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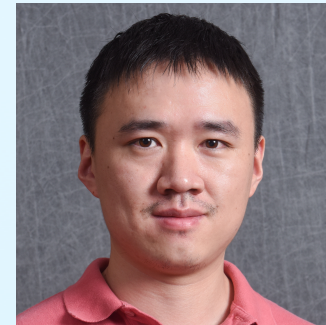
Seminar

**Department of
Computer Science**

Improving the Reliability of Interconnected Systems

Abstract. Real-world software systems are comprised of multiple interconnected components, e.g., multi-threaded systems have many concurrent threads, cloud systems have many different tasks running on distributed nodes, and web systems have front-end, back-end, database, framework, etc. The interactions between these interconnected components make it challenging to ensure the reliability of these systems. In this talk, I will present two recent projects, CloudSeer and Dataflow Tunneling, targeting reliability issues on cloud systems and web systems respectively. In particular, CloudSeer is a modeling and monitoring approach leveraging existing logs from cloud systems to diagnose system failures and Dataflow Tunneling is an approach to extract and model data flow information across multiple web application requests. I will end with a summary of some of my earlier work on concurrency bugs

Biography. Dr. Guoliang Jin is currently an assistant professor of the Department of Computer Science at North Carolina State University, and he received his Ph.D. in 2014 from the Department of Computer Sciences at the University of Wisconsin–Madison. His research areas are software reliability and software systems, with a focus on understanding, detecting, diagnosing, and fixing correctness bugs and performance bugs in various modern software systems. His work has been published in many top-tier conferences, including OSDI, PLDI, ASPLOS, ICSE, FSE, OOPSLA, and CAV. His work on automated concurrency-bug fixing received a SIGPLAN Research Highlights award with the comment “this is one of the first papers to attack the problem of automated bug fixing.”



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Time: 2:00 – 2:50pm
Room: Bate 1003

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