

Historically, women, people of color (BIPOC), and those with non-conforming sexual orientations and gender identities (LGBTQ) have faced considerable hurdles that have limited their advancement. As a result, these groups have been disproportionately under-represented in advanced STEM disciplines: in computing, there is an 80%/20% skew between male and female Ph.D. students in North America, and only 3% of Ph.D. students are from BIPOC groups, as per [CRA's Taulbee Survey from 2012-18](#).

I appreciate the significant societal hurdles encountered by these groups, having witnessed my friends and family face them. I have seen my mother, a highly educated anesthetist by profession, face familial pressures to work fewer hours that limited her career advancement. I have witnessed multiple female Ph.D. student friends of mine, requiring to significantly outperform other male students to gain equal recognition. At the same time, I also appreciate the benefits of diverse representation: daily, I observe peers in my research lab from different genders, races, ethnicities, and cultures, providing different research perspectives based on their different life experiences. Thus, I believe equitable representation is important not just from the standpoint of social justice for the underrepresented groups, but also for more significant societal benefits.

These experiences have shaped me into becoming an advocate for diversity and inclusion in computing and society. In this statement, I outline my plans for advancing diversity as a future faculty and my efforts in past roles to that end.

## Past Efforts in Promoting Diversity, Equity, Inclusion

One way to promote diversity is to ensure the retention of diverse talent in computing with mentorship. Studies have shown that academic mentorship can [boost academic success](#) and [improve program completion rates](#) among students. I recognize the role played by my academic mentors in my successes and believe that if we can provide appropriate mentorship to students from under-represented groups, we have a better chance of retaining them. Hence, I have worked to create mentorship opportunities to support students, particularly those from under-represented and marginalized groups. I initiated these through my role on the steering committee of [Computer Architecture Students Association \(CASA\)](#), whose mission is to make the computer architecture community more inclusive.

**Mentoring in Computer-Architecture Conferences:** During the COVID-era, as conferences became virtual and limited in-person interactions, I initiated and led student mentorship programs at multiple computer-architecture conferences. The goal of these programs was to make the community inclusive to new members (undergraduates and new graduate students), provide networking opportunities, and help retain diverse talent in this stage of the academic pipeline. I co-initiated the Meet-a-Senior-Student (MaSS) program at MICRO'20 and ASPLOS'21 conferences for junior students to be mentored by senior graduate students. I also helped scale-up and co-organize the Meet-a-Senior-Architect (MaSA) program at ASPLOS'21 and ISCA'21 in collaboration with Prof. Joel Emer for students to be mentored by senior researchers from academia and industry. **MaSA and MaSS have enabled more than 500 virtual mentoring sessions during the pandemic in 2020 and 2021**, ensuring students have continued access to mentoring on career growth, research, networking opportunities, and other topics. Students have also found these programs to be very beneficial: for example, at ASPLOS'21, 90% of students found MaSS very useful (rating it 4+ out of 5), and 100% indicated they would participate again. My roles in MaSS and MaSA spanned outreach, encouraging sign-ups, matching mentors and mentees, and collecting feedback. I also mentored two junior students as a part of MaSS.

**Long-Term Mentorship in Computer-Architecture:** While analyzing current mentorship opportunities in computer architecture, I realized the absence of opportunities for sustained mentorship over a more extended period, which is critical to enable stronger mentorship relationships. I shared a vision for long-term mentorship in a paper with peers at CASA, [Mentoring Opportunities in Computer Architecture: Analyzing the Past to Develop the Future](#), at the 21<sup>st</sup> Workshop on Computer Architecture Education, 2021, which received the highest reviewer scores at the workshop. This work accelerated the initiation of the [Computer-Architecture Long-term Mentoring \(CALM\)](#) program, which aims to provide immersive mentorship for senior undergraduates and new graduate students by pairing them with a senior academic/industry researcher for a year. CALM is in pilot phase after kick-off at MICRO'21; my role in its organizing committee will involve assisting with soliciting mentors, matching mentors and mentees, and outreach.

**Undergraduate Mentoring:** During my undergraduate study at IIT-Bombay (India), I co-led a [peer mentorship program](#) for 1000+ undergraduate freshmen that helped them cope with academic stressors and identify and seek help for mental health issues. This program was particularly beneficial for students from marginalized backgrounds (low-income households, limited English education), as it provided them a robust support system in an alien environment. I also mentored more than 20 freshmen over three years in this program and was a volunteer tutor for a high-school student from a low-income household in Mumbai in this period.

## **Future Plans for Diversity, Equity and Inclusion in Research and Teaching**

I appreciate the vital role a faculty can play in encouraging and mentoring students from diverse and under-represented communities. I recognize the role played by my academic mentors in my successes and I feel a strong moral obligation to support others in similar ways.

As a future faculty member, I will strive to ensure my research group has a balanced representation across different genders, races, and ethnicities: a diverse lab is often more inclusive, based on my Ph.D. experience. At the same time, I will encourage the recruitment of students from BIPOC groups and women in my research group to increase their representation in computing. But providing adequate recruitment opportunities at the Ph.D. level addresses only one part of the problem of under-representation.

Having mentored students from different genders, ethnicities, and socio-economic backgrounds across high-school, undergraduate, and graduate levels in the past, I realize that the attrition of students from disadvantaged groups occurs at each level of the academic pipeline. I will address this pipeline problem by mentoring undergraduate students, particularly from under-represented groups, and offering them research internships. I will also volunteer in STEM outreach programs for K-12 students from such groups. I hope to encourage more students from underrepresented and disadvantaged groups to pursue higher education in computing and my research group through these efforts.

To encourage diversity and inclusion in the classes I teach, I will try to recruit a diverse set of Teaching Assistants to boost enrollment and retention of a diverse group of students in the class. As a course instructor, I have noticed that students from underrepresented groups are less likely to speak up in class. So, I will watch out for any such students falling behind in class and be proactive in ensuring they have any assistance they might need.

Lastly, at the community level, I plan to continue my involvement in scaling up CASA's mentoring activities and mentoring students from under-represented groups in computer architecture through programs like CWIDCA. I also hope to identify or initiate such mentoring opportunities in other academic fields I become a part of in the future.