Diversity Statement

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People are more likely to feel comfortable when they have diversity in their workplace. It encourages workers from all backgrounds to have confidence and be their best. As a study in [5] shows, when a team has at least one member who represents the gender, ethnicity, culture, generation, or sexual orientation of the target end-user, the entire team is 158% more likely to understand that target and increase their likelihood of innovating effectively for that end user. According to [7], diverse groups are more productive and innovative than homogeneous groups. Also, developing a diverse faculty will enhance teaching and research activities. In the rest of this document, I begin with my encounter regarding the lack of diversity, and then I talk about how I plan to help empower diversity.

Personal Experience. I am ethnically white and admit that I have enjoyed some of the privileges it brings. I go as far as saying that before I read about it at middle school, I was not even aware of problems a black person may face because of their skin color. Nevertheless, I was dealing with the lack of diversity long before I knew such a concept exists. For example, when I was a kid, greetings towards me were usually accompanied by making fun of my darker skin, or when I was in undergrad, being from my hometown was a constant source of jokes. However, I am also an Iranian, which, at least in the U.S., swiftly revokes many of the white privileges. For instance, I decided to use a tour guide once I visited a museum in Chicago. During the introduction and to show diversity among visitors, the guide asked the audience where they are each from, originally. After I said that I am Iranian, a couple looked at each other first, and then made a face and created a sound like I did something embarrassing. Unfortunately, neither the industry nor the research community was an exception. For my first summer, after I signed an internship with Coverity Inc., bought a plane ticket, and reserved a room, I received a call from a hiring manager telling me they have to cancel my contract due to my nationality. Or when I was about to start my internship at CMU Silicon Valley, I could not receive a grant from Google, again due to my nationality. A year after, even though my advisor recommended me, and I found someone interested in having me as an intern, the human resource department at Stanford Research Institute blocked the process. And, finally, during my last year of Ph.D., right when I was preparing to look for opportunities, the first executive order banning countries with a majority of the Muslim population from entering the U.S. was announced.

Plan

Promoting Self-Awareness. According to the National Center for Education Statistics (Figure 1), in 2017 and across all racial/ethnic groups, about 57.6% of degrees have been awarded to women. In fact, according to another report from the same center [6], from 1996 to 2022, women received and will receive more associate, bachelor, and master degrees than men. They also started to get more doctoral degrees in 2005-06. Furthermore, they continuously increase the gap at all levels. This puts men in the minority for more than 20 years (women account for 50.8% of the population [4]). However, the situation is very different in STEM. According to Figure 1, in computer science and engineering majors, only 22.6% of degrees have been awarded to women. Also, based on the statistics, the situation in STEM fields has not changed much, at least for the past ten years (Figure 2).

Furthermore, according to the United States Census Bureau [4], as of July 2018, 58.2% of the civilian labor force over the age of 16 are women. Still, only 35.7% of bachelor degrees in STEM fields are awarded to them in 2016-17. Similarly, 13.4% of the population is African American, while only 6.5% of bachelor degrees in STEM fields are awarded to them in 2016-17. The same numbers for Hispanics are 18.3% of the population vs. 10.7% of bachelor degrees in STEM fields. Unfortunately, the situation in the rest of the country seems even worse. For example, according to Southern Poverty Law Center [3], in 2018, we experienced the fourth straight year of hate group growth; a 30% increase gave America rise to a record high: 1020 hate groups. I believe providing free online and possibly mandatory courses, dedicated to diversity, where experts can convey some minimum yet vital information, could be of significant help in making these a common knowledge in the STEM community.

Figure 1: Degrees conferred by postsecondary institutions in the U.S., 2016-17 [1].
Why STEM has a diversity problem? This is a tough question. Data in [2] suggest that we should also look at the pre-college because when white and male students receive most bachelor degrees, there is no hope for an ideal situation at higher levels. Morgan “What makes up the car drive?” Similarly, according to a seven years-long survey ran by VanMeter-Adams et al. [11], 65.5% of students reported extracurricular activities, like childhood experiences, as the most significant factors that initially ignited their interest in STEM. Also, 92.6% of students stated that hands-on lab work kept their interest in STEM alive. Furthermore, while attending high school and going to college are required for STEM jobs, nonwhite families are the most likely to lack the necessary resources in the U.S. According to [9], “Latino children are the least likely to live in a household where someone has at least a high school diploma (26% below the national average).” African-American children are “significantly less likely to live in two-parent families (46% below the national average), as are American Indian children (22% below the national average).”

Promoting Diversity. Based on what I have found and as far as diversity is concerned, what we do for students before they start college is more important than what we do after. I taught math to high school students in foster care back in Iran, and I plan to participate in outreach programs to help minorities and underrepresented groups here in the U.S. In particular, I would like to help high school students to get exposed to logic. Prof. Michael Genesereth from the Computer Science department at Stanford University has already designed a course on symbolic logic for high school students [8]. This is a good start to show students the benefits of logic for their current lives and future careers.

 According to [2], in 2016-17, there is 61%, 63%, and 44% decrease in the percentage of, respectively, black, Hispanic, and American Indian students that received doctorate degrees compared to those who received bachelor degrees. Therefore, we still need to improve our performance to help minorities. When I was a lecturer at UPenn, I made it possible for students to post questions anonymously, to help them not being worried that others may judge them. I had also spent hours outside class and office hours, talking one to one to those who felt behind. Furthermore, with the help of our department, I allowed 50% extra time in exams for students with anxiety and even let them sit in a separate and quieter room. As a faculty, I plan to encourage diverse cultures through both my classes and research group. Good deeds, good thoughts, and good words are strongly encouraged, and I do not tolerate racist, sexist, misogynist, or homophobic comments. Students will know that their religion, economic status, sexual orientation, gender, ethnicity, or race, would have no consequence on the research group nor my classes. I will treat everyone as an individual, welcome their viewpoints, and share mine. International students will know that I will never use their imprecision in English in assessing their intellectual capabilities. I understand the language barrier; I used to be an international student myself, and my wife and I have different first languages. I will always encourage my students to attend conferences and talk to other people in person, in and out of their department. I believe traveling funds dedicated to minorities would be a great encouragement for them. My students will understand that I am not trying to make them fit in the group but to help them thrive in it. They will know that we are in this together. Their success is a success of mine, and their failure is a failure of mine.

In a country where most of the best universities are located, Figures 1 and 2 are a disgrace to the STEM community, and we all should take part in a continuous effort to change them. I firmly believe that I had it easy in many aspects of life, and I should always give back to society one way or another.

References


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