

Dr. Yunpeng (Jack) Zhang, University of Houston, USA



Dr. Yunpeng Zhang's research focuses on developing novel security and intelligence techniques to ensure cyber/physical system reliability, security, and performance in multiple industries, including energy, healthcare, smart cities, commerce, transportation, finance, government, defense, the internet of things, etc. Dr. Zhang is familiar with the state-of-the-art research and technologies related to cyber and physical security, artificial Intelligence, such as cryptography, access control, intrusion detection, blockchain, trust management, intelligent monitoring, deep learning, and data analysis. His work has not only resulted in more than 100 publications for prestigious conferences and journals in the cybersecurity and software engineering fields, but has also led to practical solutions to real-world problems. Dr. Zhang has invented more than 30 high-performance/security new algorithms/methods and developed ten software systems.

Dr. Zhang's current research examples are (1) a key challenge faced by major access control industries, XACML policies analysis, and he is developing effective and efficient approaches to detecting and correcting the policies; (2) Designing approaches for the inter-organizational workflows data safe sharing and policies of security access data in multiple workflow systems to reduce cyber-attack and data loss risks; (3) Researching decentralized, reliable and self-organized multi-layer security frameworks to identify spoof nodes, prevent malicious node attacks and ensure the validity and credibility of the data in the heterogeneous Internet of Things; and (4) Researching distributed Ledger technologies to enhance supply chain cyber and physical security.