Intel's Patty Lopez: Established engineer. Passionate STEM volunteer. Skier.

By Lyndsey Gilpin

Intel engineer Patty Lopez talked to TechRepublic about her winding career path, advice for computer science students, and getting more Latinas in technology.

One day, in the 1970s, a woman brought a computer to Patty Lopez's high school, located in a small rural town in northern New Mexico. The school took the opportunity to offer a computer math class, so Lopez and a dozen or so other students learned how to program in BASIC on paper tape.

When she went to college in 1976, Lopez and her roommate, her best friend from high school, both took computer science courses, and that was when she decided firmly on her path. She was planning on being an electrical engineer, but as she walked around the computer science department at New Mexico State University, Lopez felt at home. There were women. There was diversity. She felt like she fit in, whereas in her engineering courses, it was the opposite. They were very male-dominated. There weren't even photos of women anywhere in the department -- the atmosphere felt uncomfortable to a Hispanic woman.

Image: University of Wyoming

Lopez, now a senior platform applications engineer for Intel, where she has been for six and a half years, has always been aware of the impact of environment. And she has integrated that into her work at Intel, where a large part of her responsibilities include developing a pipeline of technical women, ranging from from K through 12, to college, to professional settings.

"My daughter, in middle school, came home and said 'Mom, I'm not good at math.' I thought I had done everything to reinforce that she was good at math, and there were other messages going out to her, coming from outside my realm of influence, telling her that she wasn't," she said. "My passion has been to trying to create more opportunities for young girls to see themselves as successful in tech, and change the dominant view that it is only for white and Asian males."

After getting her bachelor's degree, Lopez decided she wanted a master's. It wasn't an easy sell to her mother, who thought she needed to get a job right out of college. After earning her master's, Lopez was offered some scholarship money to continue her PhD. It was an offer she couldn't refuse -- more education. Lopez was one of three women who were the first to get a PhD degree from NMSU.

Because she was from a lesser-known institution, it was hard competing for jobs. One summer, when she was working at a summer camp for Native American students, Lopez met someone from HP. He invited her to

interview. She got the job and moved to Colorado to work on scanners and image processing as an imaging scientist for the company.

She stayed 19 years, supported five product lines, and had seven patents in software and hardware. She loved what she did and remains friends with many of the people she met at, and through, HP.

But, like many women in technology, Lopez hit some major roadblocks. The first was when she had her twins in 2004 -- she was put on bed rest at 27 weeks, and then went into premature labor about five weeks after that. She was basically out of work for the rest of that year, but she was determined to go back to HP. She kept up with meetings and email, made sure she wasn't forgotten. But when she got back, one of her key assignments was given to another engineer. She realized her boss probably thought motherhood was going to keep her from coming back to work.

The next roadblock, not long after, was that a manager of hers chose not to promote her, even though Lopez said she was the most qualified of engineers at the time. He told her she couldn't focus because she answered a question with two options instead of one. He brought up things that weren't relevant. Lopez realized she was being pigeon-holed, and she needed to start looking elsewhere for jobs.

"That's what happens to women if you become too critical to the cog of the machine," she said. "If you want to move out of that role, theres nobody to backfill you with, and [they] can't really afford to let you move on to something else."

She found someone to groom, to take over her code at HP. She moved on to Intel, working from Fort Collins, Colorado.

That same year, Lopez attended the Grace Hopper Celebration -- an eye-opening experience that put her on track to become a great advocate for Hispanic women in technology. She was a founding member of Latinas in Computing, which started out as a listserv for Hispanic women in the industry and has since turned into a thriving community and support network, with the help of the Anita Borg Institute for Women in Technology.

Lopez has volunteered her time to Anita Borg, the National Center for Women in Information Technology, and mentoring programs at her alma mater. She won the HENAAC/Great Minds in STEM Community Service Award in 2010, and was co-chair for the 2013 Grace Hopper Celebration.

Now she dedicates much of her time to K through 12 STEM education, especially for minority girls. She is constantly conscious of the environment people create for girls in particular, and makes sure people understand the importance of diversity in technology. That means down to minute details, like putting photos of female engineers on PowerPoint slides, or Hispanic and black computer scientists on posters on the wall, or a diverse set of class speakers. It takes a lot more thought, but it is critical.

"As engineers in the workplace, we forget how to connect and engage younger children, and translate from abstract 'what are you doing right now, today' to 'what you do to get there," she said.

In her own words...

Looking back, what is some advice you would give yourself?
"Not to be so hard on myself. I was always comparing myself to people who would come from other institutions that were more prestigious. I was an excellent programmer and better in many respects than a lot of my peers, but it was very competitive and a lot of senior people that didn't move around, and there wasn't a career ladder [when I

started]. To get opportunities to get key assignments was difficult, even with a PhD. I had high expectations for how quickly I would rise that were not met, and I shouldn't have been so hard on myself or tried to be anyone other than who I always was.

"You read all these articles that tell you go in a room, use this posture, sit in this spot, have your voice and your body language, watch what people in room are doing and respond, and you spend all that time in your head trying to figure out -- you kind of had to be a chameleon is what they're saying, right. Some of that is appropriate, but you shouldn't be trying to change yourself so much, you don't know who you are. It's so much easier when we can allow everybody to bring, trite phrase, but [their] whole self to work. Allow people to share strengths and use them... When I was at the most successful we were a small team on an aggressive schedule and had complementary strengths and we put our heads down and worked together and got the product out in record time."

What is some advice you have for others?
"Women typically say, it was a team effort. Well, when you do that, you give away a lot of power. You can say, it was a team effort, and here's where my contribution was critical. I was key in recognizing X. You have to not only say yeah, I'm a great collaborator but this is the piece I carved out, that fit in."

How do you unplug?
"My husband would say 'when are you not working, you're always on the computer.' One of the things I did this week we had this canned deck we presented to students, I looked at [it] and said 'I need to add more pictures that will appeal to girls.'

We had a ski weekend a couple weeks ago...by end of the day I was able to ski. I always ski once a year, I'm always like 'oh my goodness, I'm too old for this..[I'm also] knitting a scarf...I didn't realize how tiny these needles are and how many days its going to take!"