

# You (Neil) Zhang | Diversity, Equity, and Inclusion Statement

In my academic and professional journey, I have been committed to fostering inclusive environments where everyone can thrive. My aim is to create a welcoming, supportive, and equitable atmosphere in my lab while contributing to similar initiatives within the department and university. I strive to recognize, respect, and value differences across gender, age, religion, ethnicity, race, abilities, sexual orientation, and socioeconomic background. Inclusivity goes beyond representation; it involves removing barriers to participation and ensuring diverse voices are valued in research, teaching, and service. Below, I outline my contributions to these efforts and my future commitments to advancing diversity, equity, and inclusion (DEI).

## Experience in Promoting DEI Practices

### *Service and Outreach*

**DEI committee service.** As a graduate student representative on our ECE department's DEI committee during the 2022–2023 academic year, I contributed to advancing DEI initiatives within the department. At the start of the academic year, we reviewed and updated the department's DEI mission statement. Recognizing the importance of celebrating the history, culture, and contributions of underrepresented groups, we organized a series of events throughout the two semesters.

For Black History Month in February and Asian American and Pacific Islander Heritage Month in May, we hosted engaging panel discussions featuring invited faculty and students, showcasing the achievements and perspectives of underrepresented communities. During Women's History Month in March, we utilized the department's social media platforms to highlight the contributions of influential women in ECE, promoting awareness and recognition. Additionally, in December, we fostered community building by hosting a holiday luncheon and a watch party for the FIFA World Cup Qatar 2022 final between Argentina and France, creating a welcoming and inclusive space for students to connect and celebrate together.

**Community service and outreach.** In 2021, I completed my training in the University of Rochester Safe Space Program<sup>1</sup>, which equips individuals to create inclusive environments for people of all gender identities, expressions, and sexual orientations. The program includes two courses: Gaining Knowledge, covering LGBTQ+ basics, and Creating Safety, focusing on practical strategies to reduce bias and foster inclusivity by addressing homophobia, transphobia, and sexism.

In 2022 and 2023, I co-chaired the Western New York AR/VR Mini-Conference, a satellite event held alongside our University Technology Showcase<sup>2</sup>. Besides organizing the event, we invited speakers from diverse fields—acoustics, optics, design, and education—to share insights on AR/VR advancements and applications and exchange ideas with students. As part of this, I invited two audio experts: Jim Poore, CEO and co-founder of Immersitech, in 2022, and Anton Jeran Ratnarajah, a PhD candidate at the University of Maryland specializing in room acoustics for virtual reality, in 2023.

### *Teaching and Mentoring*

**Teaching students from diverse backgrounds.** As a graduate teaching assistant for the Selected Topics in AR/VR course, I was able to work with students from different academic backgrounds (education, nursing, and engineering), many of whom had limited experience with programming. In the computer audition module of this course, I took the lead in designing homework assignments and delivering a guest lecture. Introducing high-level concepts such as spatial audio rendering with head-related transfer functions to such a diverse cohort was a valuable learning experience for me. It required adaptability and a flexible teaching approach to ensure the material was accessible and engaging. To support the students, I created structured skeleton code in Jupyter Notebooks to serve as a launchpad for their assignments. Additionally, I held dedicated office hours specifically for students with limited coding experience. These efforts provided students with the necessary tools and guidance to gain confidence, complete their projects successfully, and take pride in the outcomes of their work.

**Mentoring women students in STEM.** Throughout my PhD, I have actively supported students in developing their research and professional skills, with a particular focus on helping underrepresented students navigate the academic landscape. I have mentored nine students from diverse backgrounds and disciplines, including Audio and Music Engineering, Computer Science, and Data Science. Among them, four were women, and I supported them to excel in AI research where women re-

<sup>1</sup><https://www.rochester.edu/diversity/faculty-staff/lgbtq-safe-space/>

<sup>2</sup><https://www.rochester.edu/augmented-virtual-reality/news-events/conference/2022.html>

main underrepresented. For instance, during Summer 2022, I mentored Siwen Ding, a female Data Science master's student with a general interest in audio but limited AI research experience. Through weekly meetings, I provided her with technical guidance and constructive feedback. Her dedication culminated in her first authoring and presenting a paper with me at ICASSP 2023 [1]. Similarly, in Summer 2021, I mentored Xinhui Chen, a CS student, who successfully published her research [2] at the ISCA ASVspoof Workshop under my guidance. The impact of these efforts is reflected in the achievements of these women mentees, three of whom have progressed to prestigious PhD programs at NYU, Lehigh University, and UL Lafayette. These outcomes highlight the transformative potential of mentorship in creating opportunities, building confidence, and advancing the representation of women in STEM. I am deeply committed to mentorship as a tool to empower underrepresented groups, ensuring they receive the support and opportunities needed to excel in competitive fields.

### *Research and Collaboration*

**Inclusive research.** My audio AI research emphasizes inclusion by focusing on multilingual and diverse audio sources and addressing the needs of marginalized users. In the SingFake project [3], I co-initiated research on singing voice deepfake detection (SVDD), identifying AI-generated singers on video platforms. We created the SingFake dataset, incorporating languages such as English, Mandarin, Japanese, Spanish, and Persian to represent diverse and underrepresented musical contexts. Our findings revealed challenges in detecting deepfakes across varied musical styles. Building on this work, we expanded the dataset with additional languages and genres, including K-pop, and launched the inaugural SVDD challenge [4]. Beyond SVDD, I contribute to accessible audio technologies for diverse user groups, such as individuals with cognitive impairments. Collaborating with the University of Rochester Medical Center (URMC), I developed a speech-based system to track daily spoken words for early Alzheimer's detection [5]. These initiatives have deepened my understanding of the barriers faced by communities with non-dominant languages and cultures in accessing technological advancements.

**Open science for all.** I am a strong advocate for open science and ensure that all my research and code are accessible to the broader academic community, enabling others to build upon and engage with my work. This has been very proud moment as I see the follow-up works got impressed by the community. For instance, my initial work on HRTF modeling with neural fields [6], published in ICASSP 2023, was extended by researchers from Mitsubishi Electric Research Laboratories (MERL), who published a follow-up paper at ICASSP 2024 [7]. Remarkably, their adaptation of my HRTF upsampling methods secured first place in the LAP Challenge<sup>3</sup>, a testament to the collaborative nature of open science.

### **Future Plans for Advancing DEI**

**Fostering Inclusive Learning and Mentorship.** As a future professor, I plan to use inclusive teaching methods by designing accessible materials, applying student-centered pedagogies, and integrating discussions about technology's societal implications. To make knowledge widely available, I will develop public course resources. In mentorship, I aim to recruit and support underrepresented students while fostering a lab culture that prioritizes diversity and well-being through group meetings, team-building activities, and personalized guidance. Additionally, I intend to pursue funding opportunities such as NSF BPC, NSF REU, and NCWIT Aspirations in Computing to create more undergraduate research opportunities.

**Promoting Ethical AI and Inclusive Research.** I am dedicated to conducting inclusive, ethical research that benefits underrepresented groups and addresses equity challenges. This includes creating diverse datasets and benchmarks to reduce biases in technology. I will also promote accountability and inclusivity in audio signal processing by organizing panels, serving on diversity-focused committees, and highlighting underrepresented contributions in conferences and publications.

**Expanding Outreach and Community Engagement.** I will develop outreach programs to share my lab's research with underserved communities, aiming to increase access to STEM fields for underrepresented groups. These programs will include workshops, community outreach, and internships designed to lower entry barriers to audio signal processing and machine learning. Through these efforts, I aspire to inspire and empower culturally diverse future researchers and engineers.

**Advancing DEI Leadership and Institutional Impact.** I aspire to take on leadership roles to advance institutional diversity, equity, and inclusion goals. This includes serving on university and departmental DEI committees, creating initiatives to expand access to research and mentorship, and cultivating an academic culture that celebrates diversity. Through these efforts, I will amplify marginalized voices and ensure DEI remains a core value across teaching, research, and service.

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<sup>3</sup><https://www.sonicom.eu/the-winners-of-the-sonicom-lap-challenge/>

## References

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