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Diversity Statement

Personal Statement: I am committed to improving diversity and inclusion through research, teaching, and service. The definition of diversity itself is very diverse, and it can have a variety of forms depending on the criterion. For example, a diverse group may be considered people of different ethnicities, nationalities, or cultural backgrounds. It can also be considered people with different academic backgrounds, such as disciplines, research fields within disciplines, etc. Among all these angles of diversity, I believe that, from an educational perspective, one of the most important things is to promote the equity of individuals so that they have an equal chance of choosing a discipline, participating in courses or events, speaking out about their opinions, accessing resources, etc. I firmly believe that a diverse and equal-chance community helps promote creativity, productivity, happiness, and sustainability. For example, in science, solving a challenging and important problem often requires the research community to try out various potential methods before success. This is extremely difficult without encouraging different thoughts and opinions from diverse groups of researchers. If the majority closes the door to keep out "outlier" ideas, it can quickly turn into the "Echo Chamber Effect" [1], which significantly limits creativity and reduces the chance of revolutionary discoveries. Many major turning points in science were made possible by being inclusive. In the 19th century, the miasma theory, which states that disease only spreads through air, was the dominating theory believed by most scientists. However, during the 1854 London cholera outbreak, Dr. John Snow found a disease cluster spatially centered at the Broad Street water pump [2]. He believed that cholera was spreading through water instead of air. This was an "outlier" finding that contradicted the mainstream miasma theory. Luckily, the government was inclusive enough to take his advice and closed the Broad Street water pump, ending the outbreak and saving millions of lives. The scientific community was also inclusive in letting this finding develop, which eventually led to germ theory, a fundamental theory in modern science. The same importance also applies to our daily research. To improve the creativity and integrity of our work, we should try to broaden our view by discussing with people with diverse backgrounds, which often triggers new thoughts and helps identify missing components.

Personal Experience: Broadly, I have been dedicated to promoting diversity on campus throughout my Ph.D. study. I have worked with and made friends with people from over 20 countries in different geographic regions, from Africa and America to Asia, Europe, and the Middle East. I enjoy the diverse community around me, which allows me to interact with and learn from different, engaging, and inspiring people. This is another great motivation for me to help increase inclusiveness. As a teaching assistant for over 350 students across four courses, I always pay attention to avoid various types of bias. I use country-neutral and gender-neutral language when talking to students or giving guest lectures. When I give real-world examples to motivate course concepts, I always try to think about different examples that appeal to students from different countries or research fields. In addition, many students in computer science courses come from other disciplines. To reduce their anxiety in taking a course outside their major field, I often empathize with their situations and provide intuitive examples to illustrate basic concepts that can help them and other students understand. I also like to get a show of hands before introducing a key concept to check the students' familiarity with it and adjust my tempo dynamically. I find this a helpful strategy to engage students with diverse backgrounds and make them more comfortable in class. Over the last three years, I have mentored high school students, and I am very proud to see that they have developed a strong interest in computer science and have chosen it as their undergraduate major.

Future Plans: Overall, diversity, inclusiveness, and equity have been quite important aspects of my life as a Ph.D. student, and I will strive towards an inclusive academic environment for all segments of society, with diversity in gender, culture, socio-economic background, and learning abilities. In all my teaching, I will educate students on algorithmic bias and its adverse effects on society. I also plan to interact with teachers/students at local high and middle school levels with significantly underrepresented populations to motivate them to choose computing for their career advancement. I will regularly conduct programming workshops at local schools to make programming accessible to all and remove inhibition from students' minds, which will lead to the high enrollment of students from diverse backgrounds. Finally, when recruiting students, I will strive for equity. I will use group discussions and activities to help students learn to accept and appreciate diversity to foster the university's commitment to diversity, equity, and inclusion.

References

[1] Echo chamber effect. https://en.wikipedia.org/wiki/Echo_chamber_(media)
[2] 1854 Broad Street cholera outbreak. https://en.wikipedia.org/wiki/1854_Broad_Street_cholera_outbreak
[3] NSF S&CC grant. https://www.nsf.gov/awardsearch/showAward?AWD_ID=1737633&HistoricalAwards=false