Women in Technology Scholarship (North America): Application - Sara Kazemi

Question 1
Word limit: 200-400 words
What project have you worked on or participated in that you felt had a significant impact? What was your contribution to this project? This can be a job, personal project, event, or anything else.
I make an impact every day as a full time computer science teacher at a public high school where approximately 85 percent of our 2700 students come from socioeconomically disadvantaged backgrounds and 81% of students identify as Latino/ Latina. I teach three levels of computer science (AP Computer Science A, AP Computer Science Principles, and a non-AP college prep CS course). As the first employee at my district to earn the Supplementary Authorization to teach Computer Science, I have been the main person responsible to develop curriculum for AP Computer Science A (a college-level course taught in Java), despite being a newer teacher (I am in my fourth year).

Advocating for Computer Science at my site has been a challenge. It is an elective in the state of California, so my courses do not qualify for funds through Title I. During my first year of teaching, I was challenged to teach these courses on out-of-date machines (~12 years old) that frequently experienced hard drive crashes and overheating and no curricular materials -- not even a textbook. Over the years, my advocacy has positively impacted our program. My advocacy has included writing grants that have gained us enough AP exam preparatory books for four sections of computer science (160 books); class sets of Finch robots (programmable in a variety of languages including Scratch and Java), Hummingbird Duos (Arduino based robotics kits), Adafruit Circuit Playgrounds; and a variety of other resources that would help teenagers grasp computer science concepts (i.e. large playing cards to illustrate search/sort algorithms). I have even advocated for an improvement in technology--gaining and setting up a Mac Mini to act as a lab server to manage student accounts and software deployment.

I have also striven to increase the number of girls who connect with computer science by facilitating coding clubs where female students can have a safe space to explore their interests. My goal in finishing this academic program is to become more experienced in software engineering so that I can become a better and more skilled role-model for girls who want to enter STEM fields.

Question 2
Word limit: 200-400 words
Tell us about an opportunity that you took advantage of. How did you make the most of it?
Before entering the teaching profession, I recognized a tremendous gender gap in computer science, a field I became enamored with during my interdisciplinary undergraduate and graduate studies in computational linguistics--a field that blends computer science and how language is processed and understood to develop such technologies that drive Siri or predictive texting. Finding student relevance is key to engaging girls and students from diverse backgrounds in computer science. In my case, my passion for computer science stemmed through the lens of language. For others, it might be robotics, art, or games.

Soon after my employment with the Sweetwater Union High School District began, I was given the opportunity to teach AP Computer Science A--a course comparable to a first year university-level course in Java programming. There existed no documented curriculum or collaboration between teachers in our district. Taking initiative to ensure our diverse students were well-supported, I earned a stipend from Creating a Village for Educators (CS-CaVE) to develop AP Computer Science A and began a district-wide professional learning community with other computer science teachers. Through our collaboration, we have built curriculum to target our population of students and to engage female students; female enrollment has risen from 10% to 25%, and we expect numbers to grow.

Recognizing that there will be a growing demand for further studies in computer science with the recent approval of California's Computer Science Framework, I have jumped on the opportunity to learn more about software engineering through CSU Monterey Bay's online Computer Science degree finishing program. After a single semester, I already feel so much more prepared as an computer science educator and mentor to my students.