Statement on Diversity, Equity, and Inclusion | Milijana Surbatovich, Fall 2022

I am committed to advancing a diverse and inclusive environment, within my research group and the broader university community. Universities have a mandate to better society. Unfortunately, this mandate will not be fully realized as long as the make-up of the academic community remains skewed towards historically privileged groups. Fewer distinct voices means fewer perspectives in research collaborations; fewer inputs into what problems are important; and less awareness of obstacles to student success, e.g., lack of maternity leave, food insecurity, or implicit teaching biases. Increasing the diversity of the university community and making access to opportunities equitable and inclusive will move towards a more just society *and* improve the quality of scholarship. Although the importance of diversity is becoming recognized in computer science fields, disparity is still stark, especially at the graduate student and faculty levels. One reason why progress is slow is that many issues in building diverse communities are systemic; even implicit biases that women and ethnic minorities face in the K-12 levels means fewer pursue STEM majors, thus graduate degrees, and thus faculty positions. The lack of a diverse pipeline in turn lessens a student's sense of belonging and makes academic success harder. One reason I am excited to become a faculty member is because I can have a real impact on diversifying this pipeline and equipping underrepresented students to succeed in the long term. I plan to support and strengthen the pipeline for getting students from underrepresented minorities involved in STEM careers through ***pre-college and undergraduate outreach***, targeting the transition from high school to university, and from undergraduate to graduate school. I will strive to bolster the sense of belonging that is a key factor in retaining students through ***inclusive practices in mentorship and teaching***. These efforts are informed by my experience in mentoring junior students, pedagogical training, and my first-hand knowledge of what contributed to my own success, as a woman in computer science and engineering.

Strengthening the Pipeline. Two outreach initiatives I will pursue are internship opportunities for high schoolers and for undergraduates, through the NSF Research Experience for Undergraduates (REU) program. As a graduate student, I had the privilege to mentor a high-school student from an underrepresented minority in STEM for a semester-long internship, teaching her programming skills and concepts at the introductory college level, giving her a strong foundation for later computer science classes. Conversely, my first computer science class was in my 2nd year of college, when I took a programming course to complete a requirement. I felt an immediate affinity and switched to CS from my original non-STEM major, but I felt woefully behind my peers and disconnected from department resources. Key to my success was doing an REU internship at CMU, which is why I am passionate about undergraduate research. Giving an undergraduate real exposure to graduate school and research builds confidence that they can succeed and strengthens their likelihood of being admitted to strong PhD programs, which often favor students with prior experience. I have mentored an undergraduate woman through several semesters, guiding her in developing research skills and encouraging her to apply to graduate school, demystifying the process. I will continue to take on an undergraduate intern each summer as a faculty member. Summer internships in particular can target students from institutions with fewer research opportunities, combating the vicious cycle where because a student was not exposed to CS or given research opportunities earlier in their academic career, it is harder for them to develop the skills to be admitted to and succeed in strong graduate programs. More diverse cohorts graduating from strong PhD programs is a necessary step to more diverse faculty bodies.

Supporting an Inclusive Climate. For students to thrive, they need supportive, confidence-building environments. To contribute to such a climate, I will be involved in campus initiatives and organizations and practice inclusive teaching techniques. In graduate school, I participated in Women in ECE/Graduate Student Women groups. Since I always felt events were best when professors attended and shared their experience, giving an example of what successful "end points" looked like, as well cautioning about obstacles they had to face, I will involve myself in similar campus groups, and inform my students of other support sources, when I am not in their "in-group". While such groups can help, I think one of the broadest impact vehicles for developing an inclusive environment is teaching, since I will teach far more students than I ever directly mentor. For instance, I will make sure my course material uses a broad variety of examples, not assuming a specific cultural context, and I will design around active learning techniques, increasing student participation, even if they are too shy to speak up directly in class. Furthermore, I will design course policies to be flexible, for example, using generous late policies and take-home exams, to not force students to decide between health and education.