

Faculty Candidate Seminar – Software Engineering



Bianca Trinkenreich

Research Scientist

Monday, March 6, 2023

Presentation: 10:30 A.M. – 11:30 A.M.

Reception: 11:30 A.M. – 12:00 P.M.

MSEE 239

Diversity & Inclusion Research for Software Teams

Abstract: Women represent less than 24% of employees in the software development industry and experience various types of prejudice and bias. Despite various efforts to increase diversity and multi-gendered participation, women are even more underrepresented in Open Source Software (OSS) projects. Many OSS communities are aware of the importance of correcting this imbalance and spend significant resources on a variety of onboarding and outreach programs targeted to women. However, these programs are insufficient if those who onboard do not feel that they belong to the community and ultimately abandon the project---a frequent occurrence in OSS. Previous research in psychology, health care, and education has shown that a sense of belonging is a basic human need that affects a broad variety of behaviors and has implications for long-term engagement and job satisfaction. Nevertheless, the investigation of a sense of belonging in OSS so far has been under-explored. It is still unclear what environmental factors contribute to a (lack of a) sense of belonging and how to improve it in practice. During this seminar, I explain how women participate in OSS projects, and how different forces affect women's participation in a large and community-oriented OSS project (Linux Kernel). Some problems surpass the organization and are related to the local culture of the OSS communities. I will make a parallel with problems that affect women in the software industry, and show there are problems that go beyond the company's gates and permeate society, which often contributes to this cultural legacy. However, there is also space for improvement. The results of this research include a theoretical framework that describes open-source-specific factors that can impact women's participation in OSS projects.

Bio: Bianca received the Doctor of Philosophy in Computer Science with Distinction from Northern Arizona University. Her current research is about Diversity & Inclusion in Software Engineering and the interplay with Performance, Well-being, and Attrition in software delivery teams. In the past, she studied how to build OKRs for IT services management to improve processes and align strategies with business goals. Bianca employs mixed methods in her studies, including qualitative and quantitative analysis. She first-authored more than 25 papers in top venues of her area, including ICSE, ESEM, CSCW, IST, TSE, and TOSEM, and has received awards at ICSE Technical Track 2023 (Distinguished Paper Award), ICSE SEIS 2022 (Best Paper Award), CSCW 2020 (Honored Mention Award), Software Quality Brazilian Conference - SBQS 2018 (Best master's Degree Thesis Award), Product-Focused Software Process Improvement - PROFES 2015 (Indication for Best Paper Award), Annual Workshop for Software and Services Quality Improvement - WAMPS 2014 (Best Paper Award). Bianca was also awarded an Outstanding Graduate Student 2021 by Northern Arizona University. Besides academic conferences, Bianca has been giving talks at industry conferences such as Open Source Summit and DevOps Days. She is on the Steering Committee of Linux Foundation Software Developer Diversity and Inclusion. Before her PhD, Bianca, was an IT Project Manager and Software Delivery Manager for 20 years, bringing this experience to bridge academy and practice. Passionate about interdisciplinary research and collaborating with the industry, Bianca understands the needs and turns them into research opportunities. Her philosophy of education is that all students are unique and must have a stimulating educational environment where they can grow physically, mentally, emotionally, and socially. She is the mom of a 6yo girl and loves being with family and friends. Since she was a kid, her hobbies have been related to sports, especially swimming.