Advancing Diversity and Broadening Participation

I have contributed to efforts to advance diversity and broaden participation in computing in five major ways, and I plan to maintain and expand on this basis as a faculty member:

1. **Community Building**. I have sought to build community and advocacy networks, for example through my work as co-president of MIT's graduate women in electrical engineering and computer science.

2. **Recruitment**. I have sought to recruit women and underrepresented minorities into STEM fields, for example by teaching an introductory computing class to 30 Mexican high school women, by mentoring a troupe of Girl Scouts to compete in VEX robotics, and by bringing UDC students to the White House to learn about careers in science policy.

3. **Government Advocacy**. I have traveled to Congress to advocate for interventions to retain women in STEM in response to the NASEM report on the widespread harassment of women in the sciences [1].

4. **A Welcoming Environment**. I strive to emulate my own mentors and to create a welcoming and inclusive environment. Inspired by Prof. Margo Seltzer, I always wear skirts and dresses to teach.

5. **Classroom Interventions**. I seek to use data-backed best practices in my role as an educator. I helped the National Center for Women and Information Technology (NCWIT) and Google curate a set of engaging and inclusive CS education materials. I also discuss this experience in my teaching statement.

Community Building

In my first year at MIT, I served as co-president of the student group for graduate women in computer science and electrical engineering. This student organization builds strong ties amongst the women in the electrical engineering and computer science department at MIT, which I believe supports both happiness and retention. In addition to general community-building, as co-president, I launched a now-annual research summit for women and gender minorities in the department to strengthen their communication skills and to network.

During my co-presidency, news broke that MIT has been accepting donations from Jeffrey Epstein, and accusing many MIT affiliates of various levels of impropriety [2, 3]. MIT women were collectively very sad and disappointed. In response to the scandal and the ensuing vitriol around campus, I organized a listening session, where many of the students and women faculty swapped stories and words of encouragement. I also collected student opinions and proposed many recommendations to the department for improving the climate, from implementing listserv rules of engagement to educating the community about the prevalence of gender harassment in STEM to providing childcare subsidies and placements in MIT's onsite childcare facilities. I hope I never navigate a situation like this ever again, but, if I do, I learned many techniques for mediation and community-building in response to significant adversity. Throughout my subsequent years at MIT, the department leadership often consulted with me about issues related to women and inclusion.

Recruitment

I am eager to recruit more women and underrepresented minorities into STEM. In 2019, I traveled to Puebla, Mexico to teach an introduction to programming to 30 Mexican women. When I worked at Google, I volunteered every Tuesday to support a troupe of Girl Scouts ("The Space Cookies") as a VEX robotics mentor. As President of MIT's Science Policy Initiative, I formed an ongoing collaboration with the University of the District of Columbia (UDC), an HBCU; I invited UDC students to participate in science policy events, including a visit to the Office of Science and Technology Policy in the White House. I have also participated in outreach events. For example, at MIT, I gave a talk to high school students from underrepresented backgrounds. This work is largely selfish, because I find diverse environments to be much more fun.

Advocacy in State, Local, and Federal Governments

In 2018, the National Academies of Sciences, Engineering, and Mathematics (NASEM) released a heartbreaking report detailing commonplace sexual and gender-based harassment of women in the sciences. In response to this report, I traveled to Washington, D. C. to advocate for House Resolution "Combating Sexual Harassment in Science Act of 2019." This resolution directs the NSF to collect data on harassment and discrimination, directs significant funding toward studying this topic, and mandates the development of evidence-based approaches for preventing and mitigating gender-based and sexual harassment. I organized meetings with Congressional offices to advocate for the passage of this act. This provision was ultimately codified into law as part of the CHIPS and Science Act in 2022. I believe that leveraging the legislative system is essential for achieving inclusion and retention in STEM. As I progress in my career, I envisage myself working closely with state, local, and federal government in my pursuit of broadening participation in STEM. To this end, I plan to leverage the network I develop over the coming year working in the U.S. Senate.

A Welcoming Environment

I have benefited from a network of caring mentors, many of whom are women and underrepresented minorities. Over a decade on, I remember Prof. Margo Seltzer counseling me about studying CS *before I was even admitted to college*. I remember Prof. Radhika Nagpal inviting me on her lab retreat when I was just an undergraduate. I strive to emulate the personal warmth and care that my mentors have afforded me, to invest in women and underrepresented minorities the same way Margo, Radhika, and many others invested in me.

Data-Backed Best-Practices in Education

As discussed in my teaching statement as well, one lever for improving the retention of women and underrepresented minorities in STEM is through course design. NCWIT has researched engagement best practices and offered actionable recommendations. Some of these recommendations are complex but many are simple: Release homework scores with the mean and standard deviation to allay women's misbeliefs in their performance; avoid using stereotypes in lectures and problem sets; frame problems in student interests and connect them to practice. I worked for NCWIT and Google to score syllabi and materials from computing classes against these recommendations. The perspective I gained from this experience helps me to use engagement best practices, peer programming, project-based learning, and flipped classroom techniques in my teaching.

A Neglected Issue: Supporting our International Students

International students face significant obstacles during their study: many are unable to return home during their graduate studies and so lack familial support, and there are additional restrictions on how these students work and travel—often preventing participation and networking in workshops, symposia, and conferences. These students are also often pushed to work beyond reasonable expectations. As a community, we must recognize the burdens these students are bearing and build healthy communities and expectations for all students. To support these students, I have traveled to Congress to advocate for immigration reforms.

References

[1] NASEM. Sexual harassment of women: Climate, culture, and consequences in academic sciences, engineering, and medicine. 2018.

[2] Ronan Farrow. How an elite university research center concealed its relationship with Jeffrey Epstein. *The New Yorker*, 2019.

[3] Russell Brandom. AI pioneer accused of having sex with trafficking victim on Jeffrey Epstein's island. *The Verge*, 2019.