Diversity Statement

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I believe that the scientific community should embrace diversity, equity, and inclusion (EDI) to support individuals from all backgrounds. This diversity provides equal opportunities, fosters innovation, and enables meaningful contributions to society. Throughout my graduate studies, I have benefitted from working with diverse groups. To promote EDI, I have contributed in three key ways during my PhD: mentoring a diverse group of students at PSU and globally, creating an inclusive teaching environment that encourages collaboration and personalized guidance, and actively participating in outreach activities to support underrepresented community members.

Teaching During my teaching of four undergraduate-level courses, I noticed that students had diverse needs based on their backgrounds. To foster an inclusive environment, I adapted my teaching approach to support all learners. For example, while serving as a teaching assistant for COP 3502C, one student struggled with her first two assignments. I learned that she was a first-generation student with no prior computer science background, but was highly motivated to take the class to improve her future career prospects. I recognized that this situation was not unique, as many students come from varying levels of exposure to engineering education before university. To address this, I adjusted the assignment difficulty by moving some challenging questions to bonus sections and adding simpler and medium-level questions to better suit the diverse student base. Additionally, I offered **personalized training** such as extra support during office hours, explaining difficult coding problems and recommending relevant textbooks. As a result, this student, along with others facing similar challenges, performed well on the final exam. Many students later shared that they felt more confident in applying their knowledge, and were able to absorb the lecture material more effectively through this personalized approach. Moreover, I **encourage collaborative learning** in project design, ensuring that underrepresented students were actively engaged. I assigned students to diverse groups for various assignments, encouraging them to collaborate and exchange ideas. I found that students from minority backgrounds often thrived more when they took on active roles as practitioners and leaders, rather than remaining passive listeners. Moving forward, I plan to continue these efforts and explore new strategies to further support diversity and inclusivity in the classroom.

Research and Mentoring I have consistently provided personalized and frequent guidance to junior students in CS research and education. Throughout my PhD, I mentored two female students, one Hispanic, and all of them were first-generation college students. This experience deepened my understanding of the challenges these students face in our field. To support their growth, I personalized mentoring strategies that aligned with their strengths. For example, some excelled in solving problems through mathematical derivations, while others were more interested in industry-oriented research. I developed **individualized plans** and tailored research projects to match their skills. Throughout the process, I actively listened to their feedback, worked closely with them to overcome obstacles, and shared my own experiences. I also consistently encouraged them, reinforcing my belief in their potential to succeed in the field. Additionally, I **encourage interdisciplinary collaboration**. As a researcher in machine learning and healthcare, I have had the opportunity to work with experts from diverse fields such as NLP, ML, data mining, and medicine. These collaborations have greatly enriched my research. For example, in my survey on machine learning for heterogeneous EHR data, I made sure to include contributions from a diverse group of experts across these disciplines, ensuring a well-rounded and comprehensive approach to the topic. Meanwhile, Ethics in healthcare is a central focus of my research. In my recent work, I found that real-world EHR data often exhibit strong correlations with factors such as geographical location and gender, which present ethical challenges in healthcare applications. **My research aims to develop AI solutions that are ethically grounded and socially contextualized**, ensuring fairness, equity, and sensitivity to the diverse needs of different populations.

Outreach Activities I served as a panelist at the 1st Annual IST Alumni Symposium at PSU, where we discussed AI technologies, career opportunities, and the challenges faced by IST students, especially those from underrepresented backgrounds. As a female researcher and a first-generation college student, I am particularly passionate about supporting others who face similar barriers. Alongside my co-chairs, I **organized social events and distributed information on resources and opportunities** for graduate students, with a specific focus on promoting diversity and inclusion in the academic and professional spheres. My efforts aim to inspire and empower students from diverse backgrounds, ensuring they have the tools and support necessary to succeed in the field of AI and beyond. In addition to my outreach efforts, I actively engage in academic activities to **promote female leadership** in STEM. For example, encouraged by my advisor, I had the honor of serving as a session chair at the SDM 2023 conference. I take pride in being a vocal role model, actively supporting and empowering my mentees to aspire toward leadership positions. This is not only about representation but also about creating a supportive network where women feel confident and equipped to lead in their respective fields.

Future Plans In the future, I envision myself to continue working towards improving the diversity of the community as a faculty member, with special attention to the following aspects:

- **Recruiting, collaborating with, and supporting students from diverse backgrounds**. I believe that a research community composed of individuals from diverse backgrounds is better positioned to advance science in ways that benefit all members of society. I will actively encourage students, particularly those from traditionally underrepresented groups, to apply to graduate

schools and join my lab. As a faculty member, I will cultivate an inclusive and supportive environment within my group, department, and institution, valuing diverse perspectives and experiences. I will actively engage with women and minority groups, offering both academic and emotional support through mentorship, group meetings, and outreach activities.

- I believe modern computing techniques should be fair, general, and capable of serving everyone. **My research focuses on creating AI solutions that are ethically grounded and socially contextualized, ensuring fairness, equity, and sensitivity to the diverse needs of different communities.** More broadly, I will contribute to DEI committees, develop programs to increase access to undergraduate research, pursue funding from initiatives such as NSF REU and NSF BPC, and advocate for fairness and ethics in machine learning applications for healthcare.
- **I will actively engage in outreach activities, promoting the leadership of underrepresented groups**, including first-generation college students and women, while encouraging students from my research lab and department to cultivate leadership skills and build confidence. Throughout, I will continue to expand my teaching and mentoring efforts while fostering an environment of equity, diversity, and inclusion.