Diversity Statement

Diversity in science is an essential goal because the greater the range of perspectives the more likely fresh approaches will be found to challenging problems and because broader access to scientific professions is a matter of basic fairness. Research demonstrates that scientists and scientific institutions are subject not only to overt biases, but also to subtle implicit biases that favor dominant groups at the expense of minority populations and new entrants. Even though I have been privileged to work at prominent institutions such as Stanford and Harvard, my own history has made me sensitive to some of the barriers facing underprivileged individuals, and I am committed to overcoming my own biases and fighting institutional biases when I encounter them. Respect, inclusion, and access to opportunities for women and minorities are fundamentally important values that I strive to uphold personally and will work to advance at my future institution.

My awareness began as a newly arrived 13-year old immigrant to the United States with virtually no prior exposure to English. Despite having previously been academically top performing, I nearly failed every class during my first year. This impressed on me the degree to which language barriers can hinder otherwise capable students. Ultimately my command of English improved and with it my integration into American culture, which I took for granted up until I started college. There, I found that, within my cohort of dozens of computer science students, only one was African American. I learned from him that, in spite of coming from an affluent background, he felt entirely apart from the school’s social fabric. The fact that I, an immigrant of five years, felt more welcome than someone whose ancestry dated back centuries highlighted to me the privileges my skin color afforded. And yet, I would learn that sometimes skin color cannot help. At my university I was required to perform community service for a semester, which I did by volunteering at a homeless shelter for single mothers. One of the (white) women I met had a nine-year-old daughter who was barely literate. The mom, herself a high school dropout, was not equipped to teach her daughter, who had advanced to fourth grade despite failing all her classes. During my few months I tutored the girl in math and found her to be of high innate ability. It was clear to me however that, in spite of her intelligence, her prospects were dim, owning to her lack of affluence.

Barriers based on gender, socioeconomic status, race, sexual orientation, language, gender identity, national and regional origin, age, and other dimensions do result in an uneven playing field in science as in other fields. Within the university environment, I believe there are levers that can help level this playing field, which I have put to use during my time at Harvard and will continue to do at my future institution. This is far from a complete list of what can be done, and I look forward to learning about and employing other methods in the future.

First is exposure to and awareness of research at the undergraduate level. My own experience at a small liberal arts college with limited research opportunities informs this. As an undergraduate I was unaware that graduate students in the sciences receive stipends or that undergraduate research experience is valuable when applying to Ph.D. programs. At Harvard I have tried to put this into practice: six of the seven students I co-mentored (with Peter Sorger) were undergraduates when they joined and all but of two whom have gone on to graduate school or are about to soon. The majority of these students were not from Harvard or MIT. My greatest joy in mentoring them has come from introducing them to the art and process of science and seeing a new vista of possibilities open before their eyes.

Second is a lab culture that is tolerant of diverse identities and perspectives and is intellectually welcoming rather than intimidating. I have had the fortune of belonging to labs with healthy social dynamics and observed ones without. Good PIs in my experience cultivate warm interactions between lab members and are cognizant of the difference between competence and confidence. Individuals from underprivileged backgrounds often have an abundance of the former but struggle with the latter, and it is incumbent upon the PI to notice each trainee’s talents and cultivate them. This of course begins at recruitment. Of the seven students I recruited, three have been women and four were international students. Because underprivileged students sometimes have gaps in their scientific education, precisely because they have had fewer opportunities, it is important that labs act to
remedy these gaps. I find this particularly true when working at the intersection of two fields, like biology and computation, where virtually all students are missing some of the necessary basics. In an effort to address this, my students and I run a weekly two-hour “co-teaching” session, during which one person provides instruction in an area that others are not familiar with. The material is explicitly intended to be remedial, focusing on basic, undergraduate level topics and not on cutting-edge research (we run a separate journal club). The person providing the instruction gains informal teaching experience, while others receive tailored instruction that would be difficult to obtain from classes while in graduate school. Although participation is voluntary, we have discovered that we all have something to teach one another, and so we all participate.

Third is outreach through non-traditional means. My efforts thus far have focused on social media, specifically blogging and Twitter, both of which can be useful means of recruitment. I find the informal nature of social media to be a less intimidating medium to reach out through than formal electronic letters, and the more conversant tone of blogs to help “humanize” scientists, further lowering the barrier. Nonetheless, students familiar with academic social media are a select group, and reaching underprivileged communities requires direct engagement with them. Towards this end I plan to participate in programs such as Clubes de Ciencia which deliver science education directly to and at the communities most underserved, and will encourage my future students and postdocs to participate as well. Closer to home, I previously participated in the Cambridge Science Festival as a scientific story teller in The Story Collider program, which is aimed at adults. I found the experience so gratifying that I plan to perform in future programs aimed at younger audiences.

I conclude by remarking on my own background. I am a cis-gendered, white (passing) male, with the attendant privileges that entails. I have never been told to go back to my country or made to feel undeserving of my station in life. Aspects of my life experience have however provided me with what may be described as a diverse perspective. I was born and raised in Baghdad, Iraq, as a Shia Muslim, and bear the name to prove it. Although I am no longer a member of any faith, my presumed religious affiliation has, I suspect, on occasion made people treat me differently (sometimes worse, sometimes better). I am also a war survivor. Baghdad was bombed heavily and repeatedly during my childhood, and I was nearly killed during one bombing raid. Perhaps most importantly, I am a survivor of an authoritarian dictatorship. My uncle and my best friend’s father were both executed because of critical remarks they made of the Saddam regime, and my family’s emigration was prompted by threats to my father. While these aspects of my life experience do not directly touch the issues of diversity that are most problematic in science, I would like to hope that they have made me more aware of my privilege and better attuned to the importance of proactive inclusivity.