

Yang Zhang | Diversity Statement

I value diversity and inclusion in education, computer science, and the wider aspects of our society. As faculty, I want to be the driving force that creates opportunities for women, LGBTQ individuals, people of color, and people of underrepresented linguistic and cultural backgrounds. As an international student who came to America for education, I have been helped by many people not only during my time as a PhD student, but in many other aspects of my life. A significant amount of this assistance came from people who share the same background as myself. As a Chinese student, I was fortunate to have many cohorts who I could look up to and who paved the way for my continued success. At the same time, I understand how it might be challenging for students from underrepresented groups to find the same support systems I had, which is why I have committed myself to creating a learning environment that provides encouragement and personal growth for underrepresented students.

One group whom I seek to help support are women, who have always been underrepresented in Computer Science. According to a recent article in WIRED¹, over 80% of students majoring in CS are male, though more women than men earn college degrees today. In the hope that I can be a force for changing the current situation, I have been actively working with female students at CMU in conducting research on novel interfaces centering around HCI as a subfield of CS. Over the last five years, four out of the six students I have mentored were females. During these mentorships, I created a positive and collaborative research environment through working closely with my students, and my efforts were proven very effective; all of my students successfully finished their research projects – Evi Bernitsas had one paper published at CHI with an Honorable Mention award. Cathy Fang and Fang Qin each had one paper in submission to CHI, and Diana Wang will soon submit a paper to IMWUT. Additionally, I have been providing application advice to students from less privileged and minority groups who were interested in pursuing a PhD in HCI. Many of these students I helped with have been accepted by universities and started their PhD studies.

As faculty, I plan to take an active role in creating a more open and inclusive environment for people from underrepresented groups. Below are four concrete steps which I will follow:

I will encourage students from underrepresented groups to apply to PhD programs and join my lab. Specifically, I will continue to devote time to replying to emails and meeting with students who express interest in working with me. I want to focus more on students who are from underrepresented groups and encourage them to join my lab. I will hire PhD students with no bias against gender, gender identity, color, linguistic or cultural background.

I will open research positions in my lab targeting students from underrepresented groups. For students who are unsure about pursuing a PhD but want to explore research, an internship is a good place to start. I will regularly open internship positions in my lab and actively raise funding from NSF and industry donations to support these students. Due to the interdisciplinary nature of HCI and the wide range of its applications, students will be able to connect their interests with my lab research projects, solving problems that they find the most important, which I believe can promote their interest in CS.

I will host lab visit days for students from geographically and technologically disconnected areas to come and visit. Because visiting a lab is an easier way to gain exposure to research compared with pursuing a PhD or doing internships, visit days will allow me to connect with a broader student group. I plan to team up with nonprofit organizations to arrange such visits, through which I will demonstrate the latest research from my lab. Additionally, I will give introductory lectures to educate students about HCI. I have been preparing for this throughout my PhD study by hosting more than 30 lab visits and demos. I hope that these kinds of exposures will spark students' interest in HCI and lead to their pursuing an education or career in CS and other technology-related fields.

I will work with open source communities to lower barriers to STEM education. Cost has been one major obstacle in STEM education, especially for students and schools that are far away from highly educated hubs or that have limited resources. I have personally benefitted from a wide range of open-source technologies such as *Arduino* and *Processing* and open-source communities such as *Spark Fun* and *Adafruit*, and I believe that open source is an effective way to lower the cost of STEM education. I have made two hardware projects open-source in my PhD research – *Vibrosight* and *Sozu*. As faculty, I will continue pushing in this direction, collaborating with open source communities to further lower the cost of technologies that could potentially result in a more scalable impact on students from around the globe.

¹ WIRED. Women and Minorities in Tech, By the Numbers. <https://www.wired.com/story/computer-science-graduates-diversity/>