# Haichuan Hu

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## Research Interests

Emotional Support, Personalized Alignment, Large Language Models, LLM Agents, and AI for Software Engineering.

## Education

- **The Hong Kong Polytechnic University** *Jan. 2026 - Present*
  *Ph.D. Student, Department of Computing* Hong Kong SAR
  - Research Area: Emotional Support; Supervisor: Prof. Wenjie Li
- **Nanjing University** *Sep. 2022 - Jun. 2024*
  *Master of Engineering in Software Engineering* Nanjing, China
  - GPA: 85/100; Supervisor: Prof. Zhenyu Chen
- **Nanjing University** *Sep. 2018 - Jun. 2022*
  *Bachelor of Engineering in Software Engineering* Nanjing, China
  - GPA: 87/100 (top 25%); Supervisor: Prof. Zhenyu Chen

## Peer-Reviewed Publications

1. **Haichuan Hu**, Guoqing Xie, Quanjun Zhang, Jiawei Liu, Shengcheng Yu, Chunrong Fang, Zhenyu Chen, and Liang Xiao. **Learning from Repair Experience: Self-Evolving Agents for Automated Vulnerability Repair**. *49th IEEE/ACM International Conference on Software Engineering (ICSE)*, 2027. **CCF-A**. [Code]. [arXiv] [BIB].
2. **Haichuan Hu**, Yang Xiao, Mingni Tang, Jiawen Duan, Quanjun Zhang, Congqing He, Hao Zhang, Jiashuo Wang, Johan F. Hoorn, and Wenjie Li. **RESCUE-BENCH: Towards Relation-Aware Multi-Party Emotional Support Conversation Systems**. *Findings of the 5th Conference of the Asia-Pacific Chapter of the Association for Computational Linguistics and the 15th International Joint Conference on Natural Language Processing (AACL-IJCNLP)*, 2026. [Code]. [arXiv] [BIB].
3. **Haichuan Hu**, Chunrong Fang, Ye Shang, Jiawei Liu, Weifeng Sun, Guoqing Xie, Chenxing Zhong, and Quanjun Zhang. **MultiFixer: A Coordinator-Proposer Based Multi-Agent Framework For Fixing Multi-Hunk Bugs**. *41st IEEE/ACM International Conference on Automated Software Engineering (ASE)*, 2026. **CCF-A**. [Code]. [DOI] [arXiv] [BIB].
4. **Haichuan Hu**, Ye Shang, Weifeng Sun, and Quanjun Zhang. **PSearch: Search-based Patch Generation in the Era of LLM-based Automated Program Repair**. *41st IEEE/ACM International Conference on Automated Software Engineering (ASE)*, 2026. **CCF-A**. [Code]. [DOI] [arXiv] [BIB].
5. Quanjun Zhang, Ye Shang, **Haichuan Hu**, Chunrong Fang, Zhenyu Chen, and Liang Xiao. **ComPass: Contrastive Learning for Automated Patch Correctness Assessment in Program Repair**. *Empirical Software Engineering*, 31(6):157, 2026. **CCF-B**. [DOI] [BIB].
6. Congqing He[*], **Haichuan Hu**[*], Yanli Li, Hao Zhang, and Quanjun Zhang. **A Survey of Large Language Models for Legal Tasks: Progress, Prospects and Challenges**. *Computer Science Review*, 60:100906, 2026. **JCR Q1**. [Code]. [DOI] [BIB].
7. Hao Zhang, Jiahao Wang, Zhenke Duan, Xin Yin, **Haichuan Hu**, Hualong Chen, Suyi, Congqing He, Yike Tan, and Yu-N Cheah. **Tree-CoT-RT: An Explainable Multi-Path Tree-Guided Chain-of-Thought and Reinforcement Learning Framework for Aspect Sentiment Quad Prediction**. *Findings of the Association for Computational Linguistics: 64th Annual Meeting of the Association for Computational Linguistics (ACL)*, pp. 16372–16391, 2026. **ACL Findings**. [DOI] [BIB].
8. **Haichuan Hu**, Ye Shang, Guolin Xu, Congqing He, and Quanjun Zhang. **Can GPT-O1 Kill All Bugs? An Evaluation of GPT-Family LLMs on QuixBugs**. *IEEE/ACM International Workshop on Automated Program Repair (APR@ICSE)*, pp. 11–18, 2025. **Workshop**. [Code]. [DOI] [BIB].
9. Quanjun Zhang, Juan Zhai, Chunrong Fang, Jiawei Liu, Weisong Sun, **Haichuan Hu**, and Qingyu Wang. **Machine Translation Testing via Syntactic Tree Pruning**. *ACM Transactions on Software Engineering and Methodology*, 33(4), 2024. **CCF-A**. [DOI] [BIB].

[*]Equal contribution.

## Preprints

1. Hao Zhou, **Haichuan Hu**, Ye Shang, and Quanjun Zhang. **Self-Evolving Coding Agents**. *arXiv preprint arXiv:2608.03392*, 2026. **Preprint**. [Resources]. [arXiv] [BIB].
2. **Haichuan Hu**, Xiao Yang, Jiashuo Wang, Quanjun Zhang, Mingni Tang, Changhe Song, Ye Shang, Congqing He, and Wenjie Li. **Personalized Alignment in the Era of LLMs: A Review of Methodologies, Datasets, Evaluation, and Applications**. *TechRxiv*, 2026. **Preprint**. [Code]. [DOI] [BIB].

## Industry and Research Experience

- **Alibaba Cloud Computing Co., Ltd.** *Jul. 2024 - Dec. 2025*
  *Backend Developer, PolarDB* Hangzhou, China
  - Contributed to the product development of PolarDB, Alibaba Cloud's cloud-native relational database.
- **Microsoft** *Apr. 2024 - Jun. 2024*
  *Copilot and Incident Analytics Project* Suzhou, China
  - Built an LLM-based incident consultation system and an internal Copilot knowledge question-answering system with retrieval and document synchronization.
- **Alibaba.com** *Jun. 2023 - Sep. 2023*
  *Software Engineering Intern* Hangzhou, China
  - Designed and executed a MySQL migration of approximately 200 million records while preserving data consistency and integrity.
- **Alibaba Cloud Computing Co., Ltd.** *Jun. 2021 - Aug. 2021*
  *Software Engineering Intern* Hangzhou, China
  - Managed MySQL cluster machines and developed Go scripts for routine health checks and failure recovery.

## Selected Open-Source Project

- **Chinese-WebNovel-Skill** ★ *904 stars* | *100 forks*
  *A modular Codex skill for planning, drafting, continuing, and revising Chinese web novels.* Python