DUSTIN RICHMOND - DIVERSITY STATEMENT

Multiple studies have shown that diverse groups produce better solutions: they consider more facts, they are more careful, and they are more innovative [3]. These factors are critical not only to conduct ground-breaking research, where innovation is paramount, but to ensure that the solutions to the challenges we face are safe, equitable, and beneficial for everyone. When we support diverse, equitable, and inclusive departments we ensure that these discoveries can be made by everyone, as well.

I care deeply about creating supportive communities in my research group, my department, and my field. I have seen firsthand how inclusion and equity are necessary to create research groups where unique-ness is valued and respected, which in turn improves learning, mentorship, and research quality. As a graduate student and postdoc, I led my department in creating inclusive communities, worked to increase representation in research, and championed an effort to increase equity in faculty hiring. My efforts were recognized with the **Outstanding Community Leader Award** from the University of California San Diego (UC San Diego) Graduate Student Association, and the **Excellence in Service and Leadership Award** from the UC San Diego Computer Science and Engineering Department. As a faculty member, I know that I will play a vital role in shaping the communities around me, and my experiences demonstrate that I will create a representative and fair environment in my research group and the classroom and weave these values into the fabric of the institution where I am hired.

Creating Inclusive Communities

Inclusive communities where everyone feels welcome are a prerequisite for diversity. I have been fortu-nate to work in groups and with supervisors that created environments where I was free to explore topics of interest, conduct outreach, and pursue research ideas. My goal is to create a similar safe and open envi-ronment where students can succeed and feel supported, whatever their backgrounds may be.

I have worked to create inclusive communities through leadership in my departments. At UC San Diego, I was student chair of the department's Graduate Community Council where I led meetings, orga-nized workshops, and surveyed students for issues in the department. During an external departmental review I coordinated a town hall meeting for students to voice concerns so we could present a unified voice to the committee. Our feedback demonstrated that students were unhappy with both enrollment statistics for minority groups, and the lack of support for student organizations that addressed minority issues. I pressed the committee to redouble its focus on diversity in the department. As a result, the department developed a detailed and public action plan for addressing these issues. I continued this advocacy work during my postdoc at UW, where I helped establish the ECE Student Advisory Council and set similar goals of addressing diversity topics in addition to ubiquitous concerns about mental health.

As a faculty member, I will continue lobbying to create inclusive spaces for students, faculty, and staff. The COVID-19 pandemic has isolated students from their friends and their support networks, and I look forward to helping bring students back together in forward-looking, forward-thinking, welcoming ways.

Increasing Representation in Research

Increasing diversity in academia requires attracting students from underrepresented groups, which re-quires stepping outside of our traditional recruiting avenues to identify and recruit students. Recent statis-tics show that 78% of the bachelor's degrees in engineering fields go to males and only 22% to females [2]. Although the gap is gradually closing in some engineering areas, progress is slowest in computer and elec-trical engineering. Even more striking is that only 4.2% and 11% of bachelor's degrees in engineering fields go to Black and Latinx students, respectively. To improve diversity in academia, we must improve efforts to recruit and offer research experiences to students from these groups early in their careers.

As both a graduate student and postdoc, I worked closely with three programs that aim to increase diversity in undergraduate research: NSF's Research Experience for Undergraduates (REU) Program, UC San Diego's Early Research Scholars Program (ERSP), and the joint Howard University/UC San Diego STARS program. The latter two programs focus specifically on engaging students from groups currently underrepresented in engineering. In the ERSP program 60% of the participants are women, and 20% are

Black and Latinx. STARS is a partnership with historically black colleges and universities (HBCU) that aims to increase the number of Black applicants to UC San Diego graduate programs. Through these programs, I mentored seven students on research projects and published four peer-reviewed papers at conferences.

I plan to work with my next institution to support similar programs. I enjoy mentoring students and learning their approach to technical problems and I look forward to providing these opportunities to graduate students. Creating undergraduate research programs, while necessary, is not sufficient. We must advertise them at conferences like SACNAS, GHC, and NSBE as UW ECE and UC San Diego are doing, to attract bright and potentially overlooked students to undergraduate research programs.

Improving Equity in Evaluations

Faculty members constantly make important decisions on hiring, publication, evaluation, and tenure. These decisions must be made in an equitable and unbiased manner. As an undergraduate I took class called *PEERs: Promoting Equity in Engineering Relationships* [1] that taught me about equity in engineering as well as concepts like implicit bias, stereotype threat, and structural racism. I also learned strategies for mitigating them using well-defined merit criteria and procedures. Using these lessons I have designed merit-based criteria for evaluating faculty candidates and students. These experiences taught me that while designing these processes is not always easy, it is essential for diversity in a department.

As a Ph.D. student at UC San Diego I volunteered to interview faculty candidates because I felt the experience would be educational as a future faculty candidate. As a result of PEERs, I expected the interviews to be formalized to reduce biases. Instead, I was disappointed to find that we volunteers were not given a rubric and were not given any training. Instead, the students were asked to evaluate how the candidates would "fit in the department culture," which is known to be problematic in the absence of well-defined or clarity about what is meant by "fit" [5]. At one meeting a student asked about the marital status of a candidate, a question shown to be biased [4] (and illegal). For me, the interview process raised many flags.

The following year I volunteered to organize the student interview committee to address the issues I saw. I created a rubric and questions that focused on measurable criteria students cared about rather than vaguely defined pseudo-metrics like "fit." I recruited students from a variety of research areas and diverse backgrounds and taught them about interview protocols. I did this work despite resistance from the faculty hiring chair who objected to a predetermined list of questions and worried that our attitude would dissuade faculty candidates. In the first year I led a group of ten students and interviewed twenty-five faculty candidates using my questions and rubric, and improved the process over the next two years.

I originally believed my battles were unique, but I have seen and heard similar experiences after leaving UC San Diego. At UW, I reconnected with the directors of the ADVANCE program and told them about my desire to share my experiences with others. They put me in touch with students in other departments who were experiencing the same issues and introduced me to a faculty member in another department who was seeking more student input in the hiring process.

I will use my experiences to build more equitable and fair systems for evaluation in my community, department, and field. My experience has many applications in academia, but I am particularly interested in applying my work to student admissions where rubrics have been shown to increase the accepted applicant pool. I believe that such work on equity is a critical piece of increasing diversity in engineering.

References

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