Yintong Huo

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⚑ RESEARCH INTERESTS

Yintong Huo's research interest is *intelligent software engineering*, which applies natural language processing techniques to facilitate software development, testing, and maintenance processes. Her work mainly focuses on code intelligence (e.g., code generation, API recommendation, program analysis) and intelligent operations (e.g., log analysis, anomaly detection) for data-driven automated software reliability engineering. Her recent work includes boosting logging practices with large language models. During her Ph.D. studies, she has already *published 9 papers* and has *5 papers under review* in this field. She is also a core team member of the LogPAI project (*3k+ Stars, 70k+ Downloads, IEEE Open Software Services Award*).

🎓 EDUCATION

The Chinese University of Hong Kong (CUHK), Hong Kong　　　　　　2020 – 2024 (expected)

Ph.D. in Computer Science and Engineering
Supervisor: Prof. Michael R. Lyu (IEEE & ACM Fellow)

University of Electronic Science and Technology of China (UESTC), China　　　　2016 – 2020

B.Eng. in Digital Media Technology (*School of Computer Science and Engineering*)
- GPA: 3.94/4.0 (Ranking: 1/48)

📑 PUBLICATION

- 1. Yintong Huo, Yichen Li, Yuxin Su, Pinjia He, Zifan Xie, and Michael R. Lyu. AutoLog: A Log Sequence Synthesis Framework for Anomaly Detection. To appear *in proceedings of the 38th IEEE/ACM International Conference on Automated Software Engineering (ASE, **CCF-A**)*, 2023.

- 2. Yintong Huo, Yuxin Su, Cheryl Lee, and Michael R. Lyu. SemParser: A Semantic Parser for Log Analysis. *In Proceedings of the 45th International Conference on Software and Engineering (ICSE, **CCF-A**)*, 881-893, 2023.

- 3. Yintong Huo, Yuxin Su, Hongming Zhang, and Michael R. Lyu. ARCLIN: automated API mention resolution for unformatted texts. *In Proceedings of the 44th International Conference on Software and Engineering (ICSE, **CCF-A**)*, 138-149, 2022.

- 4. Yintong Huo, Cheryl Lee, Yuxin Su, Shiwen Shan, Jinyang Liu, and Michael R. Lyu. EvLog: Identifying Anomalous Logs over Software Evolution. To appear *in proceedings of the 34th IEEE International Symposium on Software Reliability Engineering (ISSRE, **CCF-B**)*, 2023.

- 5. Yintong Huo, Yuxin Su, and Michael R. Lyu. LogVM: Variable Semantics Miner for Log Messages. *In Proceedings of the 33rd IEEE International Symposium on Software Reliability Engineering Workshops (ISSREW)*, 124-125, 2022.

- 6. Yun Peng, Shuzheng Gao, Cuiyun Gao, Yintong Huo, and Michael R. Lyu. Domain Knowledge Matters: Improving Prompts with Fix Templates for Repairing Python Type Errors. To appear *in Proceedings of the 46th International Conference on Software and Engineering (ICSE, **CCF-A**)*, 2024.

- 7. Junjielong Xu, Ruichun Yang, Yintong Huo, Chengyu Zhang, and Pinjia He. DivLog: Log Parsing with Prompt Enhanced In-Context Learning. To appear *in Proceedings of the 46th International Conference on Software and Engineering (ICSE, **CCF-A**)*, 2024.

- 8. Hongming Zhang, Yintong Huo, Yanai Elazar, Yangqiu Song, Yoav Goldberg, and Dan Roth. CIKQA: Learning Commonsense Inference with a Unified Knowledge-in-the-loop QA Paradigm. *In Proceedings of the 17th Conference of the European Chapter of the Association for Computational Linguistics Findings (EACL)*, 114–124, 2023.

- 9. Hongming Zhang, Yintong Huo, Xinran Zhao, Yangqiu Song, and Dan Roth. Learning contextual causality between daily events from time-consecutive images. *In Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops (CVPRW)*, 1752-1755, 2021.

** Under review **
- 10. Yichen Li, Yintong Huo, Zhihan Jiang, Renyi Zhong, Yuxin Su, Pinjia He, and Michael R. Lyu. Can LLMs Log? An Empirical Study on Logging Statement Generation Powered by LLM.
- 11. Yichen Li, Yintong Huo, Renyi Zhong, Zhihan Jiang, Jinyang Liu, Junjie Huang, Jiazhen Gu, Pinjia He, and Michael R. Lyu. Go Static: Contextualized Logging Statement Generation. (Submitted to ESEC/FSE 2024, **CCF-A**)
- 12. Renyi Zhong, Yintong Huo, Yichen Li, Jinxi Kuang, and Michael R. Lyu. Need Precise Logging Locations? A GNN-Based Recommender for Fine-Grained Logging. (Submitted to ESEC/FSE 2024, **CCF-A**)
- 13. Zhihan Jiang, Jinyang Liu, Junjie Huang, Yichen Li, Yintong Huo, Jiazhen Gu, Zhuangbin Chen, Jieming Zhu, and Michael R. Lyu. LILAC: Log Parsing using LLMs with Adaptive Parsing Cache. (Submitted to ESEC/FSE 2024, **CCF-A**).
- 14. Cheryl Lee, Tianyi Yang, Zhouruixing Zhu, Yintong Huo, Pinjie He, Yuxin Su, and Michael R. Lyu. SPES: Runtime Mitigation on Serverless Cold Starts via Differentiated Function Provision Optimization. (Submitted to WWW 2024, **CCF-A**).

♡ Scholarships and Awards

IEEE Open Software Services Award: LogPAI	2022
Nomination for Best Teaching Assistant Award	2022
The Chinese University of Hong Kong Postgraduate Studentships	2020
Outstanding Graduate of UESTC & Sichuan Province	2020
National Scholarship	2019
Outstanding Undergraduate Award of UESTC	2017, 2018 & 2019

⊕ Committee Services

ICSE 2025	PC Member, International Conference on Software Engineering
ICPE 2024	PC Member, International Conference on Performance Engineering
AIOPS 2023	PC Member, Artificial Intelligence for IT Operations (AIOps) Workshop

⚲ Professional Activities

Journal Review	TOSEM 2023, STVR 2023
Sub-reviewer	FSE 2024, ISSRE 2023, FSE 2023, DSN 2023, PRDC 2023, ISSRE 2022, FSE 2022, ISSRE 2021, DSN 2021, WWW 2021, APSEC 2021
Proposal Writing	As a Ph.D. student, helped with preparing proposals for RGC (Research Grants Council of Hong Kong) and ITF (Innovation and Technology Fund).
Funding Manager	Managed an ITF-funded 18-month project (1.4 million HKD) by leading a group including 5 graduate-level students and 2 undergraduate students. The project developed financial announcements analytics to predict their influences on stock prices, with a user-interactive webpage as the implementation.
Mentor	Mentored 2 Ph.D. and 3 undergraduate students at CUHK.
	Ph.D. students: Yichen Li (2022-current; co-authored [1, 10, 11, 13]), Renyi Zhong (2022-current; co-authored [10, 11, 12]).
	Undergraduates: Shiwen Shan (2022-current; co-authored [4]), Yi-Ti Lyu, Zishan Su.

♟ Teaching Experience

Teaching Assistant, CUHK: CSCI 2100B Data Structure	Spring 2022
Teaching Assistant, CUHK: CSCI 3160 Algorithm Design and Analysis	Spring 2021, Fall 2021

◉ Visitings and Interns

Visiting undergraduate students at HKUST	May 2019-Jan 2020

Supervisor: Prof. Yangqiu Song
Worked with Prof. Song on knowledge graph and commonsense reasoning (co-authored [8, 9]).