I am a first-generation college graduate. In this regard, I was an exception in my first job and graduate school: parents of most of my colleagues were college graduates (and in a few cases had Ph.D. themselves). As a result, I have a unique perspective about being a member of the research community and academia in general. In this document, I describe how I plan to use my personal experiences for the betterment of students and the community at large.

Broadening Participation in the Workforce and Research Community

My first plan to have a broader societal impact is to increase the participation of people from historically marginalized groups in the industrial workforce and the CS research community. I draw on my personal experiences to focus on two groups: people from socio-economically disadvantaged backgrounds and women.

At my undergraduate institution in India, we had students from diverse socio-economic backgrounds and roughly the same number of women students as men in CS. However, this situation changed immediately afterwards: I noticed few colleagues from socio-economically disadvantaged backgrounds and fewer women in my first job as a software engineer. I then noticed that this problem persisted in graduate school as well. I have tried to improve this situation in whatever ways I can, and I am committed to continuing and expanding such efforts as a faculty member.

At my undergraduate institution, few students aspired to go to graduate school. Instead, most intended to get a software engineering job, understandably so given that a paycheck could help many who came from a socio-economically disadvantaged background (including myself). However, getting a good job required access to resources (e.g., a good algorithms textbook, a computer to practice programming) that were scarce at the time; very few had such privileges. I created an informal study group to solve this problem, where I learned and taught programming to students in my class after working hours. I also organized mock interviews, enabling students to practice solving programming problems. This group gradually expanded across departments, where I taught programming to non-CS students. This effort positively influenced many students: most eventually got programming jobs. I will continue to help students (especially undergraduates) from diverse backgrounds to form the next-generation workforce in the industry. People who benefit from such efforts can serve as role models for future students from socio-economically disadvantaged backgrounds.

At graduate school, I noticed very few women researchers in CS. This phenomenon was more apparent at conferences that I attended. The first step to addressing this problem is to attract more women students to graduate programs. To this end, there are many excellent existing channels such as GHC and Tapia. I am committed to representing the department/university to encourage women and students from historically marginalized groups to apply to the graduate program. Even simple initiatives such as waiving off the application fee or offering to review application materials can have a significant positive effect. I am keen to work on such initiatives. Recently, the industry has started helping academic institutions to improve diversity. For example, Google’s exploreCSR [2] supports students from historically marginalized groups to pursue graduate studies and research careers in CS; other programs exist as well [1]. I am committed to working with other faculty members on such grants and using the funds to improve diversity in the department.

Creating Inclusive Environments

Broadening the participation of people from diverse backgrounds is only a first step. To retain diversity, we must create inclusive environments. I am committed to doing so in the classroom and in my research group. As I mention in my teaching statement, even a seemingly innocuous question in the classroom can drive students away from the course. For instance, asking how many people have had prior programming experience in an introductory course can make students who did not have the privilege of computers feel like they cannot succeed. As an instructor, I will strive to make every student feel welcome. One concrete step that I plan to implement in undergraduate classes is to ensure that students who cannot afford expensive CS textbooks (which cost more than $100) have an effective way to learn the material. This thought is inspired by a student who could not afford a book [4] (which ultimately led to the creation of a free OS textbook at Wisconsin [3]). I believe even such small steps can have a broad impact on students not just at my institution but elsewhere too.

I am also committed to creating inclusive environments for student mentoring. I have volunteered several times in mentoring programs at SOSP, OSDI, and EuroDW. During my meetings, I always ensured that the student felt that they were an integral part of the research community and explained why their work was exciting and important. I followed up, often helping students find internship opportunities at VMware Research and
elsewhere. I intend to expand on mentoring initiatives to make every student feel welcome. In my research group, I will educate every student to act professionally and ensure that every member feels welcome. In addition, I plan to periodically conduct a small survey among the members to gauge inclusivity and make amendments when needed.

References