XUE Boyang

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Phone No.: (86) 189 9270 5010 (WeChat); (852) 6024 3345.
Research Interests: Reliable LLMs (Modeling Uncertainty, Knowledge, Hallucinations), Dialogue Systems, Speech Recognition.
Collaborations: Prompt Learning, Information Retrieval, Parameter-Efficient, Tool Learning, etc.

Education

The Chinese University of Hong Kong, Hong Kong SAR, China.　　　　**Aug. 2021 - Present**
Ph.D. Student in Department of System Engineering and Engineering Management.
Huazhong University of Science and Technology, Wuhan, China.　　　　**Sep. 2016 - Jun. 2020**
B.Eng. in School of Artificial Intelligence and Automation, Excellent Class.

Main Publications

Reliable LLM

- **Boyang Xue**, Qi Zhu, Hongru Wang, Rui Wang, …, Kam-Fai Wong. "ReliableMath: Benchmark of Reliable Mathematical Reasoning of Large Language Models", Under Review of NeurIPS 2025 .
- **Boyang Xue**, Fei Mi, Qi Zhu, Hongru Wang, Rui Wang, Sheng Wang, …, Kam-Fai Wong. "UAlign: Leveraging Uncertainty Estimations for Factuality Alignment on Large Language Models", ACL 2025.
- **Boyang Xue**, Hongru Wang, Rui Wang, Sheng Wang, …, Kam-Fai Wong. "MlingConf: A Comprehensive Study of Multilingual Confidence Estimation on Large Language Models", ACL 2025 (Findings).

LLM Self-Training

- **Boyang Xue**, Qi Zhu, Hongru Wang, Rui Wang, Sheng Wang, Hongling Xu, Fei Mi, ,,,, Kam-Fai Wong. "DAST: Difficulty-Aware Self-Training for Large Language Models", preprint.

Tool Learning

- Hongru Wang*, **Boyang Xue***, Baohang Zhou, …, Kam-Fai Wong. "Self-DC: When to retrieve and When to generate? Self Divide-and-Conquer for Compositional Unknown Questions", NAACL 2025 (Oral).
- Hongru Wang, Rui Wang, **Boyang Xue**, Heming Xia, Jingtao Cao, …, Kam-Fai Wong. "AppBench: Planning of Multiple APIs from Various APPs for Complex User Instruction", EMNLP 2024.

Parameter Efficient

- Sheng Wang, **Boyang Xue**, Jiacheng Ye, Jiyue Jiang, Liheng Chen, Lingpeng Kong, Chuan Wu. "PRoLoRA: Partial Rotation Empowers More Parameter-Efficient LoRA", ACL 2024.

Dialogue System

- Hongru Wang, **Boyang Xue**, Baohang Zhou, Rui Wang, Fei Mi, …, Kam-Fai Wong. "UniRetriever: Multi-task Candidates Selection for Various Context-Adaptive Conversational Retrieval", COLING 2024.
- **Boyang Xue**, Weichao Wang, Hongru Wang, Fei Mi, …, Kam-Fai Wong. "Improving Factual Consistency for Knowledge-Grounded Dialogue Systems via Knowledge Enhancement and Alignment", EMNLP 2023 (Findings).

Speech Recognition

- **Boyang Xue**, Shoukang Hu, Junhao Xu, Mengzhe Geng, Xunying Liu, Helen Meng. "Bayesian Neural Network Language Models for Speech Recognition", TASLP (SCI & JCR Q1), 2022.
- **Boyang Xue**, Jianwei Yu, Junhao Xu, Shansong Liu, Shoukang Hu, Zi Ye, Mengzhe Geng, Xunying Liu, Helen Meng, "Bayesian Transformer Language Models for Speech Recognition", in ICASSP 2021.

Others
- **Boyang Xue**, Cheng Cheng, Ye Yuan. "Deep Learning based Patient-Specific FHR Detection System on FECG", Chinese Patent [CN112826513B].

Research Experiences

◆ **Ph.D. Student in MoE Lab of High Confidence Software Technologies, CUHK.** **Sep. 2022 - Present**
Research Topic: Reliable LLM, Dialogue System, etc. **Advisor:** *Prof. WONG Kam-Fai.*

◆ **Research Visitor in Web Intelligence Group, AI Centre, UCL.** **Jun. 2025 - Oct. 2025**
Research Topic: Reliable LLM, Dialogue System, etc. **Advisor:** *Prof. WONG Kam-Fai.*

◆ **Research Intern in Noah's Ark Lab, HUAWEI.** **Aug. 2024 - May. 2025**
Research Topic: Self-Training, LLM Reasoning. **Advisor:** *Dr. Fei Mi* and *Dr. Qi Zhu.*

◆ **Research Intern in Noah's Ark Lab, HUAWEI.** **Dec. 2022 - Jul. 2023**
Research Topic: Dialogue Systems, Knowledge Enhancement. **Advisor:** *Dr. Weichao Wang.*

◆ **Research Assistant and Ph.D. Student in HCCL Lab, CUHK.** **Sep. 2020 - Aug. 2022**
Research Topic: Bayesian Learning, Speech Recognition. **Advisor:** *Prof. Xunying LIU.*

◆ **Research Intern in IMDS Lab, HUST.** **Sep. 2019 - Jun. 2020**
Research Topic: Medical Deep Learning, Patient-specific Diagnosis. **Advisor:** *Prof. Ye YUAN.*

◆ **Leader in Intelligent Robotics Team, Qi Ming College, HUST.** **Nov. 2017 - Aug. 2019**
Research Topic: Intelligent Cars, Embedded Systems. **Advisor:** *Prof. He Ding Xin.*

Awards & Honors

◆ Excellent Bachelor Thesis, Excellent Student Cadre, Excellent Graduate Student.
◆ Academic Scholarship of *Huazhong University of Science and Technology* in 2018-19 academic year.
◆ National Grand and First Prize in the *14th and 13th NXP Cup National University Intelligent Car Race.*
◆ Second Prize in the *19th Asia and Pacific Mathematical Contest in Modeling.*

Extracurricular Activities

◆ Serving as a reviewer of *ICASSP, ACL, EMNLP, NAACL, COLING, etc.*
◆ Serving as a co-founder and organizer of a NLP Academic Exchange Platform (NICE).
◆ Serving as a part-time author to write academic blogs on WeChat officials and Zhihu.
◆ Serving as a contributor in several open-source projects of Datawhale.
◆ Served as the secretary of the Student Union in HUST (2017 - 2019).