focused on "feelings and aesthetics than ideas" and had "a stronger interest in people rather than things."

Many scientists have said he got the biology wrong. But the job requirements of today's programmers show he was also wrong about working in tech.

In fact, interpersonal skills like collaboration, communication, empathy and emotional intelligence are essential to the job. The myth that programming is done by loner men who think only rationally and communicate only with their computers harms the tech industry in ways that cut straight to the bottom line.

The loner stereotype can deter talented people from the industry — not just women, but anyone who thinks that sounds like an unattractive job description. It can also result in dysfunctional teams and poorly performing products. Empathy, after all, is crucial to understanding consumers' desires, and its absence leads to product mistakes.

Take digital assistants, like Google Home or Amazon Echo. Their programmers need to be able to imagine a huge variety of home situations, whether households with roommates or abusive spouses or children — as made clear when a child ordered a $160 dollhouse and four pounds of sugar cookies on the Echo.

"Basically every step is very collaborative," said Tracy Chou, who was an engineer at Pinterest and Quora and is now working on start-ups. "Building a big software system, you could have dozens or hundreds or thousands of engineers working on the same code base, and everything still has to work together."

She added, "But not everyone is the same, and that's where empathy and broader diversity really help."

The memo distinguished between empathizing with other people's feelings and analyzing and constructing systems, and said coding is about the latter. But it requires both, as do most of the jobs that are growing in number and in wages, according to economic research. Jobs that require a combination of math and social skills — like computer science, financial management and nursing — have fared best in the modern economy, found David Deming, a professor at Harvard.

It's true that programming can be a solitary activity in college computer science classes or entry-level positions. But soon after, it's impossible to avoid teamwork — with the business or legal departments, but also with other engineers.

There's a joke in computer science that one of the hardest tasks is naming things in code. It's funny because it's a nontechnical task. But it involves something that can be even harder than technical work: communicating with other people and intuiting what they might need and understand.

Computer programming was originally considered a woman's job. They were programmers of the Eniac during World War II and at NASA, as shown in the film "Hidden Figures." That began to change when programming professionalized in the 1960s. The stereotype of an eccentric genius who would rather work with machines than people was born, according to Nathan Ensmenger, a historian at Indiana University who studies the cultural history of the software industry.

Yet that was never an accurate description of the job. It was social from the beginning, in university computer labs and, later, Silicon Valley garages, he said. The social circle just didn't include women.

"For a lot of these young men, a certain computer culture becomes an expression of masculinity," he said. "These are people who aren't doing physical labor, aren't playing professional sports. But they can express their masculinity by intense competition, playing pranks on one another, demonstrating their technical prowess, in ways that don't translate well to mixed-gender environments."

The mythology of the antisocial programmer is self-perpetuating, said Yonatan Zunger, a senior engineering leader at Google until this month, when he joined Humu, a start-up.

Early on, children who are less comfortable with social interaction — particularly boys, who are more likely to be socialized that way — are channeled toward science and engineering, he said. Teachers generally focus on the technical aspects and not the interpersonal ones. The result is a field filled with people who dislike social interactions and have been rewarded for it.

Silicon Valley culture encourages it. Google calls engineers who aren't managers "individual contributors." Technical skills are valued above soft skills or business skills. "Anyone who deals with a human being is considered less intelligent," said Ellen Ullman, a software programmer and author of a new book, "Life in Code." "You would think it would be the other way around, but the more your work is just talking to the machine, the more valuable it is."

One example is the distinction between front-end engineers, who build the parts of a product that users interact with, and back-end engineers, who work on behind-the-scenes systems, like data storage or scaling. There is a bias that front-end engineering, which generally pays less and has more women, is less technically difficult. People who have done both say the skills are different, but equally challenging and valuable.

Problems arise when engineers get to a point in their careers when they're required to demonstrate social skills, Mr. Zunger said, like understanding diverse points of view, building consensus and reading people's subtle cues. "Suddenly they're told that these skills that are their weak point might be really important," he said. "Their own value is in question."

In the tech industry, the lack of interpersonal skills has become a weakness and a liability.

Edmond Lau runs an engineering coaching business with many clients like Google and Facebook called The Effective Engineer. His work can sound like touchy-feely therapy sessions.

For example, he said, a senior engineer spots a bug and fixes the code, trying to be helpful. But the person who wrote it thinks the person overstepped onto his territory, or was sending a passive-aggressive message. At Quip, a workplace productivity company where Mr. Lau is an engineering leader, he leads circles in which engineers talk about how to work together or ask for help.

"You might have ideas in your head, but unless you communicate them, no one's going to understand," he said.

Technical skills without empathy have resulted in products that have bombed in the market, because a vital step to building a product is the ability to imagine how someone else might think and feel. "The failure rate in software development is enormous, but it almost never means the code doesn't work," Mr. Ensmenger said. "It doesn't solve the problem that actually exists, or it imagines a user completely different from actual users."

With Google Glass, for example, it was a technical feat to make a tiny computer you could wear as a pair of glasses. But the product wasn't one that typical people needed, or wanted.

When Apple introduced its Health app, it tracked sleep, exercise, food, medications and heart rate, but not menstrual cycle. Yet period trackers are one of the most used health tools for women. (The app now includes it.)

Google Plus, the company's social network, initially required that users make public their name, photo and gender. There was a technical argument for including gender — to construct sentences like "She shared a photo with you" — but it also exposed women to online harassment.

"The team that made this decision was entirely male," said Mr. Zunger, who was the chief architect of social networking at Google at the time. "It was a really clear case of getting things wrong, for the simple reason that the people in the room weren't diverse enough to notice an obvious problem."

Less visible, but highly influential, are the judgments that go into building algorithms that determine the news you read, the loans you get or the people you date. Facebook has been criticized for showing people only news stories that align with their political views, for example. Research has found that ads for arrest records are more likely to show up on searches for black fraternities.

Empathy also affects which products are built in the first place — why, for example, Silicon Valley has spent more time building apps for expensive food delivery than for decreasing hunger.

Some people in the industry say computer science students would benefit from more liberal arts courses. "We need future adults to be able to discern what it makes sense for machines to make decisions about, and is the code base fair and equal, and do they have a basis to even judge that," said Amy Webb, founder of the Future Today Institute, a technology forecasting firm. "There's no cool technology toy that teaches that there are different religions around the world and it's O.K. to be tolerant."

When engineers build products with empathy, it can seem like magic: Technology seems to predict what people want before they know they want it. That was part of Steve Jobs's genius. Just look at the number of people connected to their phones, or a child using an iPhone for the first time.

One way to develop empathy at companies is by hiring diverse teams, because people bring different perspectives and life experiences. But the more widespread the stereotypes like those in the Google memo, the harder it becomes.

When people hear negative stereotypes about the skills of a group to which they belong, they are less likely to pursue those skills, according to a variety of research. In a study by Shelley Correll, a sociologist at Stanford, when participants were told that men had a higher ability to complete a task, women said they were less competent at the task and less likely to enter a field that required it. When they were told that men and women were equally good at it, those differences disappeared.

"That nerd identity is really damaging to women," Mr. Ensmenger said, "but it's also damaging to minorities and to a lot of men who don't want to subsume their identity in that."

That's why the consequences of the Google memo could reach far beyond the particular case, influencing which young people choose to go into technology, and which products they make that affect every aspect of our lives.

(Accessed on 8.13.17 at https://www.nytimes.com/2017/08/12/upshot/techs-damaging-myth-of-the-loner-genius-nerd.html?hpw&rref=technology&action=click&pgtype=Homepage&module=well-region&region=bottom-well&WT.nav=bottom-well)