

COMPUTER SCIENCE RESEARCH SEMINAR

Towards Automation of Cyber Defense: Vulnerability, Malware, and Human

Guanhua Yan, Assistant Professor
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Friday, September 21 at noon in room R15, Engineering Building

Abstract: The unprecedented scale and sophistication level of modern cyber-attacks call for new defensive methodologies more effective than those commonly deployed in practice. A key dimension in improving cybersecurity is to automate defensive cyber operations so as to reduce human errors, widely deemed as the weakest link in cybersecurity. This talk will summarize our recent research efforts towards the goal of cyber defense automation. Within a framework that models cyber-attacks as human exploitation of vulnerabilities in cyber systems to perform malicious activities, this talk will present our solutions to the scientific challenges we have faced in automating vulnerability discovery in 4G/LTE communication systems, cloud-based malware classification, and deception of human attackers aimed at compromising FTP services.

Bio: Dr. Guanhua Yan is an Assistant Professor in the Department of Computer Science at Binghamton University, State University of New York, where he has been since 2014. From 2005 to 2014 he worked at Los Alamos National Laboratory. He received his Ph.D. in Computer Science from Dartmouth College in 2005. His current research interests focus on cybersecurity, particularly on the defensive side.

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Refreshments will be provided!