

KAISHUAI XU

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EDUCATION

The Hong Kong Polytechnic University (PolyU)

PhD Student in Computer Science, guided by Prof. Wenjie Li

Sept. 2021 –

Hong Kong, China

- Focusing on medical dialogue systems, LLM empowered applications, conversational AI;

Huazhong University of Science and Technology (HUST)

Sept. 2017 – June 2020

Master of Management Science and Engineering, guided by Prof. Yukun Bao

Wuhan, China

- Focusing on time series forecasting; Cumulative GPA: 88.49/100; Courses: Matrix theory, Deep Learning;

Huazhong University of Science and Technology (HUST)

Sept. 2013 – June 2017

Bachelor of Management in Management Science at Qiming College

Wuhan, China

- Cumulative GPA: 3.91/4 (3/19*); Courses: C++ programming, Linear algebra, Mathematical Analysis I&II;
- (Students at Qiming College are selected from 120+ people who have passed the examinations and interviews and are trained with academic orientation)

PUBLICATIONS

- **Subtle Errors Matter: Preference Learning via Error-injected Self-editing.** Kaishuai Xu, Tiezheng Yu, Wenjun Hou, Yi Cheng, Chak Tou Leong, Liangyou Li, Xin Jiang, Lifeng Shang, Qun Liu, Wenjie Li. *Submit to ICLR 2025.*
- **Large Language Models for Disease Diagnosis: A Scoping Review.** Shuang Zhou, Zidu Xu, Mian Zhang, Chunpu Xu, Yawen Guo, Zaifu Zhan, Sirui Ding, Jiashuo Wang, Kaishuai Xu, Yi Fang, Liqiao Xia, Jeremy Yeung, Daochen Zha, Mingquan Lin, Rui Zhang.
- **Evolving to be Your Soulmate: Personalized Dialogue Agents with Dynamically Adapted Personas.** Yi Cheng, Wenge Liu, Kaishuai Xu, Wenjun Hou, Yi Ouyang, Chak Tou Leong, Xian Wu, Yefeng Zheng.
- **No Two Devils Alike: Unveiling Distinct Mechanisms of Fine-tuning Attacks.** Chak Tou Leong, Yi Cheng, Kaishuai Xu, Jian Wang, Hanlin Wang, Wenjie Li. *Submit to NeurIPS 2024.*
- **ICON: Improving Inter-Report Consistency of Radiology Report Generation via Lesion-aware Mix-up Augmentation.** Wenjun Hou, Yi Cheng, Kaishuai Xu, Yan Hu, Wenjie Li, Jiang Liu. *In Findings of the Conference on Empirical Methods in Natural Language Processing: EMNLP 2024.*
- **Reasoning Like a Doctor: Improving Medical Dialogue Systems via Diagnostic Reasoning Process Alignment.** Kaishuai Xu, Yi Cheng, Wenjun Hou, Qiaoyu Tan, Wenjie Li. *In Findings of the Association for Computational Linguistics: ACL 2024.*
- **When LLMs Meet Acoustic Landmarks: An Efficient Approach to Integrate Speech into Large Language Models for Depression Detection.** Xiangyu Zhang, Hexin Liu, Kaishuai Xu, Qiquan Zhang, Daijiao Liu, Beena Ahmed, Julien Epps. *In Proceedings of the Conference on Empirical Methods in Natural Language Processing: EMNLP 2024.*
- **Medical Dialogue Generation via Intuitive-then-Analytical Differential Diagnosis.** Kaishuai Xu, Wenjun Hou, Yi Cheng, Jian Wang, Wenjie Li.
- **RECAP: Towards Precise Radiology Report Generation via Dynamic Disease Progression Reasoning.** Wenjun Hou, Yi Cheng, Kaishuai Xu, Wenjie Li, Jiang Liu. *In Findings of the Conference on Empirical Methods in Natural Language Processing: EMNLP 2023.*
- **Medical Dialogue Generation via Dual Flow Modeling.** Kaishuai Xu, Wenjun Hou, Yi Cheng, Jian Wang, Wenjie Li. *In Findings of the Association for Computational Linguistics: ACL 2023.*
- **ORGAN: Observation-Guided Radiology Report Generation via Tree Reasoning.** Wenjun Hou, Kaishuai Xu, Yi Cheng, Wenjie Li, Jiang Liu. *In Proceedings of the Annual Meeting of the Association for Computational Linguistics: ACL 2023.*
- **Research on Probabilistic Load Forecasting for Regional Residential Users Based on Single Value Cluster Analysis.** Chengwen Xia, Kaishuai Xu, Yukun Bao, Rui Pan, Yuanbin Deng. *Electric Power Information and Communication Technology.* 2021.

- **POLYU at TREC 2020 Conversational Assistant Track: Query Reformulation with Heuristic Topic Phrases Discovery.** Kaishuai Xu, Wenjie Li, Yongqi Li. *TREC 2020*.

WORK EXPERIENCE

Research Intern

Noah's Ark Lab, Huawei Hong Kong Research Center

June 2024 –
Hong Kong, China

- Mathematical reasoning;
- Robust evaluation;

Data Analyst Intern

AliExpress, Alibaba Group

July 2019 – Sept. 2019
Hangzhou, China

- Participated in the construction of a public opinion system, responsible for tag extraction and classification in social texts;
- Participated in GMV forecasting and analysis, responsible for predicting GMV in the next 7 days;

RESEARCH EXPERIENCE

TREC CASt 2020 (guided by Prof. Wenjie Li, PolyU)

2020

- Developed a rule-based conversational search framework with fine-tuning through BERT;
- Developed a web demo of the search framework;

The 2019 Online Projected-based Machine Learning Research Program Developing Fake News Detection Algorithms (guided by Mike Tamir, UC Berkeley)

2019

- Developed an end-to-end pipeline that accomplishes fake news detection;

Regional Load Forecasting for the State Grid of China (guided by Prof. Yukun Bao, HUST)

2018

- Monthly maximum and minimum load forecasting for Hubei, Hunan, Henan, and Jiangxi provinces;
- Focusing on the time windows, which consist of Jun. - Sept. (summer) and Nov. - Mar. (winter);

LEADERSHIP & AWARDS

- **Innovation Award (5/123, as a team leader).** Global Optimization Challenge 2018, JD.com, Inc. 2018
- **Academic Scholarship (Master, First Prize).** HUST. 2018, 2017
- **Academic Excellence Scholarship (Bachelor).** HUST. 2016, 2015

SKILLS

English Proficiency - TOEFL: 103 (R:26, L:25, S:26, W:26), GRE: 321+3

Languages - Python, C++, MATLAB

Frameworks - Pytorch, Transformers (Hugging Face), Tensorflow