

Yuede Ji

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Education

- 2015.9 - 2021.8 **The George Washington University**, Washington, DC
Ph.D. in Computer Engineering
- 2012.9 - 2015.6 **Jilin University**, Jilin, China
M.S. in Computer Science
- 2008.9 - 2012.6 **Jilin University**, Jilin, China
B.E. in Software Engineering

Appointments

- 2021.8 - present **Assistant Professor**, Department of Computer Science and Engineering, University of North Texas, Denton, TX
- 2020.6 - 2020.12 **Senior Intern**, Kryptowire LLC, McLean, VA
- 2017.9 - 2018.5 **Graduate Student Intern**, Planning and Strategic Initiatives, Division of Information Technology, The George Washington University, Washington, DC
- 2015.9 - 2021.6 **Graduate Research/Teaching Assistant**, Department of Electrical and Computer Engineering, The George Washington University, Washington, DC

Publications (Google Scholar)

Conference Paper

- [ISSTA'23] Lei Cui, Jiancong Cui, **Yuede Ji**, Zhiyu Hao, Lun Li, Zhenquan Ding. API2vec: Learning Representations of API Sequences for Malware Detection. ACM SIGSOFT International Symposium on Software Testing and Analysis (ISSTA), 2023
- [HPDC'22] Qiang Fu, **Yuede Ji**, H. Howie Huang. TLPGNN: A Lightweight Two-Level Parallelism Paradigm for Graph Neural Network Computation on GPU. In 31st International Symposium on High-Performance Parallel and Distributed Computing (HPDC), 2022.
- [EuroS&P'22] Haoyu He, **Yuede Ji**, H. Howie Huang. Illuminati: Towards Explaining Graph Neural Networks for Cybersecurity Analysis. In IEEE European Symposium on Security and Privacy.
- [IEEE ICC'22] **Yuede Ji**, H. Howie Huang. NestedGNN: Detecting Malicious Network Activity with Nested Graph Neural Networks. In IEEE International Conference on Communications.
- [USENIX Security'21] **Yuede Ji**, Mohamed Elsabagh, Ryan Johnson, Angelos Stavrou. DEFInit: An Analysis of Exposed Android Init Routines. In the 30th USENIX Security Symposium.
- [AsiaCCS'21] **Yuede Ji**, Lei Cui, and H. Howie Huang. Differentiating Source-Binary Code Similarity with Graph Triplet-Loss Network. In the 16th ACM ASIA Conference on Computer and Communications Security (AsiaCCS), 2021.

- [ACNS'21] **Yuede Ji**, Lei Cui, and H. Howie Huang. Vestige: Identifying Binary Code Provenance for Vulnerability Detection. In the 19th International Conference on Applied Cryptography and Network Security (ACNS), 2021.
- [RAID'20] Benjamin Bowman, Craig Laprade, **Yuede Ji**, and H. Howie Huang. Detecting Lateral Movement in Enterprise Computer Networks with Unsupervised Graph AI. In 23rd International Symposium on Research in Attacks, Intrusions and Defenses (RAID), 2020.
- [HPDC'20] **Yuede Ji**, H. Howie Huang, Aquila: Adaptive Parallel Computation of Graph Connectivity Queries. In 29th International Symposium on High-Performance Parallel and Distributed Computing (HPDC), 2020.
- [HPCC'20] **Yuede Ji**, Hang Liu, and H. Howie Huang. SwarmGraph: Analyzing Large-Scale In-Memory Graphs on GPUs. In IEEE International Conference on High Performance Computing and Communications (HPCC), 2020
- [ICCC'19] **Yuede Ji**, Benjamin Bowman, and H. Howie Huang. Securing malware cognitive systems against adversarial attacks. In 2019 IEEE International Conference on Cognitive Computing (ICCC), 2019.
- [SC'18] **Yuede Ji**, Hang Liu, and H. Howie Huang, iSpan: Identifying Strongly Connected Components with Spanning Trees, In 2018 ACM/IEEE International Conference for High Performance Computing, Networking, Storage, and Analysis (SC), 2018.
- [NPC'14] Jian Cao, Qiang Li, **Yuede Ji**, Yukun He, and Dong Guo. Detection of forwarding-based malicious URLs in online social networks. In 11th IFIP International Conference on Network and Parallel Computing (NPC), 2014. Invited to journal publication, International Journal of Parallel Programming, 2016. **Best Paper Award**
- [ICPADS'14] **Yuede Ji**, Yukun He, Xinyang Jiang, and Qiang Li. Towards Social Botnet Behavior Detecting in the End Host. In 20th IEEE International Conference on Parallel and Distributed Systems (ICPADS), 2014
- [ISPEC'14] **Yuede Ji**, Yukun He, Dewei Zhu, Qiang Li, and Dong Guo. A Multiprocess Mechanism of Evading Behavior-Based Bot Detection Approaches. In 10th International Conference on Information Security Practice and Experience (ISPEC), 2014.
- [HPCC'13] **Yuede Ji**, Yukun He, Qiang Li, and Dong Guo. BotCatch: A Behavior and Signature Correlated Bot Detection Approach. In IEEE International Conference on High Performance Computing and Communications (HPCC), 2013.
- [NPC'13] Yukun He, Qiang Li, **Yuede Ji**, and Dong Guo. BotInfer: A Bot Inference Approach by Correlating Host and Network Information. In 10th IFIP International Conference on Network and Parallel Computing (NPC), 2013.

Journal Paper

- [TOPC'22] **Yuede Ji**, Hang Liu, Yang Hu, and H. Howie Huang. iSpan: Identifying Strongly Connected Components with Spanning Trees. ACM Transactions on Parallel Computing, 2022
- [COMNET'21] Longkang Shang, Dong Guo, **Yuede Ji**, and Qiang Li. Discovering Unknown Advanced Persistent Threat Using Shared Features Mined by Neural Networks. Computer Networks, 2021
- [KBS'20] Qi Wang, **Yuede Ji**, Yongsheng Hao, and Jie Cao. GRL: Knowledge Graph Completion with GAN-based Reinforcement Learning. Knowledge-Based Systems, 2020.
- [SCN'19] Bo Feng, Qiang Li, **Yuede Ji**, Dong Guo, and Xiangyu Meng. Stopping the cyberattack in the early stage: assessing the security risks of social network users. Security and Communication Networks, 2019.

- [IJDSN'17] Yukun He, Qiang Li, Jian Cao, **Yuede Ji**, and Dong Guo. Understanding socialbot behavior on end hosts. International Journal of Distributed Sensor Networks, 2017.
- [COSE'16] **Yuede Ji**, Yukun He, Xinyang Jiang, Jian Cao, Qiang Li, Combating the evasion mechanisms of social bots, Computers & Security, Volume 58, Pages 230-249, 2016.
- [SCN'15] **Yuede Ji**, Qiang Li, Yukun He, and Dong Guo. BotCatch: leveraging signature and behavior for bot detection. Security and Communication Networks, 8(6): 952-969, 2015.
- [IJDSN'15] **Yuede Ji**, Qiang Li, Yukun He, and Dong Guo. Overhead Analysis and Evaluation of Approaches to Host-based Bot Detection. International Journal of Distributed Sensor Networks, 2015.

Book Chapter

- [CRC'19] **Yuede Ji**, and Qiang Li. Understanding and Detecting Social Botnet. Botnets: Architectures, Countermeasures, and Challenges, CRC Press, 2019.

Poster

- [SC'22] Lillian Wang, Avik Malladi, and **Yuede Ji**. Efficient Sparse Deep Neural Network Computation on GPU, In ACM/IEEE International Conference for High Performance Computing, Networking, Storage, and Analysis (SC), 2022. **The first two authors are high school students.**

Teaching

- 2023 Spring CSCE-6933: Advanced Topics in CSE (focusing on graph theory and graph neural network)
- 2022 Fall CSCE-5150: Analysis of Computer Algorithms
- 2022 Spring CSCE-5565: Secure Software Systems
- 2021 Fall CSCE-5150: Analysis of Computer Algorithms

Funding

- 2022 Google Cloud Education Credits, \$5,350
- 2021 Google Cloud Research Credits, \$5,000
- 2021 Google Cloud Education Credits, \$2,900

Services

- Panelist National Science Foundation (NSF) 2022, 2023
- Program ACM High-Performance Parallel and Distributed Computing (HPDC) 2023
- Committee Learning on Graphs Conference (LoG) 2022
- IEEE Security and Privacy 2019 (Student PC)
- IEEE Security and Privacy 2018 (Student PC)
- EuroSys 2018 (Shadow PC)
- Poster Judge ACM/IEEE SC 2021
- Reviewer IEEE Transactions on Parallel and Distributed Systems
- ACM Transactions on Parallel Computing
- IEEE Transactions on Cloud Computing
- Journal of Parallel and Distributed Computing

Computer Networks

Security and Communication Networks

Cybersecurity

Frontiers of Computer Science

Wireless Communications and Mobile Computing

External Reviewer SC'19, '18, '16, USENIX ATC'18, '17, ICS'18, IPDPS'18, NAS'18

Volunteer HPDC'17