

Difference in Software Development: Novice and Expert

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Abstract

In this talk, we explore the profound distinctions in the cognitive processes and methodologies between experienced and beginner software developers. This presentation will delve into current research findings, highlighting how experts' approaches to problem-solving, design, code comprehension, and implementation contrast with those of novices. We will discuss empirical methods and cognitive models that have been instrumental in uncovering these differences. Additionally, the speech will consider the implications of these insights for educational practices and tool development, offering a vision for future research directions that could further bridge the gap between novice and expert programmers.

Biography

Dr. Simon Xu is a Full Professor and Director in the School of Computer Science and Technology at Algoma University where he has been a faculty member since 2002. Prior to his tenure at Algoma University, he was working in the School of Computer Science of University of Windsor, Canada. Additionally, he serves as a guest professor at Wuhan University and the adjunct professor at China University of Mining and Technology, China. Dr. Xu earned his Ph.D. degrees from Wayne State University, in the United States, and the University of Liege in Belgium. His research focuses on software evolution, program comprehension, big data, and cognitive process during software development. Dr. Xu has published more than 90 articles in referred journals and conference proceedings and a few authored/co-authored books. He has chaired seven IEEE international conferences and has been invited to deliver keynotes at various IEEE conferences. He is a senior member of IEEE and a member of ACM.