THE DEPARTMENT OF COMPUTER SCIENCE & THE COMPUTER SCIENCE
GRADUATE STUDENT ORGANIZATION (GSOCS) PRESENT

INVITED SPEAKER SERIES
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University of California - Riverside

Friday, October 19ᵗʰ at 12 noon, Room: Fine Arts 258

Computer System Security—An Architecture Perspective

Abstract : Computer systems are facing a growing threat from increasingly motivated, organized and sophisticated attackers. The problem is complicated by the rapid evolution that computing platforms are experiencing and will continue to experience: towards mobile and embedded devices, many-core systems, virtualization, data centers and clouds. These emerging platforms offer new system and use models and therefore are subject to new vulnerabilities and threat models. This talk motivates the role that computer architecture must play in the security of current and emerging systems. I will define this role spanning three primary directions: (1) understanding vulnerabilities exposed by the architecture; (2) architecture support for monitoring to improve resilience to attacks, but also to rapidly detect and contain successful attacks; and (3) Security for emerging architectures. I will animate these directions with examples from our recent work, and discuss implications for future systems.

Bio: Nael Abu-Ghazaleh is a Professor in the Computer Science and Engineering as well as the Electrical and Computer Engineering Departments at the University of California, Riverside. He serves as the chair for Computer Engineering Program. His research is in architecture support for computer system security, high performance computing, and networked and distributed computing.