

# Jonathan Mace - Diversity Statement

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Diversity is extremely important to me. I have long understood the value of working with and interacting with diverse groups of people, and this will continue to play a central role in my future career. In the past I have readily volunteered for outreach programs, attended diversity workshops and events, and worked to improve diversity within my department and research community. Throughout my future career I will continue to seriously pursue diversity and outreach initiatives at every opportunity. I believe that to be effective, diversity initiatives must be tailored to the unique needs and barriers to entry faced by different under-represented groups, rather than taking a broad-stroke approach. To this end, I am particularly motivated to enable different racial groups to experience success in the field.

My perspective on diversity is shaped by my own background: I was born and raised in New Zealand, lived in both the USA and Germany in my early teens, then eventually ended up in the UK. Today, I am back in the USA to pursue my PhD. In all of these places I attended public schools, made friends, and learned from local cultures. I understand, from experience, how adjusting to new cultures is intimidating and difficult, and how it can take a long time to dispel the feeling of being an outsider. There are clear parallels between my experiences, and those described by racial minority students entering computer science: a sense of alienation and isolation; in the students' case, this often arises from the significant disparity in pre-college exposure to computer science. I also appreciate how there can be long-lasting and subtle reminders of this outsider status; for example, in the expectation that people have the resources and inclination to pursue personal programming projects on their own time. As a faculty member, I will strive to recognize and remove implicit biases, and to foster a welcoming environment, where all people can find a comfortable space regardless of their background or prior exposure to computer science.

During my time at Brown I have had the opportunity to directly mentor two underrepresented minority students. The first of these students was a math major who was unaware of what computer science entailed. Walking through some sample CS problems piqued her interest enough to take an introductory class, leading her to eventually switch majors; today she is a software engineer at Microsoft. The second student was a chemistry graduate interested in what a tech job entailed. She decided to pursue a post-baccalaureate program at Tufts University, and I helped to guide her throughout. Today she is a software engineer at a start-up in Boston. Both students ended up enjoying computer science, and the only reason they had not considered it sooner was a lack of exposure. For me, this experience illustrated first-hand how effective it can be to simply expose students to CS. I believe that exposure is an important avenue to improving diversity in computer science, and this is something I will pursue in future, including direct mentoring, outreach to pre-college students in general, and contributing to pre-college CS curricula.

Day-to-day, the most direct contribution I will make to improving diversity is by creating an affirming environment. This applies to the classroom; to research groups I am involved in; and to broader institutional and research communities. Affirmation goes well beyond just inclusion; it entails recognizing the support, consideration, and encouragement that students should be receiving, in everything from the structure of a course, to the way we research is discussed, to the implied expectations we may have of others. Underrepresented minority students often lack this affirmation, and feelings of isolation and alienation are one of the most cited factors when these students leave computer science. One way that this manifests in my area of interest – computer systems – is the 'systems hacker' stereotype. Systems has a long and storied history, intertwined with epic myths and legends of all-night hacking and super-human abilities. This folklore paints an inaccurate picture of what we expect of people entering the field, and implies that a person's value is proportional to the lines of code they can crank out. Perceptions like these are detrimental to our diversity goals, and in practice the most important skills to succeed in systems are the same as in many other areas of science: abstract reasoning and analytical thinking. In my teaching and research, I will strive to recognize obstacles like these and frame material in a way that is accessible and inviting to everyone.