According to the 2019 Taulbee Survey, only 3.1% of the computer science (CS) PhDs awarded in the US went to students from underrepresented racial or ethnic groups in CS, and 20.3% went to women. Yet, according to the 2010 US census, 29.8% of the US population are from the underrepresented racial or ethnic groups in CS, and 50.8% of the population are women. This imbalance between the percentage of PhDs awarded and the percentage of the US population for the groups mentioned shows a clear lack of diversity in CS. Given the broad importance of CS research, it is particularly crucial that the CS researcher population represent all experiences and perspectives.

My passion for increasing the diversity of students in CS stems from my interest in using my experiences as someone with a disability to be a good role-model to students from underrepresented groups and from the influence of my advisors. My contributions to increasing the diversity of students in CS have been to mentor such students through my participation in diversity-oriented organizations and through research at my institution. Due to my aspiration to pursue a professorship and my existing and planned contributions, I won the 2020 Google – CMD-IT FLIP Alliance Fellowship, which provides full financial support for the last year of my graduate studies.

In the rest of this statement, I will further discuss the contributions that I have made to increase the diversity of students in CS and my plans to continue doing so.

1 Contributions to Diversity

1.1 Participation in diversity-oriented organizations. As a type-1 diabetic since I was three years old, I am a student from an underrepresented group in CS, and I have experienced many challenges (e.g., prejudiced opinions, exclusion) that such students may face. Throughout the years, I have enjoyed mentoring such students with advice based on my personal experiences. For example, a major challenge faced by some students with disabilities is that they may need to devote substantial time to manage their disability. Hence, they may benefit from my time management strategies as they can have less time than other students to conduct research, attend classes, etc.

I have mentored students from underrepresented groups through my participation in diversity-oriented organizations, such as AccessComputing and the Diversifying Future Leadership in the Professoriate (FLIP) Alliance. In these organizations, I mentor students from all over the US and participate in events to help students from underrepresented groups succeed in CS. For example, in AccessComputing, an organization that connects students with disabilities, I provide insights to other members about dealing with a disability in academic and industry settings. In fact, I was a panelist for AccessComputing at the Richard Tapia Celebration of Diversity in Computing Conference (Tapia Conference) in 2018 for the “Disability Disclosure in Education and Employment” session [1]. In the session, I discussed how I had disclosed my disability in the past to various academic and industry colleagues. On the other hand, in the FLIP Alliance, I participate in monthly discussions on how to increase the diversity of PhD students who pursue academic faculty positions after graduation. Our discussions result in events aimed at improving the retention and advancement of students from underrepresented groups in CS. Beyond AccessComputing and the FLIP Alliance, I have also been a volunteer for diversity-oriented events, such as the Rising Star workshop.

1.2 Research at my institution. Beyond my experiences as someone with a disability, my passion for increasing the diversity of students in CS has been influenced by my advisors. My undergraduate and PhD advisors, David Notkin and Tao Xie, respectively, are both well-known advocates for promoting diversity in CS. David was the founding co-director of the NCWIT Academic Alliance, and Tao Xie was recently the General Chair and Program Chair for the Tapia Conference in 2018 and 2017, respectively. David’s and Tao’s focus on diversity has created lab environments consisting
of many students from underrepresented groups. Through my interactions and publications with such students, I became even more passionate about increasing the diversity of students in CS.

I have mentored students who published papers, released open-source code, went to graduate school, and won awards for their research. Two undergraduate students I mentored are female, and one of them has gone on to pursue an MS degree at UPenn. The other is still pursuing an undergraduate degree, but she has already won the best presentation award at the Promoting Undergraduate Research in Engineering [2] Spring 2019 poster symposium for the research that she did with me. Overall, the students I mentored have coauthored nine publications with me. Three of the students have moved on to pursue graduate degrees (PhD at PKU, MEng at Cornell, MS at UPenn), two more have applied for graduate school this year, and two have accepted jobs in industry.

2 Plan to Increase Diversity
I believe that much work needs to be done to address the lack of diversity in CS. My plans to increase the diversity of students from underrepresented groups focus on improving the recruitment, retention, and advancement of such students. I will look to align my plans with any departmental plans for broadening participation in computing (BPC).

To help with recruitment, I will look for students from underrepresented groups through programs such as CRA’s Distributed Research Experiences for Undergraduates (DREU) and organizations such as AccessComputing. I will also recruit students at diversity-oriented conferences, such as the Tapia Conference. To help the retention of students from underrepresented groups, I will work with such students to ensure that I create an inclusive and accessible lab, departmental, and institutional environment. Specifically, I will organize and partake in frequent meetings on such issues similar to my involvement in the FLIP Alliance. To help with the advancement of students from underrepresented groups, I will expose such students early in their careers to the benefits of being involved in diversity-oriented organizations such as AccessComputing and the FLIP alliance. I will also help such students attend diversity-oriented conferences so that the students can benefit from the connections, advice, and inspiration that such organizations and conferences can provide. Lastly, similar to my participation as a panelist for AccessComputing at Tapia 2018, I will continue to participate in and even organize diversity-oriented events at future conferences.

I have been privileged to be able to pursue a PhD in CS, especially as a student from an underrepresented group in CS. It would be an honor to give back to the CS community by helping in whatever means I can afford to do so.

References