
Diversity Statement

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In my opinion, the highest quality of academic achievement is more readily achieved in diverse communities, where all voices are heard, and all students have equitable opportunities to succeed. Yet while promoting diversity is a goal that many share, achieving it is often difficult. Even further, having a more diverse faculty or student body does not necessarily ensure a culture of inclusion and equity where everyone feels like they belong. Based upon my experiences, I believe addressing inclusivity and equity upfront can lead to a diverse environment within both academia and the community.

1 Teaching and Research

When I was assigned to teach a computer science course, it was discouraging to inherit a curriculum whose audience historically consisted of primarily male, tech-oriented students. In order to attract a more heterogeneous group of students, I restructured the curriculum to emphasize developing ideas to solve problems, rather than focusing on learning a particular language, since problem solving is a skill that is applicable across disciplines.

As a result, the class size steadily increased each year, growing from an initial size of 8 to 16+ students. Additionally, 63% of the students, on average, were female, and there was a consistent increase in the enrollment of non-STEM students. The specific steps taken to restructure this course, along with additional illustrations on how I create a more inclusive and accessible learning environment, are discussed in my teaching statement.

With regards to research, network science is an interdisciplinary area that draws on disciplines such as mathematics, physics, computer science, and biology. To that end, my research program will promote diversity and inclusion by working with undergraduate students with different backgrounds and majors, and leveraging their preparation in core courses (e.g., linear algebra and statistics). The details of potential projects for undergraduate collaboration are discussed in my research statement.

2 Outreach

Diversity, inclusivity, and equity in mathematics should be promoted within both academia and the community. Consequently, I have actively worked to encourage underrepresented minorities outside of the classroom. As a high school mathematics teacher, I helped recruit a number of female students for two-week summer programming courses. As the advisor to the school's math club, I helped foster students' enthusiasm for mathematics by arranging for their participation in numerous competitions and promoting club-sponsored activities for the student body.

Presently, I volunteer with the Tucson Math Circle, a program aimed at teaching secondary school students about mathematical concepts not found within the standard curriculum. The students attending the Math Circle have a variety of backgrounds in terms of age, race, ethnicity, gender, and socio-economic status. As mentioned in my teaching statement, I would like to continue my involvement with the local Math Circle; if one does not currently exist, I would be interested in starting one.

3 Mentoring

As a Hispanic woman in mathematics, I have been fortunate to grow in supportive environments with strong female mentors. Unfortunately, the resources and opportunities made available to me are ones not shared by many women and underrepresented groups in mathematics. To that end, I am committed to cultivating welcoming environments and a culture of support.

While I have experience with advising undergraduate students in teaching and research, this year I became involved with the Women in Science and Engineering (WISE), a program designed to increase interest and diversity in STEM at the University of Arizona. Having been matched with an undergraduate student, I aim to advance the professional development of my mentee by providing advice on aspects related to their mathematical career, such as research, coursework, and maintaining a healthy work-life balance. I would like to continue to serve in positions that promote a culture of mentorship.

4 Conclusion

Along with the successful strategies I currently use, I am committed to staying informed of the best practices to advance diversity, equity, and inclusion. Accordingly, I will continue to look for opportunities that promote diversity, foster relationships, and recruit underrepresented students.