

## *Diversity, Equity & Inclusion Statement*

In this statement, I first discuss my early contributions as a teacher, social worker, and researcher, which have shaped my thinking about diversity, equity, and inclusion (DEI) issues. Then, I explain my recent steps to promote DEI through summer research mentoring.

### █ Contributions to equity as a teacher and social worker

After graduating college, I was motivated by a desire to address broad societal inequities, so I chose to pursue direct service. I served as a Fulbright English teacher in rural Indonesia, where I taught high schoolers from low-income backgrounds, many of whom lacked access to textbooks. The next year, I worked as an AmeriCorps member in a homeless shelter, where I was a social worker and taught computer skills to homeless residents.

Because of these two years working in direct service, I realized that the world is not a fair place. Our experiences are shaped by our socioeconomic status, access to educational opportunities, gender, and mental illness status, among other factors. Moreover, I realized that people around me are experiencing difficulties that are not obvious and only become apparent through repeated interactions. Shaped by these early experiences, I strive to be mindful of disparities, thoughtful about the lives of others, and compassionate in my interactions.

### █ Contributions to equity through research

I later transitioned from working in direct service to working as a researcher. Yet, I continued to promote equity through my work. I volunteered as a statistical researcher at the *Thirty Million Words Initiative*, an organization devoted to improving language skills of children from low-income families. In my role as volunteer research consultant, I contributed statistical analyses that assessed the effectiveness of various programs for improving child language skills [Sus+16; Gra+17; Sus+18a; He+22]. I also contributed a new survey that measures the knowledge and expectations of caregivers of young children [Sus+18b]. Through my research, I found that educational programs can increase reading and other language enrichment activities in the household, but these programs must be well-designed and consistently executed in order to guarantee success. This research underscores the necessity and also the difficulty of promoting societal change.

My service to the Thirty Million Words Initiative gave me a sense of satisfaction, because my mathematical skills were serving an important social mission. At the same time, I was improving my knowledge of statistics and finding interesting research problems to study. This was an example of *socially informed research*, which is devoted to addressing issues of inequity in the world around us. I hope to continue contributing to socially informed research throughout my career.

### █ Contributions to summer mathematical mentoring

In this section, I explain why I see summer mathematical mentoring as the most impactful effort I can pursue to improve equity in mathematics. Then, I describe my record of service in this area and my desire to continue contributing as a faculty member.

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**An opportunity to promote equity in math.** Typically, the experiences of undergraduate and graduate students in math departments are not diverse, not equitable, and not inclusive. The lack of diversity is evident from the departmental demographics. The lack of inclusion is evident from climate surveys administered to the students. On a more personal level, several female and minority student colleagues have shared with me that they rarely find mathematical professors with the same backgrounds as them, and they have been discouraged from pursuing serious research careers in mathematics.

To make math departments more diverse and inclusive, one powerful opportunity involves summer mentoring programs that recruit students from under-represented backgrounds. These programs provide a collaborative working environment, free from the pressures of grading and testing. They expose undergraduates to exciting research-level mathematics that would not ordinarily be presented during the school year. They build students' research skills and provide letters of recommendation needed for graduate school admissions. Last, they convince bright students to apply to graduate programs in mathematics, rather than pursuing industry jobs. By recruiting a diverse group of students to take part in summer research mentoring programs, I believe we can build a more diverse, equitable, and inclusive mathematical community for the future.

**My history of involvement.** I first participated in summer research mentoring when I was the coordinator for NYU's summer program in applied math in 2020. As program coordinator, I organized a lecture series for the undergraduate participants, supervised weekly group meetings, and met individually with students to ensure their faculty-sponsored research projects went smoothly. Over the summer, I saw the students honed their research skills, grew more excited about mathematics, and improved their preparation for top mathematics graduate programs. I realized summer research could be a transformative experience, and I decided to keep participating in these programs.

Two years later, I volunteered as a research mentor in a Caltech's program for "incoming historically excluded and/or marginalized first-year students". My mentees, Thanhthanh and Felipe, were just 18 years old, and I was happy to catch them at an early stage of their career and provide a compassionate and patient introduction to research. They rapidly increased their skills over the summer and jump-started a trajectory of research involvement which continues to the present day. I later wrote letters of recommendation that earned Thanhthanh a role in Matilde Marcolli's computational linguistics lab and earned Felipe a spot at NASA's Jet Propulsion Lab. Although they are just second-year undergraduates, Thanhthanh and Felipe have already established a strong research track record which will lead to attractive graduate school opportunities in the future.

Most recently, I contributed to summer mathematical mentoring as a DEI committee member in my department from 2021–2023. Working with the committee, I identified the problem that many students who do not come from positions of privilege are confused about how to get involved in summer research programs in the first place. To address the problem, I volunteered to construct a new mentoring opportunities website. The website provides information about Caltech math research programs, especially programs for students from under-represented backgrounds. It is a helpful resource for students first getting involved in research, as well as Caltech graduate students, postdocs, and faculty members interested in serving as research mentors.

In conclusion, I have participated in summer mathematical mentoring as a program coordinator, a research mentor, and a DEI committee member. I have seen how these mentoring programs transform the trajectories of undergraduate students, leading them to understand that there is a valued place for them inside the mathematical research community. A core aspect of my DEI vision for the future involves participating in these summer mentoring programs as a faculty research advisor, as well as contributing to fundraising and program planning efforts.

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