ZHENGJIE JI

Ph.D. Student, Department of Computer Science, Virginia Tech

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RESEARCH INTERESTS

My research interests fall in system security, network security, and machine learning security. My current research focuses on building systems for various security applications (e.g., attack detection, malware detection, and threat hunting). Specifically, some of my research focus on: system auditing (e.g., attack investigation, attack pattern search, attack dependency tracking); and cyber threat intelligence (e.g., intelligence gathering, management, quality control, knowledge-enhanced defenses).

AWARDS

CCI SWVA Cyber Innovation Scholarship	2023
KTH Covid-19 Financial Aid Scholarship, KTH Royal Institute of Technology	2021
Hattrick Award, KTH Royal Institute of Technology	2020

EDUCATION

Ph.D. in Computer Science, Virginia Tech	2022 - present
Relevant Coursework: System Security, Operating Systems, Network Security	
M.S. in Computer Science, KTH Royal Institute of Technology	2020 - 2022
Relevant Coursework: Cryptography, Data Mining, Deep Learning	
B.E. in Electrical and Computer Engineering, Shanghai Jiao Tong University	2017 - 2021
Relevant Coursework: Machine Learning, Artificial Intelligence, Computer Organization	

PUBLICATIONS

CONFERENCE PAPERS

1. [**To be resubmitted to EuroSys'23**] **Zhengjie Ji***, Xinyu Yang*, Haoyuan Liu* (* equal contribution), Ziyu Wang, Peng Gao. "Zebra: Deeply Integrating System-Level Provenance Search and Tracking for Efficient Attack Investigation". *European Conference on Computer Systems*, 2023.

2. [**To be resubmitted to CCS'23**] **Zhengjie Ji***, Xiaoyuan Liu* (* equal contribution), Edward Choi, Sibo Ma, Xinyu Yang, Zilin Zhang, Dawn Song, Peng Gao. "THREATKG: A System for Automated Open-Source Cyber Threat Knowledge Gathering and Management". *ACM Conference on Computer and Communications Security*, 2023.

3. [**To be resubmitted to VLDB'23**] **Zhengjie Ji**, Xinyu Yang, Edward Choi, Peng Gao. "High-Fidelity Cyber Threat Knowledge Acquisition via Knowledge Graph Question Answering". *International Conference on Very Large Data Bases*, 2023.

4. [**Under review RAID'23**] Myeongseob Ko, Xinyu Yang, **Zhengjie Ji**, Hoang Anh Just, Peng Gao, Anoop Kumar, Ruoxi Jia. "PrivMon: A Stream-Based System for Real-Time Privacy Attack Detection for Machine Learning Models". *International Symposium on Research in Attacks, Intrusions and Defenses*, 2023.

5. [**arXiv'21**] Haoran Su, **Zhengjie Ji**, H. Johansson, Li Jin. "A Hybrid Queuing Model for Coordinated Vehicle Platooning on Mixed-Autonomy Highways: Training and Validation". *CoRR arXiv*, 2021.

DEMO PAPERS

1. **[Under review VLDB'23 Demo]** Xinyu Yang*, **Zhengjie Ji***, Haoyuan Liu* (* equal contribution), Ziyu Wang, Peng Gao. "Enhanced Cyber Attack Investigation through Integrated System-Level Provenance Querying". *International Conference on Very Large Data Bases Demo Track*, 2023.

2. **[ICDE'22 Demo]** **Zhengjie Ji**, Edward Choi, Peng Gao. "A Knowledge Base Question Answering System for Cyber Threat Knowledge Acquisition". *IEEE International Conference on Data Engineering Demo Track*, 2022.

TALKS

1. **[ICDE'22 Demo]** **Zhengjie Ji**, Edward Choi, Peng Gao. "A Knowledge Base Question Answering System for Cyber Threat Knowledge Acquisition". *IEEE International Conference on Data Engineering Demo Track*, 2022.

PROFESSIONAL SERVICES

[TDSC'23] External Reviewer 2023
IEEE Transactions on Dependable and Secure Computing, 2023

[CCS'23] External Reviewer 2023
ACM Conference on Computer and Communications Security, 2023

[CCS'22] Student Volunteer 2022
ACM Conference on Computer and Communications Security, 2022

TEACHING EXPERIENCE

Teaching Assistant, Virginia Tech expected 2023
Course: CS-5594 Blockchain Technologies

Teaching Assistant, Shanghai Jiao Tong University 2021
Course: VE492 Intro to Artificial Intelligence

MENTORING EXPERIENCE

Yuansu Hao, Computer Science of Nanjing Normal University 2023 - present
Undergraduate Research Intern

SKILLS

Language Skills	English, Mandarin
Programming Skills	Python, Java, C/C++
Soft Skills	Project Management

ENTRACURRICULAR ACTIVITIES

President 2018 - 2020
Shanghai Jiao Tong University Small Animal Protection Association (SJTUSAPA)

Member 2018 - 2019
Innovation Center of Shanghai Jiao Tong University

Member 2017 - 2018
Technical Department of UM-SJTU Joint Institute