

## Diversity Statement

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A core issue in the computer science community is in attracting and retaining a diverse community of researchers. While outreach programs and the growth of computer science as a field has led to an increase in the number and diversity of people enrolled in computer science courses, it has done relatively little to increase the retention rate of underrepresented students [1]. I believe that we can improve our ability to attract and retain more people via a combination of outreach to underrepresented communities and improving conditions for *all* current and future members of the computer science community.

### — Outreach and Support for First-Generation Students

While there are many under-represented groups within computer science, I personally identify and understand the difficulties and plights facing first-generation students. I myself and a first-generation college student who grew up in an incredibly rural and poor area within Southeast Ohio. In high school, I had performed well and knew I wanted to pursue college, but I had very little support for or idea of how to even apply to undergraduate programs. When I applied to Ohio University’s computer science program, I had only heard of computer science once before and didn’t truly learn about computer science and programming until I was enrolled at Ohio University. During my time in undergrad, I became involved in Ohio University’s student chapter of the Association for Computing Machinery, where I lead an initiative to host *Hour of Code* events (<https://hourofcode.com/us>). We invited students from 7 of the surrounding high schools (including the high school I graduated from) to learn about STEM, programming, and computer science. Further, for any students interested we provided information on how to apply to undergraduate programs in CS (and specifically to Ohio University’s CS program). While I have not lead similar outreach programs during my time in graduate school, I am excited to help with or lead similar initiatives in the future.

Secondly, beyond creating outreach programs to attract new first-generation students to computer science, **I am interested in joining/creating a program to support the continuation and retention of first-generation students.** While in undergrad, I found many first-generation students like myself enrolled, in graduate school I felt as if I was the only first-generation student in my graduate cohort at Princeton. Even if untrue, it sometimes felt isolating and as if everyone I talked to knew how the PhD process had worked because their parents had done a PhD. While I have not had the opportunity to join in many meetings, I have kept up-to-date with the University of Wisconsin–Madison’s first-generation organization (<https://students.wisc.edu/first-generation-badgers/>) and would like to use it as a model to help lead a successful first-generation organization as a professor that provides first-generation students with *(i)* resources for writing and financial aid assistance and *(ii)* a community of individuals with a similar background to ask questions and be seen. Efforts within the First-Badgers program at UW-Madison have led to higher retention rates in all years and a 65.9% graduation rate among first-generation students—just below the 75.8% rate for continuing-generation students at UW-Madison and much higher than the national average of just 27% for first-generation students [3]).

## Reducing Recidivism via Education

In addition to addressing the needs of first-generation students, I have been (and am interested in continuing to be) involved with efforts to **develop and teach courses within correctional facilities**. In grad school, I was involved with the Prison Teaching Initiative (PTI). I had both the opportunity to teach in Edna Mahan’s women correctional facility as well as develop a computer science curriculum for PTI in general. I found both the task of teaching and course creation rewarding in a different way than teaching a “normal” undergraduate course. For both teaching and course design, we needed to rethink how to best teach content to students within correctional facilities who do not have access to the same resources as student in a more typical undergraduate setting. Studies have shown that correctional facilities that offer higher education have a lower return rate of inmates (recidivism) and less occurrences of violent misconduct [2]. In addition to reducing recidivism, higher education and specifically education in computer science offers the inmates—who are disproportionately from a minority/socioeconomically disadvantaged background—with an education that can improve their job opportunities after serving their sentence.

## References

- [1] GORDON, N. A. Issues in retention and attainment in computer science. *York: Higher Education Academy* (2016).
- [2] POMPOCO, A., WOOLDREDGE, J., LUGO, M., SULLIVAN, C., AND LATESSA, E. J. Reducing inmate misconduct and prison returns with facility education programs. *Criminology & Public Policy* 16, 2 (2017), 515–547.
- [3] SEAY, S. E., LIFTON, D. E., WUENSCH, K. L., BRADSHAW, L. K., AND MCDOWELLE, J. O. First-generation graduate students and attrition risks. *The Journal of Continuing Higher Education* 56, 3 (2008), 11–25.