Distinguished Lectures
Fall 2024

Dr. Thomas Zimmermann

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Microsoft Research

The Incredible Machine: Developer Productivity and the Impact of AI on Productivity

Monday, Oct. 14, 2024
Reception with Refreshments: 10:30 a.m.
Lecture: 11:00 - 12:00 a.m.
Lory Student Center Room 386

The Lord of the Models: The Fellowship of Trust in AI

Tuesday, Oct. 15, 2024
Lecture: 10:00-10:55 a.m.
CSB 130

Sponsored by
Colorado State University's Information Science and Technology Center (ISTeC)

In conjunction with the Department of Computer Science and Department of Electrical and Computer Engineering Seminar Series

Abstracts

The Incredible Machine: Developer Productivity and the Impact of AI on Productivity

Developer productivity is about more than an individual's activity levels or the efficiency of the engineering systems, and it cannot be measured by a single metric or dimension. In this talk, I will discuss a decade of my productivity research. I will show how to use the SPACE framework to measure developer productivity across multiple dimensions to better understand productivity in practice. I will also discuss common myths around developer productivity and propose a collection of sample metrics to navigate around those pitfalls. Measuring developer productivity at Microsoft has allowed us to build new insights about the challenges remote work has introduced for software engineers, and how to overcome many of those challenges moving forward into a new future of work. Finally, I will talk about how I expect that the AI revolution will change developers and their productivity.

The Lord of the Models: The Fellowship of Trust in AI

In the realm of software, an AI revolution is afoot, transforming how we create and consume our digital world. In this talk, I shall share initial observations on the evolution of software engineering and AI's profound impact on developers. Like the forging of powerful artifacts, AI-driven tools are reshaping development processes, bringing unprecedented efficiencies yet also presenting new trials. Central to this grand transformation is the vital role of trust in AI-based software tools. Understanding and nurturing this trust is paramount for their successful adoption and integration. Moreover, I will reveal why the research community stands as a pivotal fellowship in this epic journey, guiding us through the challenges and triumphs of the AI age. Join us as we embark on this transformative quest, bridging trust and innovation in the dawn of AI and software engineering. (This text has been rephrased by the author using ChatGPT to reflect a different style while maintaining the original meaning and contents.)

Speaker Biography

Thomas Zimmermann is a Sr. Principal Researcher at Microsoft, where he works on cutting-edge research and innovation in data science, machine learning, software engineering, and digital games. He has over 15 years of experience in the field, with more than 100 publications that have been cited over 25,000 times. His research mission is to empower software developers and organizations to build better software and services with AI. He is best known for his pioneering work on systematic mining of software repositories and his empirical studies of software development in industry. He has contributed to several Microsoft products and tools, such as Visual Studio, GitHub, and Xbox. He is an ACM Fellow, an IEEE Fellow, recipient of the IEEE TCSE Edward J. McCluskey Technical Achievement award, and Co-Editor in Chief of the Empirical Software Engineering journal. https://thomas-zimmermann.com

To arrange a meeting with the speaker, please contact Prof. Bianca Trinkenreich <Bianca.Trinkenreich@colostate.edu>.