School of Engineering Distinguished Lecture Series

"Compiler-Directed High-Performance Intermittent Computation"

Changhee Jung
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Date: June 7, 2023 11:00 AM - 12:00 PM

Location: S3-201 Ookayama Campus

Abstract: In this talk, I will present two of my energy harvesting system research projects: (1) ReplayCache and (2) RockClimb. ReplayCache equips nonvolatile processors with a volatile cache in a lightweight yet performant way, while RockClimb enables stagnation-free intermittent computation for commodity energy harvesting microcontrollers. At the end of the talk, I will also introduce reliability and security issues of energy harvesting systems and how to realize their countermeasures on the cheap.

Bio: Changhee Jung is an Associate Professor of Computer Science at Purdue University. He received his PhD degree in Computer Science from Georgia Tech in 2013. His research interests are in compilers and computer architecture, with an emphasis on performance, reliability, and security. His work has appeared in top conferences such as MICRO, PLDI, ASPLOS, SC, and USENIX Security. He received the NSF Career Award, AMD/Google Faculty Research Awards, and the Silver Prize in the SAMSUNG HumanTech Thesis Competition. Recently, he was inducted into MICRO Hall of Fame (2021).

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