

计算机与信息工程学院 学术讲座

 A first cut on IoT security -- a cyber-physical perspective

Presenter: Dr. Bo Luo, The University of Kansas

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 Avenue: Room 429, SCIE Building

 Host: Dr. Jun Shao

**Abstract:** With the exponential growth of the Internet of Things (IoT), new security challenges have emerged. In recent years, new vulnerabilities, threats, attacks, and controls have been introduced to the generation of smart "Things" that are connected to the Internet.

In this talk, I will first introduce a unified framework to capture and systematize existing research on IoT security. The framework consists of three orthogonal coordinates: (1) from the CPS components perspective, we focus on cyber, physical, and cyber-physical components; (2) from the CPS systems perspective, we explore general CPS features as well as representative systems (e.g., smart grids, medical CPS and smart cars); and (3) from the security perspective, we follow the well-known taxonomy of threats, vulnerabilities, attacks and controls.

I will then introduce a few ongoing projects on IoT security in our group: (1) smart and secure household devices; (2) security of smart cars -- from cyber physical perspective; (3) security and privacy vulnerabilities in unmanned aerial vehicles (UAVs).

**Biography：**Bo Luo is currently an associate professor with the EECS department at the University of Kansas. He is the director of the Information Assurance Laboratory (IAL) at KU's Information and Telecommunication Technology Center (ITTC). He is also the PI of KU's NSF CyberCorps Scholarship for Service program. He received his Ph.D. degree from The Pennsylvania State University in 2008, an M.Phil degree from the Chinese University of Hong Kong in 2003, and a B.E. from University of Sciences and Technology of China in 2001. His recent works mostly lie in the intersection of data science and privacy and security. He has worked on extracting valuable knowledge, such as user attributes and preferences, from social media; predicting user behaviors in large-scale social networks; automatically assessing the credibility of social media content; protecting user privacy in social networks; etc. Dr. Luo has published 50+ refereed papers, including ones in top conferences and journals such as IEEE Oakland, ACM CCS, ACM Multimedia Conference, IEEE TKDE, IEEE TIFS, VLDBJ, etc. He is also a co-founder of CANSec: Central Area Networking and Security Workshop (formerly KanSec: The Greater Kansas Area Security Workshop).