

Diversity Statement

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Our institutions, our research, and our work environment are all strengthened by diversity and by a culture that includes everyone's contributions. I strive in my research, teaching, mentorship, and my work in the world to acknowledge, include, and strengthen diverse voices and viewpoints. My experience is not the experience of others: I have been afforded privileges that blind me to others' exposure to unfair marginalization and I know I must attempt to see and understand. Recognizing and respecting my privilege, I have long worked to encourage the success of others who have started from a more difficult position. In college, I helped to organize and taught at several events designed to inspire underprivileged high school students to study science and technology, gave weekly physics demonstrations in an elementary school classroom, and mentored a high school engineering and physics club. In graduate school, I was a judge for the local county science fair. Through these actions, I hope to inspire students from a variety of backgrounds to study in STEM.

I am mindful that diversity is more than a problem of recruiting the right people. Support for diversity, equity, and inclusion must encourage diverse voices to be present, to speak, and to be heard, including in research and in the classroom. All students must be equally comfortable participating, though not all will have the same willingness because of differences in background. I am wary of implicit biases while teaching and use evidence-based approaches to limit its impact in my classrooms. I enjoy eliciting the perspectives of my students, to improve my own understanding of the world through different viewpoints.

The lack of women and minorities in technical fields is a worrying and difficult problem. I hope to contribute to solving it through research, activism, and personal conduct. While no magic solutions exist, I hope that the tide will turn as computer science education in primary and high schools becomes more normal and as the culture of the industry shifts to be more accommodating. Early evidence shows that more young women are studying computer science, but there is much more to do: although STEM-related industries are projected to add millions of jobs over the next ten years, the vast majority of these will be filled by men. This is true even as women have formed a higher percentage of the underlying workforce. I have taken care in my past teaching to make sure that such students are comfortable and confident, ensuring they are called on and heard as much as their classmates. I also mentored a young woman who was an undergraduate when I was in graduate school. She was enthusiastic about many areas of computer science research, if a bit shy of participating. Over time, she became a valuable leader within our lab, joining our meetings and reading groups and making productive contributions. In her senior year, we co-authored a paper and now she is a productive PhD student in computer science. As a postdoc, I mentored a student in the UC LEADS program, which funds upper-division undergraduate students from underrepresented backgrounds to do research for two summers with the goal of preparing them for graduate study. The student successfully took on and completed a research project in a fast-moving area. She is now applying for graduate school in computer science, and I have encouraged her to present her work at relevant gatherings, such as Women in Machine Learning (WiML) and Black in AI, by introducing her to active members and leaders within those communities. Mentoring and encouraging more female and minority leaders in the field will certainly make it easier to attract and retain more of the talented students of all backgrounds.

I am interested in the ways that technology structures the power dynamics in societies. My research on the social impact of software systems speaks directly to structural discrimination issues in an attempt to raise the profile of inequitable outcomes from the automation of previously human-driven processes. While such systems often strive to treat past human behavior as a gold standard, it is important to identify when, where, and how past behavior displays bias against particular communities and to consider how best to remedy those harms. We can and must avoid ossifying existing unfairnesses in the world into the machines that increasingly operate it. Relatedly, I have studied the robustness of election systems and technologies both to direct subversion and attack as well as to problems such as racial and political gerrymandering. In performing and discussing this research, I am mindful of the differences both in disciplinary approach and in life background that color the views of my colleagues. Similarly, I hope to measure the extent to which diverse development teams produce systems with less biased outcomes as part of future work on making computer system development processes that improve outcomes from the standpoint of human values.

I have learned much about diversity and inclusion from my university service as well. Sitting on two university disciplinary boards, I have reviewed several sexual assault cases and served on the primary hearing board in one case. These experiences have significantly changed my understanding of this crime, of discipline in general, and broadened my view of how women interact with the world. I was proud to be part of a community where the victim was comfortable coming forward; she indicated to the hearing board that in her home country, she would not have been able to describe her experiences or effect justice.