

As a female in computer science, I have been heavily involved in the efforts on encouraging equity, diversity, and inclusion. As the saying goes, one generation plants the trees in whose shade another generation rests. I believe that my efforts will have long-term impacts on the culture and climate in the academia.

## Equity, Diversity, and Inclusion Efforts at University of Chicago

**Outreach Efforts** Increasing the number of women and underrepresented minorities entering computer science has long-term societal, cultural, and climate impacts. According to a recent survey <sup>1</sup> conducted by CRA, out of the PhD degrees awarded in computer science in 2020-2021, only 1 in 5 PhD degrees were granted to women, and 1 in 25 PhD degrees were granted to underrepresented minorities including African American, native Hawaiian, and Hispanic. It has never been more important and urgent to improve diversity of the computer science field.

I have personally felt the power that one person can really make an impact on improving diversity in computer science. In 2018, I helped an outreach effort to encourage undergraduate women students to apply for graduate studies at University of Chicago at the Grace Hopper Celebration (GHC). I helped set up a booth at the career fair at GHC for our graduate program, where I presented the portfolio of the department to prospective students and actively encouraged women to apply. I also answered their questions about our program and graduate studies in general. Through our efforts, those who talked to us during GHC would have application fees waived when they apply for our PhD program. One year later, my effort paid off because Ashka Shah, one female undergraduate from Harvey Mudd College I talked to, was admitted to our PhD program and she took the offer ultimately. After she entered our program, I encouraged her to actively participate in the peer mentoring events in the CS department. Now she co-chairs the Graduate Women in CS (GWiCS) organization, which will be described below. This experience was extremely fulfilling to me because I felt empowered to make small changes in the entire community. As a professor, I am committed to participating in and creating more outreach events.

**Leadership in Graduate Student Ministry** <sup>2</sup> I have contributed to improving equity and inclusion through departmental leadership. In 2018, several PhD students and I initiated a grassroots student organization called Graduate Student Ministry, which is the first graduate student organization in the history of CS department at University of Chicago. The mission of the Graduate Student Ministry is to represent PhD students' interests, provide feedback to the department, and get students more directly involved in the department's activities. From 2018 to 2020, I served as the Faculty-Grad Liaison (Prime Minister). I viewed this role as especially important to equity and inclusion because many students can face barriers to speaking up about departmental issues. I was responsible for acting as the primary interface between faculty and graduate students, handling most interactions and concerns between the faculty and graduate students, and being the person to reach out to for miscellaneous concerns not represented by other ministers. I worked to address the following issues: students and faculty not having access to professional Overleaf (now we have it); getting graduate students involved in the faculty recruiting process (only students having lunch with the faculty candidates and then providing feedback via surveys). I worked to organize the departmental events including departmental town halls and other meetings and new PhD students campus visits and orientations. As the student leader for nearly two years, I especially valued the opportunity to learn about student concerns and act as a liaison between students and the department.

**Leadership in Graduate Women in Computer Science (GWiCS)** <sup>3</sup> I have contributed to improving peer mentorship for female students through departmental leadership. From 2018 to 2019, I co-chaired Graduate Women in CS (GWiCS) in the CS Department at University of Chicago. GWiCS is an organization that builds a community of support and advocates for better department-wide dissemination of resources for female-identifying graduate students in the CS department. I helped manage funding and organize monthly social events (e.g., dinner, painting, Karting, board games) that fostered a community of peer mentorship. Our events were attended by 75% of female PhD students. I was delighted to see that the female students had the opportunities to enjoy themselves, especially feel like they belong in the department. I also made efforts to encourage more female students to join the CS department when they received the offer. Through GWiCS, I organized visit days for prospective graduate students, especially women. I organized a breakfast where potential women graduate students could connect with existing students to learn more about the program. Ultimately, at least 70% of the potential women graduate students joining our breakfast chose our program, which is an impressive outcome.

## Future Goals and Plans

As a professor, I plan to get involved with increasing equity, diversity, and inclusion at several different levels.

<sup>1</sup><https://cra.org/wp-content/uploads/2022/05/2021-Taulbee-Survey.pdf>

<sup>2</sup><https://cs.uchicago.edu/academics/phd/graduate-student-leadership/>

<sup>3</sup><https://cs.uchicago.edu/diversity/women-in-computing/>

**Within the research group** I am committed to fostering an inclusive and supportive environment for my research group. First of all, when admitting new graduate students, I will champion students from underrepresented groups, both for my group of advisees and for the department at large. At group meetings, I will regularly ask for opinions from and listen to female and underrepresented students to make sure that they feel included instead of being ignored. This is particularly important for them to keep being passionate about academia activities because female and underrepresented students tend not to speak up due to historical and social reasons. I understand how important feeling secure is, because I also had difficult experience before, especially when I was a junior student who had no idea what the senior students and professors were talking about. Last but not least, I was fortunate enough to attend many wonderful events in women in computing during my PhD, including Grace Hopper Celebration (2018), CRA-WP Grad Cohort (2019), and EECS Rising Stars at UC Berkeley (2020). These would not have happened without the support from my advisors, the department, and the broad communities such as Computing Research Association. As a professor, I will support my students to attend events for women in computing that I attended, but also those I did not attend such as CMD-IT/ACM Richard Tapia Celebration of Diversity in Computing Conference and Grad Cohort Workshop for Inclusion, Diversity, Equity, Accessibility, and Leadership Skills (IDEALS). I will also connect my students to others mentors and peers at the cross-institution level and via different conference programs (e.g., women in computer architecture, women in machine learning) because one person is not enough for good mentoring.

**Within the department and school** I am committed to promoting a positive climate by contributing to policies and practices that support equity, diversity, and inclusion. In the short term, I am interested in representing equity, diversity, and inclusion concerns in the department or school-wide faculty meetings, through which I will be able to bring related issues to the table. In the long term, I am interested in volunteering for chair roles in which I can interact directly with graduate and undergraduate student leadership: e.g., undergraduate program chair, graduate program chair, or EDI chair. Drawing on my experience in leaderships during my PhD, I believe that I will be capable to maintain a welcoming environment, and ensure fairness and inclusion for the department.

**Within the machine learning for systems community** I am committed to developing a long-term plan to increase opportunities at both the undergraduate and graduate level for mentorship and inclusive engagement in the machine learning for systems community. When I attended the Conference on Machine Learning and Systems (MLSys) 2022 in person, I noticed that there were only 5 female paper presenters at the main conference, including myself, despite the fact that there were 51 paper presenters in total. I will do the following to improve this situation. First, I will introduce machine learning for systems to more women and underrepresented minority students so that they can contribute to this field. Second, I will provide financial support and organize mentorship workshops for women and underrepresented minority students for the future MLSys conferences.

**Conclusion** While there are no quick fixes to the problems in equity, diversity, and inclusion, I continue to believe that every small effort matters. Ultimately, it is everyone's responsibility to create a safe, secure, and welcoming environment for our students, be it physically, or emotionally.