

Wenjun Hou (Ethan)

The Hong Kong Polytechnic University & Southern University of Science and Technology

✉ houwenjun060@gmail.com 📞 (+86) 15918518841 (WeChat)
🌐 Homepage: <https://wjhou.github.io>

EDUCATION

The Hong Kong Polytechnic University (PolyU)

Ph.D. Candidate in Computer Science

- **Supervisor:** Prof. Maggie, Wenjie Li (PolyU) & Prof. Jiang Liu (SUSTech)
- **Research Interests:** Natural Language Processing, Multimodal Learning

Hong Kong, China

2021/09 – 2025/12

China Agricultural University (CAU)

M.Eng in Computer Science and Technology

Beijing, China

2017/09 – 2020/06

Guangdong University of Technology

B.Eng in Computer Science and Technology

Guangzhou, China

2013/09 – 2017/06

RESEARCH EXPERIENCES

Clinically Accurate Radiology Report Generation

Ph.D. Student

PolyU&SUSTech

2021/09 – 2025/05

- Proposed several novel **Transformer/LLM-based methods** for radiology report generation, forming a progressive and systematic technical roadmap.
- Built an **observation-guided generation pipeline** aligning reports with structured radiologist observations.
- Introduced **lesion-level attribute modeling with spatial-temporal reasoning** for fine-grained abnormality description.
- Designed **inter-report consistency metrics** and a **lesion-aware mixup strategy** to enhance output stability and robustness.
- Developed a **knowledge-enhanced LLM framework** to inject clinical prior knowledge and improve observation-level accuracy.
- Published **4 first-author papers** at ACL 2023, EMNLP 2023, EMNLP 2024, and ACL 2025.

Unified Emotion and Cause Analysis

M.Eng Student

CAU

2017/09 – 2020/06

- Built a **unified joint framework** integrating emotion classification and emotion cause detection to capture their interdependencies.
- Introduced **graph convolutional networks (GCN) for dependency modeling**, enabling structured reasoning over syntactic relationships for emotion-cause pair extraction.
- Published 2 papers at EMNLP 2018 and COLING 2020.

WORK EXPERIENCE

Agentic System

Researcher

HKU Shanghai X-Lab

2026/02 – Present

- Building Agentic System

Agentic AI for Data Analysis

Applied Scientist Intern

Amazon

2025/08 – 2025/12

- Developed a **workflow planning meta-agent framework** leveraging Claude-3.7 and Qwen3-Coder-30B for dynamic adaptation to diverse data analysis queries, achieving **SOTA performance without fine-tuning**.
- Synthesized **CoT and unified task planning datasets** for LLM fine-tuning, encompassing complexity assessment, task decomposition, agent orchestration, and profile generation.
- Fine-tuned **Qwen3-8B as the meta-agent** using SFT and GRPO to generate query-specific analytical workflows.
- Designed an **end-to-end agentic system** that autonomously plans, executes, and adapts multi-step data analysis pipelines with improved reasoning and task coordination.

PUBLICATIONS

Major Publications

- **Wenjun Hou**, Kaishuai Xu, Yi Cheng, Heng Li, Yan Hu, Wenjie Li, Jiang Liu. 2025. RADAR: Enhancing Radiology Report Generation with Supplementary Knowledge Injection. In *Proceedings of the 63rd Annual Meeting of the Association for Computational Linguistics (ACL'25)*.
- **Wenjun Hou**, Yi Cheng, Kaishuai Xu, Yan Hu, Wenjie Li, and Jiang Liu. 2024. ICON: Improving Inter-Report Consistency in Radiology Report Generation via Lesion-aware Mixup Augmentation. In *Findings of the Association for Computational Linguistics: EMNLP 2024 (EMNLP'24 Findings)*.
- **Wenjun Hou**, Yi Cheng, Kaishuai Xu, Wenjie Li, and Jiang Liu. 2023. RECAP: Towards Precise Radiology Report Generation via Dynamic Disease Progression Reasoning. In *Findings of the Association for Computational Linguistics: EMNLP 2023 (EMNLP'23 Findings)*.
- **Wenjun Hou**, Kaishuai Xu, Yi Cheng, Wenjie Li, and Jiang Liu. 2023. ORGAN: Observation-Guided Radiology Report Generation via Tree Reasoning. In *Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics (ACL'23)*.
- Ying Chen, **Wenjun Hou**, Shoushan Li, Caicong Wu, and Xiaoqiang Zhang. 2020. End-to-End Emotion-Cause Pair Extraction with Graph Convolutional Network. In *Proceedings of the 28th International Conference on Computational Linguistics (COLING'20)*.
- Ying Chen, **Wenjun Hou**, Xiyao Cheng, and Shoushan Li. 2018. Joint Learning for Emotion Classification and Emotion Cause Detection. In *Proceedings of the 2018 Conference on Empirical Methods in Natural Language Processing (EMNLP'18)*.

Other Publications

- Kaishuai Xu, Tiezheng Yu, **Wenjun Hou**, Yi Cheng, Chak Tou Leong, Liangyou Li, Xin Jiang, Lifeng Shang, Qun Liu, Wenjie Li. 2024. Subtle Errors Matter: Preference Learning via Error-injected Self-editing. In *Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics (ACL'25)*.
- Yi Cheng, Xiao Liang, Yeyun Gong, Wen Xiao, Song Wang, Yuji Zhang, **Wenjun Hou**, Kaishuai Xu, Wenge Liu, Wenjie Li, Jian Jiao, Qi Chen, Peng Cheng, Wayne Xiong. 2025. Integrative Decoding: Improve Factuality via Implicit Self-consistency. In *The International Conference on Learning Representations (ICLR'25)*.
- Kaishuai Xu, Yi Cheng*, **Wenjun Hou***, Qiaoyu Tan, Wenjie Li. 2024. Reasoning Like a Doctor: Improving Medical Dialogue Systems via Diagnostic Reasoning Process Alignment. In *Findings of the Association for Computational Linguistics: ACL 2024 (ACL'24 Findings)*.
- Kaishuai Xu, **Wenjun Hou***, Yi Cheng*, Jian Wang, and Wenjie Li. 2023. Medical Dialogue Generation via Dual Flow Modeling. In *Findings of the Association for Computational Linguistics: ACL 2023 (ACL'23 Findings)*.

PREPRINTS

(*indicates equal contribution)

- **Wenjun Hou**, Kaishuai Xu, Yi Cheng, Yan Hu, Wenjie Li, Jiang Liu. 2024. Memory-Augmented Multimodal LLMs for Surgical VQA via Self-Contained Inquiry. *arXiv:2411.10937*.
- Yi Cheng, Xiao Liang, Yeyun Gong, Wen Xiao, Song Wang, Yuji Zhang, **Wenjun Hou**, Kaishuai Xu, et al. 2024. Integrative Decoding: Improve Factuality via Implicit Self-consistency. *arXiv:2410.01556*.
- Yi Cheng, Wenge Liu, Kaishuai Xu, **Wenjun Hou**, Yi Ouyang, Chak Tou Leong, Xian Wu, Yefeng Zheng. 2024. AutoPal: Autonomous Adaptation to Users for Personal AI Companionship. *arXiv:2406.13960*.
- Kaishuai Xu, **Wenjun Hou***, Yi Cheng*, Jian Wang, Wenjie Li. 2024. Medical Dialogue Generation via Intuitive-then-Analytical Differential Diagnosis. *arXiv:2401.06541*.

HONORS & AWARDS

- National Scholarship for Graduates at CAU 2018
- First Class of Academic Scholarship at CAU 2018
- First Class of Academic Scholarship at GDUT 2016
- Third Class of Academic Scholarship at GDUT 2015

PROFESSIONAL ACTIVITIES

Conference Reviewer

- ICLR (2025), EMNLP Industry (2024), ACL ARR (2024), EMNLP (2023, 2022), COLING (2025, 2024, 2022)

Teaching Assistant

- COMP4424 Extended Reality: Theory and Practice, TA, PolyU Spring 2023
- COMP2S01 Technology Beyond Borders: Service Learning Across Cultural, Ethnic and Community Lines, TA, PolyU Fall 2021, Spring & Fall 2022
- Computational Methods, TA, CAU Fall 2019