Harrison Williams – Diversity and Inclusion Statement

web: https://harriswms.github.io/ **email:** hrwill@vt.edu

Actively seeking out diversity of perspective, opinion, and experience in academia directly improves both our research and the society for which we conduct it. In the lab, our basic approach to the task of creative problem solving at the core of research is largely a product of upbringing and lived experience: more diverse and inclusive teams are better equipped to generate novel ideas and creative solutions to complex problems by bringing together a variety of viewpoints and angles to a given research challenge. In the classroom and beyond, equipping historically underserved groups with the tools and skills developed through an engineering education enables them to go out into the world and apply those skills to problems in their communities that may be invisible to more dominant groups in our field. I believe we have an obligation as both research leaders and educators to **proactively engage with diverse and underrepresented groups** to improve equity at every level of the academic environment; below, I describe some of the ways in which I plan to do so in my own career.

Fostering Diversity in the Lab As a graduate student, I have seen firsthand how diversifying a research group results in both a richer intellectual environment for students themselves and increased real-world impact as each member brings their own perspectives and experience to the lab. I am enthusiastic about fostering this environment in my own lab: a core tenet of my approach to recruiting will be to use proactive strategies to reach underrepresented groups, ensuring that talented individuals from diverse backgrounds have access to the opportunities and resources necessary to thrive. This includes participating in outreach programs, building connections with minority-serving institutions, and designing recruitment processes that prioritize equity and inclusion. Additionally, I will strive to create a welcoming and supportive lab environment where all members feel valued and empowered to contribute their unique strengths.

Developing an Inclusive and Accessible Classroom Throughout my time as a student and educator, one phenomenon I have noticed repeatedly is that students who do not fit the ”mold” of a traditional computer science student tend to avoid speaking out in lectures or group study sessions for fear of confirming negative stereotypes or otherwise standing further out from the crowd. A central part of my class planning will include working to actively address these barriers. I plan to design assignments and structure classes in ways to encourage small-group discussion and collaborative problem solving, allowing students to share ideas or ask questions in lower-pressure settings. I will also integrate anonymous feedback tools and provide opportunities for one-on-one engagement to allow students to ask questions or share thoughts without fear of judgment.

Providing Pathways to Graduate Education Graduate school can often be an opaque and confusing environment full of unwritten rules, expectations, and idiosyncrasies. Without an experienced mentor to offer support and advice, ”first-generation grad students” are at a tangible disadvantage from the beginning: choosing programs to apply to, picking an advisor that aligns with their long-term goals, and knowing how to get the most out of graduate education all require a familiarity with the system that is difficult to acquire during undergraduate education alone. This has real consequences for the resulting diversity of those who choose to pursue graduate education, as 43% of PhD recipients in computer science and engineering already have a parent with a graduate degree [1]. My own decision to pursue a PhD began with active recruiting and research exposure by faculty at my undergraduate institute; I plan to follow in the same mold by proactively reaching out to undergraduate students and developing projects suitable for an introduction to research. More broadly, I am excited to play a part in building the systems, programs, and resources (such as the NSF Research Experience for Undergraduates programs) for reaching out to students at both the undergraduate and high school levels to break down the ”exposure barrier” that keeps many members from underrepresented communities from pursuing higher education.

[1] The Economic Profession's Socioeconomic Diversity Problem: https://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.37.4.207