

Jiongchi Yu

School of Computing and Information Systems (SCIS)
Singapore Management University (SMU)
80 Stamford Rd, Singapore, 178902

email:jcyu.2022@smu.edu.sg
website:ttfish.cc
orcid:0000-0002-2888-4499

EDUCATION

Ph.D. Singapore Management University, Singapore

Computer Science 2022 - 2026 (expected)
Advisor: Prof. Xiaofei Xie

B.E. Zhejiang University, Hangzhou, China

Polymer Material and Engineering 2017 - 2022
Advisor: Prof. Zhikang Xu / Prof. Fan Zhang

PUBLICATIONS

(* for equal contribution, # for corresponding author)

Conference Proceedings

- 2026 Xiaofei Yue, Ziming Zhao, **Jiongchi Yu**, Huidong Ma, Zhaoxuan Li, Tingting Li, and Jianwei Yin. “sMoE: Elastic MoE-Based Inference with Serverless Computing via Fine-grained Expert Scaling.” In: *The 63rd ACM/IEEE Design Automation Conference (DAC)*. 2026, (**CORE-A***)
- 2026 Tingting Li, Ziming Zhao, Zhaoxuan Li, Xiaofei Yue, and **Jiongchi Yu**. “Fair and Carbon-Aware LLM Routing for Web Services.” In: *Proceedings of the ACM on Web Conference 2026*. 2026, (**CORE-A***)
- 2026 Xiaofei Yue, Fangming Zhao, Fulun Ye, **Jiongchi Yu**, Zhaoxuan Li, Tingting Li, Ziming Zhao, and Jianwei Yin. “HeteroSim: Towards High-Fidelity Heterogeneous LLM Training Simulation on GPUs.” In: *Proceedings of the ACM on Web Conference 2026*. 2026, (**CORE-A***)
- 2026 **Jiongchi Yu***, Weipeng Jiang*, Xiaoyu Zhang, Qiang Hu, Xiaofei Xie, and Chao Shen. “Towards Automatic Software Faults Analysis.” In: *2026 IEEE/ACM 47th International Conference on Software Engineering: Companion Proceedings (Poster Track)*. 2026, (**CORE-A***)
- 2026 Ang Zhou*, **Jiongchi Yu***, Yiran Zhang, Ziming Zhao, Zhaoxuan Li, and Tingting Li. “Polaris: MIR-Level Obfuscation in LLVM for Efficient and Robust Decompiler Resistance.” In: *2026 IEEE/ACM 47th International Conference on Software Engineering: Companion Proceedings (Demonstrations Track)*. 2026, (**CORE-A***)
- 2026 **Jiongchi Yu**, Xiaofei Xie, Qiang Hu, Yuhang Ma, and Ziming Zhao. “Chimera: Harnessing Multi-agent LLMs for Automatic Insider Threat Simulation.” In: *Network and Distributed System Security Symposium (NDSS) 2026*. 2026, (**CORE-A***)
- 2025 Jian Wang, Xiaofei Xie, Qiang Hu, Shangqing Liu, **Jiongchi Yu**, Jiaolong Kong, and Yi Li. “Defects4C: Benchmarking Large Language Model Repair Capability with C/C++ Bugs.” In: *2025 40th IEEE/ACM International Conference on Automated Software Engineering (ASE)*. IEEE. 2025, (**CORE-A***)

- 2025 **Jiongchi Yu**, Xiaofei Xie, Qiang Hu, Bowen Zhang, Ziming Zhao, Yun Lin, Lei Ma, Ruitao Feng, and Frank Liauw. “CASHift: Benchmarking Log-Based Cloud Attack Detection under Normality Shift.” In: *Proceedings of the ACM on Software Engineering* 2.FSE (2025, **CORE-A***), pp. 1687–1709
- 2025 Ziming Zhao, Zhuoxue Song, Xiaofei Xie, Zhaoxuan Li, **Jiongchi Yu**, Fan Zhang, and Tingting Li. “Towards Context-Aware Traffic Classification via Time-Wavelet Fusion Network.” In: *Proceedings of the 31st ACM SIGKDD Conference on Knowledge Discovery and Data Mining*. 2025, (**CORE-A***)
- 2024 **Jiongchi Yu**, Xiaofei Xie, Cen Zhang, Sen Chen, Yuekang Li, and Wenbo Shen. “Bugs in Pods: Understanding Bugs in Container Runtime Systems.” In: *Proceedings of the 33rd ACM SIGSOFT International Symposium on Software Testing and Analysis (Technical Track)*. 2024, (**CORE-A**)
- 2024 Ziming Zhao, Zhaoxuan Li, Tingting Li, **Jiongchi Yu**, Fan Zhang, and Rui Zhang. “Improving Model Robustness against Adversarial Examples with Redundant Fully Connected Layer.” In: *Companion Proceedings of the ACM on Web Conference 2024 (Short Paper)*. 2024, (**CORE-A***), pp. 529–532
- 2024 Xi Ling, **Jiongchi Yu**, Ziming Zhao, Zhihao Zhou, Haitao Xu, Binbin Chen, and Fan Zhang. “DDoSMiner: An Automated Framework for DDoS Attack Characterization and Vulnerability Mining.” In: *International Conference on Applied Cryptography and Network Security*. 2024, (**CORE-B**)
- 2023 **Jiongchi Yu***, Yuechen Wu*, Xiaofei Xie, Wei Le, Lei Ma, Yingfeng Chen, Yujing Hu, and Fan Zhang. “GameRTS: A Regression Testing Framework for Video Games.” In: *Proceedings of the 45th International Conference on Software Engineering (Technical Track)*. 2023, (**CORE-A***)

Journal Articles

- 2025 Cheng Shi, **Jiongchi Yu**, Ziming Zhao, Jiongyi Chen, and Fan Zhang. “CGIFuzz: Enabling Gray-Box Fuzzing for Web CGI of IoT Devices.” In: *IEEE Transactions on Information Forensics and Security* (2025, **CORE-A***)
- 2025 Ziming Zhao, Zhaoxuan Li, Xiaofei Xie, Zhipeng Liu, Tingting Li, **Jiongchi Yu**, Fan Zhang, and Binbin Chen. “Verify All Traffic: Towards Zero-Trust In-Network Intrusion Detection against Multipath Routing.” In: *IEEE Journal on Selected Areas in Communications* (2025, **Q1**)
- 2024 Ziming Zhao, Zhaoxuan Li, Xiaofei Xie, **Jiongchi Yu**, Fan Zhang, Rui Zhang, Binbin Chen, Xiangyang Luo, Ming Hu, and Wenrui Ma. “FOSS: Towards Fine-Grained Unknown Class Detection against the Open-Set Attack Spectrum with Variable Legitimate Traffic.” In: *IEEE/ACM Transactions On Networking* (2024, **CORE-A***)
- 2024 Ziming Zhao, Zhaoxuan Li, Zhihao Zhou, **Jiongchi Yu**, Zhuoxue Song, Xiaofei Xie, Fan Zhang, and Rui Zhang. “DDoS Family: A Novel Perspective for Massive Types of DDoS Attacks.” In: *Computers & Security* (2023, **CORE-B**), p. 103663
- 2023 Ziming Zhao, Zhaoxuan Li, **Jiongchi Yu**, Fan Zhang, Xiaofei Xie, Haitao Xu, and Binbin Chen. “CMD: Co-analyzed IoT Malware Detection Beyond the Network Traffic Domain.” In: *IEEE Transactions on Mobile Computing* (2023, **CORE-A***)
- 2022 Shangjin Yang, Zhiyuan Xu, Lingyun Zou, **Jiongchi Yu**, Jian Ji, and Zhikang Xu. “Porous

- Photo-Fenton Catalysts Rapidly Triggered by Levodopa-Based Mussel-Inspired Coatings for Enhanced Dye Degradation and Sterilization.” In: *Langmuir* 38.31 (2022, **SCI**), pp. 9587–9596
- 2021 Renqiang Zhang, Xiangyu Jiang, **Jiongchi Yu**, Chong Zeng, Ming Gong, and Shun Xu. “Calculation and Optimization of Correlation Function in Distillation Method of Lattice Quantum Chromodynamics.” In: *ACTA PHYSICA SINICA* 70.16 (2021, **SCI**)
- 2021 **Jiongchi Yu**, Mengqi Ma, Chengye Zhu, Dengfeng Hu, Jian Ji, and Zhikang Xu. “MoS₂ Membranes with Photothermal Conversion Property for Nanofiltration and Antibacterial Activity.” In: *ACTA POLYMERICA SINICA* 52.5 (2021, **SCI**), pp. 504–512

Preprint Papers

- 2026 **Jiongchi Yu**, Xiaolin Wen, Sizhe Cheng, Xiaofei Xie, Qiang Hu, and Yong Wang. “Human in the Loop for Fuzz Testing: Literature Review and the Road Ahead.” In: *arXiv preprint arXiv:2603.13411* (2026)
- 2026 Xinyang Liu, Qiang Hu, Yujie Ma, Zhenheng Tang, **Jiongchi Yu**, Tianlin Li, Yao Zhang, Junjie Wang, Hao Liu, Yongqiang Lyu, and Yves Le Traon. “Data-Efficient Large Language Model Training: A Survey.” In: (2026)
- 2026 **Jiongchi Yu**^{*}, Yuhan Ma^{*}, Xiaoyu Zhang, Junjie Wang, Qiang Hu, Chao Shen, and Xiaofei Xie. “PTCBENCH: Benchmarking Contextual Stability of Personality Traits in LLM Systems.” In: *arXiv preprint arXiv:2602.00016* (2026)
- 2025 Chengjia Wang, Lanling Tang, Ming Yuan, **Jiongchi Yu**[#], Xiaofei Xie, and Jiajun Bu. “Leveraging LLM Agents for Automated Video Game Testing.” In: *arXiv preprint arXiv:2509.22170* (2025)
- 2025 Keke Lian, Bin Wang, Lei Zhang, Libo Chen, Junjie Wang, Ziming Zhao, Yujiu Yang, Haotong Duan, Haoran Zhao, Shuang Liao, Mingda Guo, Jiazheng Quan, Yilu Zhong, Chenhao He, Jie Wu, Haoling Li, Zhaoxuan Li, **Jiongchi Yu**, Hui Li, and Dong Zhang. “ASE: A Repository-Level Benchmark for Evaluating Security in AI-Generated Code.” In: *arXiv preprint arXiv:2508.18106* (2025)
- 2025 Yujie Ma, Lili Quan, Xiaofei Xie, Qiang Hu, **Jiongchi Yu**, Yao Zhang, and Sen Chen. “Understanding the Supply Chain and Risks of Large Language Model Applications.” In: *arXiv preprint arXiv:2507.18105* (2025)
- 2025 Weipeng Jiang, Xiaoyu Zhang, Xiaofei Xie, **Jiongchi Yu**, Yuhan Zhi, Shiqing Ma, and Chao Shen. “The Foundation Cracks: A Comprehensive Study on Bugs and Testing Practices in LLM Libraries.” In: *arXiv preprint arXiv:2506.12320* (2025)

AWARDS AND HONORS

- 2025 SMU SCIS Dean’s List Award
- 2025 SMU Presidential Doctoral Fellowship
- 2025 MSR 2025 Distinguished Junior Reviewer Award
- 2023 SMU Presidential Doctoral Fellowship
- 2022 Participate Certificate (ranked 5th), International Student Cluster Competition (ISC22)

- 2021 First Prize Award, Asia Student Supercomputer Challenge (ASC20-21)
- 2020 Bronze Award, The 8th "Intel Cup" Parallel Application Challenge (PAC20)
- 2019 Second Prize Award, The 12th National College Information Security Contest
- 2019 Second Prize Award, Asia Student Supercomputer Challenge (ASC19)

TEACHING

- 2024, 2025 **Senior Teaching Assistant** at Course "CS704 Information Security", Singapore Management University, **Instructor:** Prof. Robert H. Deng
- 2020, 2021 **Teaching Assistant** at Course "Introduction of High Performance Computing", Zhejiang University, **Instructor:** Prof. Jianhai Chen
- 2018 **Teaching Assistant** at Course "The Art of Violin", Zhejiang University, **Instructor:** Prof. Cong Zhou

PROFESSIONAL SERVICES

- PC** ASE 2026, WWW 2026 (Security), KDD 2025-2026, AIware 2026, MSR 2026, LLMSC 2025
- AEC Member** S&P 2026, NDSS 2026, CCS 2023/2025, USENIX Security 2024-2025, ICSE 2025, ISSTA 2024-2025, EuroSys 2024
- Reviewer** IEEE TPAMI, IEEE TDSC, IEEE TSE, ACM TOSEM, IEEE IoT, JSS, JSEP, JPDC, JNCA, JISA

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