Diversity Statement

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I am committed to diversity and inclusion. It is simply the right thing to do. Any person who is honest and hardworking should have the opportunity to develop their talents as a student or as a researcher.

My own path to a Ph.D was enabled by people who trusted me to succeed in new environments. I moved from a community college to an Ivy league university, and then from a bachelor's degree in labor relations to a summer research position in computer science. Along the way, I was not always confident in my own abilities as a student, TA, or research assistant, but my mentors' support always encouraged me to work a little harder and a little better. One case in particular occurred at a seminar when I was a second-year Ph.D student: During the Q/A period after a talk, my advisor stood up and announced my name and early-stage work to the professionals in the room. This small gesture meant quite a lot to me. If my advisor could believe that I was capable of top-quality research, then I could believe it too.

At Northeastern, I had two opportunities to mentor underrepresented minority students. The first arose when I volunteered with E1T1 [1], an after-school program for inner-city high schools. Twice a week for four months, I met with a Black student who had been failing her AP Java course. It turned out that she was a talented programmer who had simply gotten bored with the curriculum. After some one-on-one review of programming concepts (as opposed to Java particulars), she caught up and ultimately passed her class. The second opportunity came through my Ph.D advisor. An undergraduate who had been studying programming languages with my advisor on weekends wanted to try research. I worked with her to analyze a gradual type system for Python and we eventually co-authored a research paper [2]. This student is now pursuing a Ph.D in programming languages at UCLA.

One of my main goals as a faculty member is to find opportunities to trust others to succeed. When recruiting Ph.D students, I will prioritize sincere and motivated candidates from a variety of backgrounds instead of focusing on those with the highest grades. Once admitted, I will find ways to express my confidence in these students as they work toward a dissertation—in one-on-one conversations, at conferences, and in online forums. In the classroom, I will set clear goals at the beginning of the semester to reduce student anxiety and will foster an environment that is respectful of questions and mistakes. I will promptly grade assignments and respond to private questions. Finally, I will reach out to students in danger of failing to see whether they are in need of special accommodations. It is my hope that these measures help students find the confidence and motivation to succeed, but I will look for more ways to provide support.

Additionally, I believe that my work as a PL researcher can meaningfully address issues with diversity and inclusion. Two major problems that we face today are unintentionally biased algorithms and unrepresentative datasets. These problems are typically viewed from the lens of AI or theory research, but could benefit from language-based solutions. After all, a programming language is the primary interface between human decision-makers and the machines that let people manage tasks at scale. Factors that lead to algorithmic bias could be made manifest in a programming language, giving developers clear feedback about how their algorithm computes. Potential issues in a dataset could be mitigated if domain experts had liguistic support for summarizing, auditing, and labeling data. I will offer topics such as these to all students, underrepresented or otherwise, and follow where their skills and interests lead.

[1] Each One Teach One (E1T1). URL `https://www.eachoneteachone.is`. Accessed 2021-10-12.

[2] Ben Greenman and Zeina Migeed. On the cost of type-tag soundness. In *PEPM*, pages 30–39, 2018.