

Bay Area girls stream into summer coding camps

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It already feels like the dead of summer, but the girls over at Adobe's coding camp are making it snow.

"They're programming each and every snowflake on the screen and using code to make them fall," says instructor Prerna Vij, a 29-year-old Adobe software engineer helping to bridge the yawning gender gap in today's male-dominated tech world, one high-schooler at a time.

"This is my second year working with the girls, and these have been the most rewarding summers of my life. We achieve so much together, and I feel like I'm helping to empower them, getting them ready for college with a lot more confidence."

Forget about swimming, boating and archery: Summer in Silicon Valley means it's time for coding camp, and more and more of those campers are girls. As hundreds of programs like the one at San Jose-based Adobe attract record numbers of students around the Bay Area and beyond, a nationwide campaign to teach programming skills to girls is witnessing explosive growth.

With an estimated 1.4 million [computer science](#) jobs expected by 2020, and only about 400,000 qualified applicants to fill them, the pressure is on to create coders - especially among girls, who have long been outnumbered by a wide margin in the field.

The expansion of the seven-week summer immersion programs at Adobe, which started with 20 girls being trained and mentored by staffers in 2014 and now has mushroomed to 100 coders in four cities around the country, is emblematic of what's happening in the larger campaign to level the tech world's playing field.

From boosting participation by women on college campuses to on-site corporate programs such as the Facebook Academy - which in the past two

years has seen a majority-female student body - there are plenty of signs pointing to an evolution in the gender makeup of the high-tech workforce.

"We've just been growing and growing since we started in 2012," says Christina Honeysett of the New York-based national nonprofit organization Girls Who Code. "By the end of 2016 we expect to have trained 40,000 girls. And with just over 10,000 women graduating last year with computer science degrees, we're not only talking about closing the [gender gap](#), we're seeing it close."

Honeysett points out that in the 1980s, some 37 percent of computer science graduates were women, but that number has fallen to around 18 percent today.

The drop-off, Honeysett says, is due in large part to the way society has come to expect the tech world to look: video game stores crowded with young boys and teens; hoodie-clad geeks roaming the nation's tech corridors and looking like Mark Zuckerberg wannabes; the practically all-male cast on the popular HBO sitcom "Silicon Valley."

As Cornelia Davis, senior director of technology at software and services firm Pivotal, says, "You can't be what you can't see." Her company, along with Adobe, hosts the Girls Who Code Summer Immersion Programs.

Honeysett says "we attribute the drop in women in computer science since the '80s to the PC being marketed to boys and the cultural narrative being built around boys and coding. We've all come to think of a programmer as a guy in some basement wearing a hoodie. So over time, girls just started to step away."

High-schoolers Rojeen Farkhoor and Mackenzie Saepanh say the Adobe program already has given their confidence a boost. Farkhoor, a rising high school junior, says she wanted to get coding

experience because of its relevance to STEM - science, technology, engineering and math - subjects she's interested in.

"I'd been thinking of majoring in biology, but now I'm thinking maybe computer science instead," Farkhoor says. "Being able to code will give me a good background for whatever direction I follow."

Saephanh, 17, a high school senior, agrees. "I already can feel the progress I've made here," she says. "With coding, I can now do things like change the color of the screen and make balls bounce around it."

Farkhoor practically finishes her fellow coder's sentence: "It's taken a lot of work, but we're learning the importance of both persistence and collaboration."

A 2015 survey by the American Association of University Women found that the majority of STEM jobs - more than 80 percent - are in engineering and computing, yet women comprise only 12 percent of the engineering workforce and 26 percent of the computing workforce.

"In less than 10 years," the survey authors wrote, "the United States will need 1.7 million more engineers and computing professionals. We simply can't afford to ignore the perspectives or the talent of half the population."

Gender-gap crusaders often repeat the same mantra: Girls simply code differently than boys because they don't view the world in the same way. Bringing that female perspective to the tech world, says Pivotal's Davis, is key to making the workplace better more accurately the larger society. With her company upping its financial commitment to summer coding programs this year, she sees firsthand what girls are bringing to the tech table.

"When it comes to young men, they're almost always programming video games" at coding camps, she says. "But with young ladies, they're more interested in apps that help people solve problems and make the world a better place."

Girls, Davis says, deserve the same opportunities

to pursue careers in tech and computing as boys do.

"Whether you're creating the next Twitter or working in agriculture or fashion or art, everything you do is going to involve software," she says. "So understanding the basics of programming will become a basic requirement of the workplace."

Even just a basic grasp of coding, as the girls at Adobe and other Bay Area camps will get this summer, is "almost like a password to get into any industry these days," Davis says.

"Sadly, the boys and the men have the password, and the [girls](#) don't."

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