DUAN Yue

School of Computing and Information Systems
Singapore Management University (SMU)
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Education

PhD, University of California, United States of America, 2019

Master of Science, Syracuse University, United States of America, 2011

Bachelor of Engineering, Xi'an Jiaotong University, China, 2009

Academic Appointments

Assistant Professor of Computer Science, School of Computing and Information Systems, SMU, Jul 2023 - Present

Gladwin Development Chair Assistant Professor, Computer Science, Illinois Institute of Technology, United States of America, Aug 2020 - Jun 2023

Postdoctoral Associate, Computer Science, Cornell University, United States of America, Feb 2019 - Aug 2020

Other Positions and Affiliations

System Software Engineer, Nvidia, United States of America, Aug 2011 - May 2013

Awards and Honors

Excellence in Teaching Award, Illinois Institute of Technology College of Computing, 2023

CRII Award, NSF, 2023

Best Paper Honorable Mention Award, ACM CCS, 2022

Best Paper Award, RAID, 2019

RESEARCH

Publications

Journal Articles [Refereed]

Probabilistic Path Prioritization for Hybrid Fuzzing, by ZHAO, Lei; CAO, Pengcheng; DUAN, Yue; YIN, Heng;

XUAN, Jifeng. (2022). *IEEE Transactions on Dependable and Secure Computing, 19* (3), 1955-1073. https://doi.org/10.1109/TDSC.2020.3042259 (Published)

Conference Proceedings

An LLM-assisted easy-to-trigger poisoning attack on code completion models: Injecting disguised vulnerabilities against strong detection, by YAN, Shenao; WANG, Shen; DUAN, Yue; HONG, Hanbin; LEE, Kiho; KIM, Doowon; HONG, Yuan. (2024.0). *Proceedings of the 33rd USENIX Security Symposium, Philadelphia, 2024 August 14-16,* (pp. 1-28) Berkeley: Usenix. (Published)

Marco: A stochastic asynchronous concolic explorer, by HU, Jie; DUAN, Yue; YIN, Heng. (2024.0). *2024 IEEE/ACM 46th International Conference on Software Engineering (ICSE 2024): Lisbon, April 14-20: Proceedings,* (pp. 1-12) New York: ACM. https://doi.org/10.1145/3597503.3623301 (Published)

SigmaDiff: Semantics-aware deep graph matching for pseudocode diffing, by GAO, Lian; QU, Yu; YU, Sheng; DUAN, Yue; YIN, Heng. (2024.0). *Proceedings of the 31st Network and Distributed System Security Symposium (NDSS 2024), San Diego, CA, USA, February 26 - March 1,* (pp. 1-19) US: Internet Society. https://doi.org/10.14722/ndss.2024.23208 (Published)

Proxy hunting: Understanding and characterizing proxy-based upgradeable smart contracts in blockchains, by BODELL, William E III; MEISAMI, Sajad; DUAN, Yue. (2023.0). *Proceedings of the 32nd USENIX Security Symposium, California, USA, 2023 August 9-11
,* US: (Published)

Towards automated safety vetting of smart contracts in decentralized applications, by DUAN, Yue; ZHAO, Xin; PAN, Yu; LI, Shucheng; LI, Minghao; XU, Fengyuan; ZHANG, Mu. (2022.0). *CCS '22: Proceedings of the ACM Conference on Computer and Communications Security, Los Angeles, November 7-11,* (pp. 921-935) New York: ACM. https://doi.org/10.1145/3548606.3559384 (Published)

Deepbindiff: Learning program-wide code representations for binary diffing, by DUAN, Yue; LI, Xuezixiang; WANG, Jinghan; Wang; YIN, Heng. (2020.0). *Proceedings of the Network and Distributed System Security Symposium, California, USA, 2020 February 23-26 ,* US: http://doi.org/10.14722/ndss.2020.24311 (Published)

Automatic generation of non-intrusive updates for third-party libraries in Android applications, by DUAN, Yue; GAO, Lian; HU, Jie; YIN, Heng. (2019.0). *22nd International Symposium on Research on Attacks, Intrusions and Defenses (RAID 2019): Beijing, September 23-25: Proceedings,* (pp. 277-292) Berkekey, CA: USENIX Association. https://www.usenix.org/conference/raid2019/presentation/duan (Published)

Be sensitive and collaborative: Analyzing impact of coverage metrics in Greybox fuzzing, by WANG, Jinghan; DUAN, Yue; SONG, Wei; YIN, Heng; SONG, Chengyu. (2019.0). *RAID 2019 Proceedings: 22nd International Symposium on Research on Attacks, Intrusions and Defenses, Beijing, September 23-25,* (pp. 1-15) Berkeley, CA: USENIX Association. (Published)

Send hardest problems my way: Probabilistic path prioritization for hybrid fuzzing, by ZHAO, Lei; DUAN, Yue: YIN, Heng; XUAN, Jifeng. (2019.0). *Proceedings of the 26th 2019 Network and Distributed System Security Symposium: San Diego, CA, February 24-27,* (pp. 1-15) Reston, VA: Internet Society. https://doi.org/10.14722/ndss.2019.23504 (Published)

Things you may not know about Android (un)packers: A systematic study based on whole-system emulation, by DUAN, Yue; ZHANG, Mu; BHASKAR, Abhishek Vasist; YIN, Heng; PAN, Xiaorui; LI, Tongxin; WANG, Xueqiang; WANG, Xiaofeng. (2018.0). *Proceedings of the Network and Distributed System Security Symposium, California, USA, 2018 February 18-21
,* US: http://doi.org/10.14722/ndss.2018.23296 (Published)

JSForce: A forced execution engine for malicious javascript detection, by HU, Xunchao; CHENG, Yao; DUAN, Yue; HENDERSON, Andrew; YIN, Heng. (2017.0). *Proceedings of the 13th EAI International Conference on Security and Privacy in Communication Networks, Ontario, Canada, 2017 October 22-25,* (pp. 704-720) Berlin : Springer Verlag. http://doi.org/10.1007/978-3-319-78813-5_37 (Published)

Dark hazard: Large-scale discovery of unknown hidden sensitive operations in Android apps, by PAN, Xiaorui; WANG, Xueqiang; DUAN, Yue; WANG, Xiaofeng; YIN, Heng. (2017.0). *Proceedings of the 24th Network and Distributed System Security Symposium, San Diego, California, 2017 February 26 - March 1,* (pp. 1-15) United States: Internet Society. https://doi.org/10.14722/ndss.2017.23265 (Published)

Towards automatic generation of security-centric descriptions for Android apps, by ZHANG, Mu; DUAN, Yue; FENG, Qian; YIN, Heng. (2015.0). *Proceedings of the 22nd ACM Conference on Computer and Communications Security, Colorado, USA, 2015 October 12-16,* (pp. 518-529) New York: ACM. http://doi.org/10.1145/2810103.2813669 (Published)

Privacy-preserving offloading of mobile app to the public cloud, by DUAN, Yue; ZHANG, Mu; YIN, Heng; TANG, Yuzhe. (2015.0). *Proceedings of the 7th USENIX Workshop on Hot Topics in Cloud Computing, California, USA, 2015 July 6-7,* California: USENIX Association. (Published)

Semantics-aware Android malware classification using weighted contextual API dependency graphs, by ZHANG, Mu; DUAN, Yue; YIN, Heng; ZHAO, Zhiruo. (2014.0). *Proceedings of the 21st ACM Conference on Computer and Communications Security, Scottsdale, USA, 2014 November 3-7,* (pp. 1105-1116) New York: ACM. http://doi.org/10.1145/2660267.2660359 (Published)

Research Grants

Singapore Management University

Detecting VM-Packed Android Malware via Deep Learning Techniques, SMU Internal Grant, Ministry of Education (MOE) Tier 1 , PI (Project Level): DUAN Yue, 2023, S$119,768

TEACHING

Courses Taught

Singapore Management University

Undergraduate Programmes :

    Foundations of Cybersecurity

    Software and Systems Security

Postgraduate Research Programmes :

    Empirical Research Project 1

EXTERNAL SERVICE – PROFESSIONAL

Committee Member, Program Committee, The ACM Conference on Computer and Communications Security (CCS), 2025

Committee Member, Program Committee, USENIX Security Symposium (USENIX Security), 2025

Committee Member, Program Committee, Financial Cryptography and Data Security (FC), 2025

Committee Member, Program Committee, Annual Computer Security Applications Conference (ACSAC), 2024

Committee Member, Program Committee, International Symposium on Software Reliability Engineering (ISSRE), 2024

Committee Member, Program Committee, International Symposium on Research in Attacks, Intrusions and Defenses (RAID), 2024

Committee Member, Program Committee, IEEE International Conference on Distributed Computing Systems (ICDCS), 2024