Xiaomin Lin | Diversity Statement

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Growing up in a farming family, I developed an early appreciation for the values of equality, fairness, and mutual support. My father, who was the first in our family to attend a professional high school and eventually move to the city, instilled in me a firm belief in treating everyone with respect, regardless of wealth or social status. In our rural community, success was a collective endeavor, built on hard work and mutual respect. These early experiences fostered a deep commitment in me to create environments where all individuals, regardless of background, can thrive and contribute meaningfully. This commitment guides my approach to research, teaching, and service, with a focus on building inclusive pathways and broadening access to opportunities in engineering.

Teaching and Mentorship to Empower Underrepresented Students

As an instructor for AI4ALL[1], a summer residential program at the University of Maryland in collaboration with the Iribe Initiative for Inclusion and Diversity in Computing, I had the privilege of introducing artificial intelligence to underrepresented 9th to 11th graders. Through hands-on AI projects, mentorship by AI researchers, and career exploration activities, I witnessed how accessible and inclusive programming builds students' confidence and expands their vision of what they can achieve. I am committed to making advanced technologies accessible to students who have traditionally been excluded from these fields, empowering them to see themselves as future contributors to engineering and technology.

Additionally, I mentor the Robotics at Maryland (R@M) club[2], where over 30% of the 100+ members come from underrepresented backgrounds, often with limited access to advanced resources like underwater robots. My approach to mentorship emphasizes creating a safe and supportive environment that encourages students to experiment and push the boundaries of their knowledge. Through these experiences, I am reminded of the impact of inclusive educational spaces that promote exploration and growth.

In my academic career, I have also mentored eight undergraduate capstone projects, involving over 28 teams, with more than 40% of students from underrepresented backgrounds. Furthermore, I have guided over 30 undergraduate and graduate students, including 10 from underrepresented communities. My mentorship is grounded in personalized support, ensuring that each student has the resources they need to overcome personal and academic challenges. I strive to cultivate an environment where all students feel empowered to succeed, regardless of their starting point, and are encouraged to contribute their unique perspectives to our collective learning.

Research to Broaden Access to Advanced Engineering Fields

My research focuses on democratizing access to marine robotics through the development of cost-effective, open-source tools and methods[3]–[8]. By designing accessible, high-impact technologies, I aim to reduce the need for expensive equipment and large datasets, empowering researchers from underfunded regions to participate in cutting-edge scientific work. My goal is to bridge the resource gap that limits scientific contributions from underrepresented communities, fostering a more equitable landscape for engineering innovation.

The COVID-19 pandemic reinforced the importance of empathy and flexibility in mentorship. Many of my students, especially those from underserved communities, faced significant challenges during the shift to remote learning. In response, I adapted my mentoring style to offer more frequent and personalized support, ensuring no student was left behind. This experience strengthened my resolve to build resilience and adaptability into my teaching and research

practices, recognizing the diverse needs of students and colleagues.

Commitment to Inclusive Future in Engineering and Outreach

Looking ahead, I am dedicated to advancing equity, justice, and inclusion in all facets of my work. I plan to actively recruit students from underrepresented groups into my lab and to create a research culture that values and prioritizes diverse perspectives. Through targeted outreach, such as collaborations with AI4ALL and support for inclusive clubs like R@M, I aim to encourage more students from diverse backgrounds to pursue careers in engineering. I believe that diversity strengthens scientific innovation and that a more inclusive engineering community will result in more equitable solutions to societal challenges.

References

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