

Diversity Statement

Being a woman of color and an immigrant, I can empathize and mentor others with similar struggles. My core values of social justice, service, and integrity have guided me in my life. “Society is unity in diversity” and with this goal, I strive to foster diversity in my outreach, research, teaching, and life.

1. Experiences with Diverse Populations

I am involved with several outreach activities: (i) Vice President of community outreach at the Tulsa North-Eastern Oklahoma Society of Women Engineers (Tulsa SWE); (ii) Vice President of professional development at Tulsa SWE; (iii) mentor at Oklahoman Women in Tech (OKWIT); (iv) volunteer at Clarehouse hospice for the elderly; (v) faculty advisor for SWE at the University of Tulsa (TU); (vi) faculty advisor for the professional society Young Professionals of TU; (vii) faculty advisor for NCWIT at TU, and (viii) member of CRA-W alumni and sisters community. I have mentored, and taught, students from *low socio-economic* status (90%) as well as encouraged them to excel in sports, cultural events, and community activities. I have also attended Grad Cohort workshops for Women and Grace Hopper Celebration of Women in Computing (GHC) with funding from CRA-W and BRAID.

2. Diversity and Equity Efforts

2.1. Broadening Participation Among Under-represented Communities:

Organizing Community Events: To promote STEM to underserved communities, I have organized outreach activities with Tulsa SWE, including: (i) three workshops in Feb. 2021 on “Introduce a Girl to Engineering at Discovery Lab” attended by 20 mothers and daughters and four workshops in Feb. 2020 attended by 60 mothers and daughters; (ii) eleven days of AWE STEM hands-on outreach activities at the Tulsa State Fair in Oct. 2019; (iii) STEM EXPO SWE hands-on activities (Incredible Hoop Glider) in Aug. 2019 for more than 1,000 middle school students; (iv) speed mentorship for university students and professionals; and (v) several career-oriented presentations at elementary, middle, and high schools. I will continue these efforts with a focus on low socio-economic community children.

Acting as a Representative of my Discipline: At TU, I conduct weekly seminars, workshops, and one-on-one meetings through the SWE and NCWIT. I was invited to present at: (i) STEM-Alliance workshops on “What Does a Software Engineer Look Like?” on May 2020; (ii) Whitman Elementary School (with 92% African-Americans) “Career Path of a Professor” on May 2019; (iii) Jenks High School “Career Paths for Engineers”, Sept 2017; and (iv) Jenks Middle School “Career Path as a Woman Software Engineer”, Oct 2017. In the future, I will continue these efforts.

Recruiting STEM Ambassadors: My focused approach to improve recruitment in STEM areas involves encouraging university students to act as ambassadors to discuss their awe and excitement about their major with high school students. For example, in Fall 2019 my team of five women students representing different engineering disciplines talked at Jenks High School about their career, motivations, challenges, and excitement within their discipline. I found it was beneficial to both university and high school students. The university students are benefited as it helps increase their confidence, presentation skills, and being role models for young children in their community, breaking the stereotype that engineering is just for men. The school students are benefited as they are introduced to a range of engineering disciplines. In the future, I will recruit more STEM ambassadors and organize workshops to introduce school teachers from low socio-economic areas to programming, to increase computer literacy.

2.2. Supporting Diversity Through Research:

Developing Educational Tools: I have created theories, and tools to support problem-solving, exploratory programming, and debugging for end-user and novice programmers. My current research on conversational agents is designed to change how programming is learned and how programming is done. I will make these tools open-source to ensure reproducibility and accessibility.

Developing Gender-Inclusive Software: Based on my experiences with GenderHCI research, there is a difference between mens' and womens' motivations, styles of processing information, computer self-efficacy, risk aversion, or interest in exploring/tinkering. Hence, I design gender-inclusive software by following the GenderMag method. Further, my own research [14, 15] has found significant differences in leadership styles, interruption styles, communication styles, and trust between same- and mixed-gender pairs. I will continue developing methods, theories, and software tools that are inclusive.

2.3. Bringing Diversity Through Teaching and Mentoring:

I strengthen my teaching paradigm by utilizing NCWIT resources (<https://ncwit.org/resources/>) regularly to increase the recruitment and retention of under-represented communities.

Recognizing Strength of Diverse Teams: For computer science, beyond programming, students need to learn to work with diverse teams and utilize proper communication skills. With this knowledge, I create student project teams of different skill-sets, gender, and ethnic groups. For example, I try to include (without revealing to the students) at least one woman and differing ethnic group students in each team. It encourages students to respect peers with different perspectives, focuses on learning from each other, and empathizing. The students are also asked to report their team's strengths and reflect on what they learned through teamwork. In the future, I will continue my efforts to encourage students to embrace the diversity of their team members for the success of the project.

Integrating Diversity Education in my Curriculum: In my classes, I encourage students to (i) create software for diverse populations by showing them real-life examples, research, and software tools, (ii) introduce students to cultural differences when engaged in collaborative software projects, and (iii) teach gender-inclusive methods such as GenderMag. In the future, I would like to include more examples from research related to gender HCI and the cultural diversity of distributed software teams.

Being an Empathetic Mentor: As a member of an underrepresented population, I can empathize and motivate others to pursue a career in STEM. During my first GHC (in 2013), listening to the experiences of the Guest Speaker Sheryl Sandberg (COO of Facebook), and other women professionals, made me realize that the challenges I thought were unique to me were universal to women in tech. My own experiences and challenges have helped me mentor fellow women students who are in grad school or are considering a career in STEM-related areas. I have supported ten women, three Hispanic, and sixteen Asian students through my research. In 2018, I was a finalist for the University of Tulsa Women and Gender Studies Program's Linda J. Lacey Award for Mentoring Excellence. For honing my mentoring skills, I will continue attending the NCWIT conferences and workshops on diversity and equity.

3. Summary

I have used innovative approaches in my research, education, and outreach activities. By continuing to amplify these efforts for local school and university students, *I will make a difference!*