

The distribution of power and privilege in the academic sphere is something I am both cognizant of, and have benefited from, in my career. My role as an instructor, mentor, and researcher provides opportunities to provide redress for some of these inequalities. Below, I outline the specific steps I have taken to create a space for individuals who have not historically benefited from academia's persistent structural inequalities.

I fully recognize that as a middle-class male whose parents had graduate training, my circumstances have allowed me to take risks that would have been difficult, if not impossible, for those less fortunate. This social positioning allowed for entrée into some of the world's most privileged universities as a student and researcher, and has precluded me from much of the difficulties I would have encountered as a first-generation college student, for example. Because of this, I believe that I have an obligation to support students as an instructor and mentor by providing the *information, access, and guidance* necessary for success. This is particularly applicable to first-generation college students (who constitute 1 in 5 freshmen<sup>1</sup>). My experience leading a series of 6 extra-curricular interviewing and networking workshops at Cornell and assisting more than 10 undergraduate students with graduate school applications is a testament to my commitment to addressing these disparities.

I am also aware of the structural inequalities that lead to the *under-representation of women and minorities in STEM* fields. I have benefited a great deal from being mentored by strong female role models, such as my PhD advisor and Cornell supervisor, and realize the benefits of working with a diversity of scholars to improve research outcomes. The attrition rate of progressing from a bachelor's to a PhD has evened out across genders<sup>2</sup>, yet women still have a significantly higher attrition rate in STEM programs during undergraduate studies<sup>3</sup>. Given the increasing desirability of STEM training to employers (and the 26% wage premium of resulting jobs<sup>4</sup>), it is imperative that students of all genders and backgrounds do not feel unwelcome in exploring these topics, especially so early on in their studies. Through a 6-week mentoring workshop at Cornell, I developed skills necessary to combat some of these imperceptible barriers by learning to develop intellectually safe environments through empathetic listening, focusing on inclusive communication and teaching styles, and setting time aside for conversations with students. While this training is not a panacea, it is a starting point from which to build upon throughout my career.

I believe that a university must *serve the community it is based in*, as well as its students. As a graduate student in Philadelphia, I was deeply affected by the problems of the city school district (SDP). Students were failing exams because they did not have access to books, even though those resources existed in closets and abandoned schools<sup>5</sup>. Our team of 4 liaised with the SDP, school principals, and teachers for over 6 months to understand their perspectives, and realized that the asset-tracking system of the SDP could not be upgraded from what was available in the 80's due to funding shortfalls. We created a simple optical character recognition-based asset-tracking app ([SmartTrack](#)) that teachers could use to monitor their classroom materials, at no cost. Our project won the Penn Public Policy Challenge, and came second at the Fels National Challenge, business plan competitions for social impact ventures. Our system is now in use in Camden (NJ) and Philadelphia schools, helping students perform to their full potential.

I acknowledge that there are many ways to *professional success* for students outside of academia. Many are closed off to students who are unaware of their options, whose connections are limited, and who do not have the extra-curricular experiences that are required when seeking employment. As a leader of campus organizations focused on consulting at Penn and Cornell, I made diversity a key part of our own recruitment efforts, leading to the most number of universities and backgrounds represented in our annual case competition. One of the teams that I created with that philosophy, consisting of 5 members from different institutions, prevailed in the Penn Graduate Case Competition 2015. The team members' different life experiences and expertise were key to their holistic, applied recommendation to the client, which was implemented within 3 months. The lesson I have taken from my experience as a consultant is the spirit of "pass-it-on": an enduring sense of obligation to help others succeed, just as others spent their time to help me with the same ethos. I believe in helping students achieve success on their terms, giving them the information and freedom to reach their own conclusions, and supporting them in their endeavors as much as possible.

I aim to continue to increase access, representation, inclusion, and community service throughout my career.

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<sup>1</sup> Eagan, K., et al. "The American freshman: National norms fall 2016." Los Angeles: Higher Education Research Institute, UCLA (2016).

<sup>2</sup> Miller, D. I., & J. Wai. "The bachelor's to PhD STEM pipeline no longer leaks more women than men: a 30-year analysis." *Frontiers in psych.* 6 (2015).

<sup>3</sup> Griffith, A. L. "Persistence of women and minorities in STEM field majors: Is it the school that matters?" *Econ. of Ed. Review* 29.6 (2010): 911-922.

<sup>4</sup> Langdon, D., et al. "STEM: Good Jobs Now and for the Future. ESA Issue Brief# 03-11." US Department of Commerce (2011).

<sup>5</sup> Broussard, M., "Why poor schools can't win at standardized testing", *The Atlantic*, July 15, 2014