FACULTY RESEARCH TALKS
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Zoom talk | Friday, Nov. 4, 2022 | Noon to 1 p.m.

PRESENTER 1:
GHAITH RABADI
Professor, School of Modeling, Simulation and Training

Multimodal Transportation Simulations and Optimization

In this talk, Dr. Rabadi will present his recent research on simulation and optimization models and algorithms for multimodal supply chain and transportation problems, including military and humanitarian deployment, airport runway scheduling, electric vehicle routing, and container transshipment at maritime container port terminals.

Prior to joining UCF, Dr. Rabadi was a professor and graduate program director at the Department of Engineering Management & Systems Engineering at Old Dominion University. His research interests are in modeling and simulation, operations research and supply chain logistics. His research has been funded by NATO Allied Command Transformation, NASA, the Department of Homeland Security, Virginia Port Authority, Qatar Foundation and others.

PRESENTER 2:
XUEQIANG (BRANDON) WANG
Assistant Professor, Computer Science, Cyber Security and Privacy Cluster

Improving Security/Privacy Transparency of Mobile and IoT Systems, and Their Supply Chains

Recent research has highlighted the need for mobile/IoT devices and apps to disclose their security and privacy practices to consumers and downstream developers. However, due to the wide adoption of third-party code, and the presence of non-cooperative (or even malicious) device vendors and app developers, there remains a concern about the lack of transparency in mobile/IoT systems. In this talk, Dr. Wang will introduce efforts to increase security and privacy transparency for mobile/IoT, using static/dynamic app analysis, fuzz testing and data-driven techniques, such as NLP.

Dr. Wang received his Ph.D. from Indiana University Bloomington in 2020. Before joining UCF in Fall 2022, he worked on device security automation and vulnerability management at Amazon Lab126 for about three years. His main research interests include identifying security vulnerabilities, measuring cybercriminal activities, discovering new attack surfaces, and designing security mitigations in the broad fields of mobile, IoT, and software supply chain, using program analysis and data-driven approaches (ML, NLP, etc.).

PRESENTER 3:
QIAN (KEN) LOU
Assistant Professor, Computer Science, Cyber Security and Privacy Cluster

Towards Reliable Deep Learning Systems: Efficiency, Privacy and Security

In this talk, Dr. Lou will discuss his team's efforts to improve efficiency, privacy and security for emerging deep learning systems. Emerging deep learning models introduce larger models, new data-driven training and inference algorithms that require rethinking their efficiency, data privacy and model security. Specifically, Dr. Lou will introduce a lightweight transformer model for on-device inference and a privacy-preserving neural network framework based on post-quantum cryptography, e.g., fully homomorphic encryption.

Before coming to UCF, Dr. Lou was a senior research scientist at the Samsung Research AI center. He obtained his M.S. and Ph.D. degrees from Indiana University Bloomington in 2019 and 2021, respectively. Dr. Lou won the Luddy Outstanding Research Award and a best paper nomination at the prestigious ACM PACT conference. His research interests include deep learning, e.g., CV and NLP model compression, privacy-preserving/secure machine learning, and computer architecture, e.g., hardware accelerators.