Zhihua Yang

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EDUCATION

Syracuse University - College of Electrical Engineering & Computer Science, Syracuse, NY   August 2023 - Present
Doctor of Philosophy in Computer/Information Science and Engineering
- Course work: Structured Programing and Formal Method, Principle of Operating Systems, Deep Automated Theorem Proving, Causal Inference, Reinforcement Learning for AI Systems

Syracuse University - College of Electrical Engineering & Computer Science, Syracuse, NY   August 2021 - May 2023
Master of Science in Computer Engineering
- Course work: Advanced Computer Architecture, Object Oriented Programming C++, Advanced Data Structure and Algorithm, Object Oriented Design, Blockchain Foundation & App, Internet Security, Biometrics

South China Agricultural University - College of Engineering, Guangzhou, Guangdong,   September 2013 - September
China   2017
Bachelor of Engineering in Automation
- Course work: C Programming, Digital Image Processing, Principles & Application of Microcomputer, Principles of Automatic Control, Single-Chip Principles and Interfacing

EXPERIENCE

Research Assistant, College of EECS, Syracuse University – Syracuse, NY   October 2022 - Present
- Designed and implemented a safe refund module for Uniswap v3 utilizing existing transaction verification tool, offers an interface for refunding accidentally transferred tokens to original sender
- Created a Satisfiability Modulo Theories model related to an existing problem in blockchain node memory pool mechanism using Programing Z3
- Collected, analyzed, and visualized behavior patterns of Gnosis Safe wallets
- Studied and analyzed architecture and security of EVM-based layer2 rollups (e.g, Optimism, Arbitrum, Zk-Sync)
- Built an arbitrage simulator with ether.js, PostgreSQL, pandas, and NumPy to find potential arbitrage paths and calculate profits

Part-time Grader, College of EECS, Syracuse University – Syracuse, NY   September 2022 - December
2022
- Graded homework, lab, and exam for the Data Structures course

Embedded Software Engineer, iSoftStone Corporation – Shenzhen, Guangdong, China   October 2018 - May 2019
- Maintained, developed, and debugged power management module and Wi-Fi module of telematics collaborating with hardware department
- Completed more than 20 function requests development to fulfill different needs of specific implementation, such as updating ethernet driver with new third-party vendor driver, modified power module functions to adapt buyer's requirements

PUBLICATIONS
- Wang, Y., Tang, Y., Li, K., Ding, W., & Yang, Z. (2024). Understanding Ethereum Mempool Security under Asymmetric DoS by Symbolic Stateful Fuzzing. The 33rd USENIX Security Symposium

TECHNICAL SKILLS
- Programming Languages: C, C++, Java, HTML, JavaScript, Solidity, Shell script, Python
- Programming Techniques: Data structure and algorithm, Operating System Concepts, Spring, Maven, Web Development, Java ORM, Object-oriented Design, Linux Programming, Relational database, NoSQL, VCS, Docker, React, Internet Security, Junit, AWS/GCP, Kubernetes, Blockchain Programing, Biometrics

INTERESTS
- Distributed systems performance
- Performance understanding, analysis, and optimization
- Cost-optimization mechanism designs