Diversity Statement
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I come from a small town in southern China, where diversity is not a salient social issue that people discuss. However, my international education has blessed me with the opportunity to work with people from various backgrounds and cultures. Over the past few years, we have witnessed many challenges to our diverse working environment, including the Trump travel bans, George Floyd’s death, and hate crimes against Asians during the pandemic. I have friends and co-workers whose lives were profoundly impacted by those challenges. It was then that I realized we should not take for granted an academic environment with opportunities for people from all backgrounds to succeed. Instead, it is something we should strive for in our research, teaching, and service.

As an AI researcher, my research has directly contributed to fairness and diversity in intelligent decision-making systems. These systems make critical decisions about people, e.g., hiring, loan approval, and college admission. However, they are developed using historical datasets, which inevitably contain biases against underrepresented groups. As a result, the systems perpetuate existing biases and learn discriminative behaviors, e.g., face detectors make much more errors on people with darker skin. My research addresses this issue by analyzing and fixing existing datasets. It reveals problems such as imbalanced demographic distribution, and proposes constructive solutions for mitigating them and moving towards more inclusive data-collection practices in the future.

As a teacher, I strive to provide a learning environment where students from all backgrounds achieve their full potentials. I’m aware that underrepresented students may face barriers in accessing mentoring and learning resources. And I would be happy to mentor and support them. In addition, some students may have difficulties getting the personal or religious accommodations that they need. In this case, it is important to provide multiple paths for the students to navigate through the course requirements. In a class I taught last year, we provided as many options as we could (time slots for office hours, alternative arrangements for exams, etc.) to help students succeed in the class under various constraints they may have during the pandemic.

Besides underrepresented demographic groups, we should also not forget students from non-traditional computer science backgrounds, whose number grows rapidly due to surging demands for software engineers. For these students, effective and inclusive teaching must adapt to different preparation levels and learning goals. I served as the head TA for the Data Structures and Algorithms course at Tsinghua University, a massive online course with ~400K students of diverse backgrounds—most of them had never attended computer science programs. This brought the challenge of how to design the assessment (problem sets, programming assignments, etc.) that fits all. My solution was to have multiple options for students to get credits with varying degrees of difficulty. Therefore, students could choose which path to go based on their own goals and preparation level. As a result, our course had the highest student retention rate among courses on the same online platform.

Despite significant progress, there is still a gap between our diversity goals and the current status in computer science academia. The gap is due to a complex interplay of numerous factors, including women being pushed away from STEM in early education, and information access barriers faced by people of low socioeconomic status. To bridge the gap, we need to increase diversity in almost all aspects, including faculty hiring, students admission, and pre-college education. I helped review applications to the Princeton AI4ALL program, which aims to promote high school students from underrepresented groups to work on AI. And I believe the program is a positive attempt to address our diversity problems from the upstream.

In the future, I will keep committing to advancing diversity, equity, and inclusion both in computer science and beyond. There are still many things to work on to make computer science research accessible to disadvantaged groups, e.g., increasing access to mentoring opportunities and mitigating implicit bias in hiring/admission.

[^1]: http://gendershades.org/