Diversity Statement

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The lack of diversity in computer science has been a persistent problem for many years. Improving the representation of women and minority among university faculty and graduate students is crucial. If we can get more members of underrepresented groups interested in pursuing research in college, then more of them will apply to graduate school and eventually become faculty. In turn, this will positively shape the public image of computer scientists and inspire the next generation to pursue computer science – whether in academia or industry – as a career.

Current diversity efforts

During my time in graduate school, I helped co-found and organize DARE (Diversifying Access to Research in Engineering), the first diversity-focused research matching program for undergraduate students in EECS at UC Berkeley. DARE’s goal is to promote diversity in undergraduate EECS research by helping students find long lasting research opportunities. Our matches are tailored to the students’ interests and abilities, as well as the faculty members’ technical requirements. We believe that it is important to produce high quality matches, so that both the student and the faculty member have a good experience working with each other.

Since the beginning, we felt that personalized outreach was crucial to making students aware of the research opportunities available. Therefore, we asked the EECS department to query for underrepresented students, and sent personalized emails inviting them to apply. For the diversity categories that we could not query, we reached out to the appropriate student groups instead. This proved to be an effective method of advertising, as many replied saying that, had they not received personal emails, they would not even have considered research as an option.

As part of the program’s workflow, we first match applicants to faculty members based on the students’ interest and the faculty’s criteria. We then allow the faculty to reach out to the students, and the faculty and the students can work together to finalize the research positions. I was in charge of coming up with a design for the backend, as well as developing the final matching algorithm. In Spring 2019 — the first semester of the program — we were able to match all 28 applicants to one or more faculty members. 7 of the applicants were able to find research positions. In Fall 2019, we greatly expanded the program by adding more faculty and contacting more students. We received 148 applications, and were able to match 81% of the applicants to professors.

Future diversity efforts

The computer science pipeline starts as early as high school, and continues through college to industry, graduate school, and beyond. At each stage in the pipeline, more and more members of underrepresented groups drop out. Thus, when I become a faculty member, I would like to help promote diversity at the high school, college, and graduate school levels.

Expanding DARE. As a faculty member, I would like to continue organizing the DARE program at my university and expand it to create a community for students. For example, I would like to add the following elements to the program:

1. A seminar on how to approach research as an undergraduate student. This will cover various topics such as how to approach open-ended research problems and how to ask for help from graduate mentors.

2. A mentorship network with participating graduate students and faculty. One of the most important ways of making sure that existing students do not fall through the cracks is to provide them with the opportunity to connect with role models who experienced the same challenges.

As mentioned above, the diversity problem begins much earlier than college, because underrepresented groups are already subjected to challenging adversity, such as gender and racial skew, in high school. Therefore, I would like to expand the DARE program to include high school students, incorporating the following additions:
1. A DARE summer research internship program for local high school students. The process will be similar to the undergraduate matching process, but will put more emphasis on matching students to specific research projects so that they can work on well-defined problems. Just as in the college program, special emphasis will be placed on matching students with mentors who can help guide them through difficulties.

2. Outreach days in which undergraduate DARE students visit local high schools and teach interesting computer science concepts.

Mentorship. While I was completing my undergraduate and master's degrees, I was very fortunate to have been mentored by my advisor, Barbara Liskov. Having such a strong role model was extremely inspiring, and listening to her stories made me feel like that I could belong in academia. While pursuing my doctorate, I was lucky enough to be mentored by another strong female role model. My advisor Raluca Ada Popa not only helped me in the technical aspects of research, but also encouraged me to look beyond research and seek to address social issues in computer science. Together, we worked to found the DARE program for promoting diversity in undergraduate research.

These experiences have made me realize the difference that a good mentor makes to members of underrepresented groups. Therefore, as a faculty member, I would like to invest more time in creating mentorship networks between graduate students and faculty. I would like to organize more mentorship workshops at conferences to connect academics with current students, as well as more networking and mentoring group lunches/dinners and panels for graduate students and faculty at my university.