

Diversity Statement

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The role of diversity in Computer Science (CS) has recently been brought into focus. Reports from top technology companies (e.g., Google¹, Facebook²) indicate that we have a lot of work ahead of us to ensure truly diverse workforces in the technology sector. I was particularly troubled by two findings in these reports: (1) the incredibly low fraction of women relative to men (15-17% vs. 83-85%); and (2) underrepresentation of the “*Hispanic*” and “*Black*” communities (together less than 7%).

Reading more about this topic helped me understand what the core issues were. One such issue, that needs to be tackled at the early stages of education, is that of getting more school children (especially from underrepresented populations) interested in CS.

I can relate to this problem since I have encountered similar issues during my childhood. I come from India, where the literacy gap between men and women is incredibly disturbing (82% vs. 65% based on recent surveys³). As a strong feminist this deeply saddens me. Growing up, I have seen numerous low-income families sending their sons to school while the daughters (who were kids my age) worked menial jobs to support the family. My parents strongly discouraged this practice and tried to educate these families of the benefits of sending their daughters to school. They would often quote Brigham Young “*You educate a man; you educate a man. You educate a woman; you educate a generation*”. I tried to follow their footsteps and in high school would volunteer for drives to send young girls to elementary/intermediate school.

At Cornell, I have tried to continue this practice. Asha Cornell⁴ is a wonderful non-profit organization dedicated to educational causes in India. A key goal of the organization is the education of under-privileged children. Over the last few years, I have volunteered for funding drives organized by Asha Cornell to support this cause. It has been very gratifying to have this effort result in new schools in rural parts of India for girls and under-privileged children (including a school for the blind).

While child literacy is not a problem in developed countries like the United States, we still need to get more kids interested in CS at an early stage. This is why I strongly believe in efforts like the *Hour of Code*⁵. These efforts ensure a fair opportunity for everyone to learn about CS and inspires kids to pursue CS further. These efforts also provide us a lot of data, which Data Scientists and Machine Learning researchers, like me, can use to identify problems children from specific backgrounds may face. This would enable us to interface with experts in education, to help improve the accessibility of these tools for all children.

More broadly, I believe that Machine Learning is a wonderful tool to help improve education (for all subjects and not just CS) in places such as India and Africa. As outlined in my research statement, I hope to use the “Big Data” we obtain from educational tools to create personalized tutoring systems to help improve learning in students. By tailoring the system to the child, we can hopefully ensure smoother and more effective learning for children from all backgrounds.

¹<http://www.google.com/diversity/at-google.html>

²<http://newsroom.fb.com/news/2014/06/building-a-more-diverse-facebook/>

³http://www.medindia.net/health_statistics/general/literacy-rate-in-india-2011.asp

⁴<http://www.ashanet.org/cornell/>

⁵<http://hourofcode.com/us>