



Low-Level Hardware Information Assisted Approach Towards System Security

Dr. Chen Liu, Clarkson University

Date: Monday August 3, 2026

Social Session: 3 – 3:30 PM **Talk:** 3:30-4:30 PM

Location: Shannon Room, 2nd Floor, Innovare Advancement Center

Register: <https://events.vtools.ieee.org/event/register/570215>

Cyber-attacks come in many different shapes and forms. In order to combat modern cyber-attacks, cyber-security researchers have to play the game of “cat and mouse” in analyzing and discovering the vulnerabilities of the system to come out on top against the malicious attackers. However, the traditional static detection systems are not able to differentiate between benign and malicious behaviors effectively. In this talk, I will share our thoughts on the detection of different attacks through modeling the execution behavior of an application using low-level hardware information. Our approaches can provide more flexibility for detection schemes by performing dynamic behavioral analysis at run-time. With anomaly detection methods, the abnormal behaviors that deviate from benign behaviors at run-time can be flagged and captured.

Innovare: <https://maps.app.goo.gl/FBYUXFQnnBPHuX8C9>



Speaker Bio: Dr. Chen Liu is a Full Professor with tenure in the Department of Electrical and Computer Engineering at Clarkson University, Potsdam, New York. His research has been focusing on the interaction between hardware and system software, especially using low-level hardware information to model the software behavior. Dr. Liu earned his M.S. in electrical engineering from University of California, Riverside in 2002 and his Ph.D. in electrical and computer engineering from University of California, Irvine in 2008, respectively. He is a senior member of both IEEE and ACM.