Diversity Statement

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I am committed to fostering diversity, equity, and inclusion in my professional and personal life. As a computer science researcher and educator, I am responsible for using my position to champion underrepresented groups and facilitate an environment that respects and values all individuals. In the following sections, I will describe my past experiences, ongoing efforts, and future plans in different areas.

1 Mentorship: Fostering Diversity in Computer Science

I am dedicated to promoting diversity in computer science research and education. I believe that my commitment will not only help students from underrepresented groups to pursue careers in computer science, a field traditionally dominated by non-underrepresented groups, but also ensure a broader range of voices heard and unique ideas valued within the community. This belief drives me to seek additional opportunities to mentor undergraduate and graduate students from underrepresented groups, contributing to their success. Simultaneously, these mentorship experiences allow me to learn from them and refine my mentoring and teaching methodologies.

For instance, I am currently mentoring and collaborating with a female graduate student. I have been mindful to ensure that our collaboration is not merely a top-down process but a reciprocal exchange of ideas and knowledge. Her unique insights and perspectives have not only provided an innovative approach to a research challenge but have also influenced my views on the research project. This collaboration has resulted in a promising research project, which we are preparing to submit to an upcoming conference. I hope my mentorship and collaboration will contribute to her professional development and growth as a researcher.

Looking ahead, I will continue and broaden my efforts to foster diversity in computer science. I aim to contribute to mentoring programs such as the Programming Language Mentoring Workshop (PLMW) and the SIGPLAN Long-Term Mentoring Committee (SIGPLAN-M), focusing on underrepresented students and providing them with the resources and support they need. I will engage in outreach programs to local high schools and universities to inspire students from underrepresented groups to pursue undergraduate and graduate studies in computer science. I will make concerted efforts to encourage participation from underrepresented groups in my research and let their unique perspectives and backgrounds shine. I am always open to dialogue with students and colleagues who feel marginalized, and I am committed to providing them with a safe and supportive environment where they can voice their thoughts and concerns.

2 Service: Supporting International Students

In my experience, international students often face unique challenges related to their citizenship status, such as obtaining the necessary documentation to work in the United States. These challenges can be stressful and confusing, particularly for students unfamiliar with the process and requirements. To address this issue, I have taken proactive steps to support international students in the CS Department at UW Madison. In 2021, I encountered difficulties requesting my Curricular Practical Training (CPT) for a summer internship. The letter from my employer, while following a standard template, did not meet the specific requirements of our department. This problem also affected several other students, as we had to request new letters from our employers and potentially postpone our internships. Recognizing the need for clearer guidance, I created a detailed tutorial outlining the CPT process, highlighting important

points, and addressing department-specific requirements. My tutorial has assisted many students and prompted our department to create an official tutorial a year later.

The first few days of arriving in a foreign country are going to be difficult for most of the international students. I clearly remember feeling overwhelmed on my first day after a twenty-hour flight and a four-hour shuttle trip. Fortunately, I had signed up with Madison International Partners and got help from a kind volunteer. He drove me home from the shuttle station and helped me move a queen mattress from the mailing room to my apartment. I was deeply moved by his kindness and felt a sense of belonging, despite being far away from my family and friends.

Moving forward, I plan to continue supporting students from diverse backgrounds and cultures, striving to identify and address other challenges these students may face, and advocating for departmental policies and resources to assist them. For instance, many international students, despite their proficiency in English, may still need help with colloquial language. They might feel isolated or misunderstood in both social and academic settings. In addition to offering additional English language support, such as tutoring or writing workshops, I, as a lecturer, will use clear and straightforward language in my lectures and provide written materials that students can review at their own pace. I will volunteer and participate in events hosted by local organizations to help international students. For example, I plan to voluntarily offer pick-up service from local airports upon their first arrival and celebrate foreign festivals for students coming from different countries.

3 Research: Ensuring Fairness of Artificial Intelligence

In my research, I am committed to ensuring that artificial intelligence (AI) is fair for underrepresented groups. AI models often exhibit bias due to historically biased data points in the training data. This historical data often reflects the privileges majority groups enjoy, thus passing these biases to AI models. However, even with high-quality and unbiased data, AI models can still exhibit bias towards certain groups.

I plan to expand my research to promote fairness in AI for underrepresented groups. For example, my research on certified defense against data poisoning attacks offers a potential solution to ensure the fairness of the model training process. Specifically, we can study how the trained model's prediction would change if the data points from a specific group are insufficient. From another perspective, my research on certifying the robustness of models offers a potential solution to ensure that model predictions are equitable to all groups. Concretely, we can encode fairness into formal specifications and use neural network verification techniques to verify the fairness property. Moreover, we can design training methods for neural networks to improve their fairness with respect to a formal specification. Beyond my current research scope, I am always eager to ensure fairness in emerging and challenging tasks that can make positive and direct impacts on societal fairness. I hope that these research directions not only explore the frontier of AI but also attract students who care about the societal impact of technology and inspire them to make an impact in academia.