Mengze Hong

https://mengze-hong.github.io/

Email : mengze.hong@connect.polyu.hk

Mobile : +(852) 5261 0922

EDUCATION

- **The Hong Kong Polytechnic University (PolyU)** — Hong Kong, China
  PhD in Computer Science — *Sep 2024 -*
  - **Supervisor:** Prof. Qing Li and Prof. Chen Zhang
  - **Thesis Topic:** Advancing Dialogue System Design and Data Mining with LLM-in-the-Loop Approaches

- **The University of Nottingham** — Nottingham, UK
  BSc (Hons) Mathematics and Data Science — *Sep 2021 - Jun 2024*
  - **Grade:** First Class Honours (GPA: 3.98/4)

RESEARCH EXPERIENCE

- **HashKey Exchange** — Hong Kong, China
  Senior Researcher — *Mar 2025 - Present*
  - **Research Focus:** Large Language Models, Decentralized Finance, Regulatory Technology
  - Delivered regular seminars and workshops on AI literacy and digital transformation strategies.
  - Developed AI-driven automations to enhance internal workflows and operational efficiency.

- **AI Group, WeBank** — Shenzhen, China
  NLP Researcher — *Jun 2024 - Oct 2025*
  - **Research Focus:** Large Language Models, Dialogue Data Mining and Customer Service Support
  - Developed compliance-guaranteed customer service automation system for banking applications.
  - Proposed the **LLM-in-the-loop** paradigm for cost effective dialogue data mining at industrial-scale.
  - Published four research papers at top-tier NLP conferences.

- **Luckin Coffee Inc.** — Beijing, China
  Strategy Analyst — *Jun 2023 - Sep 2023*
  - **Research Focus:** Data-Driven Enterpise Solutions and Competitive Market Analysis
  - Proposed a data-driven five-year roadmap to guide the company's overseas expansion strategies.
  - Developed data automation systems to manage retail databases and extract key competitive market insights.

PUBLICATIONS

- **Dial-In LLM: Human-Aligned LLM-in-the-loop Intent Clustering for Customer Service Dialogues**
  Mengze Hong, Wailing Ng, Chen Jason Zhang, Yuanfeng Song, Di Jiang
  Conference on Empirical Methods in Natural Language Processing. **EMNLP 2025**

- **QualBench: Benchmarking Chinese LLMs with Localized Professional Qualifications for Vertical Domain Evaluation**
  Mengze Hong, Wailing Ng, Chen Jason Zhang, Di Jiang
  Conference on Empirical Methods in Natural Language Processing. **EMNLP 2025**

- **Augmenting Compliance-Guaranteed Customer Service Chatbots: Context-Aware Knowledge Expansion with Large Language Models**
  Mengze Hong, Chen Jason Zhang, Jiang Di, Yuanqin He
  Conference on Empirical Methods in Natural Language Processing. **EMNLP 2025 (Ind)**

- **Dialogue Language Model with Large-Scale Persona Data Engineering**
  Mengze Hong, Chen Jason Zhang, Chaotao Chen, Rongzhong Lian, Di Jiang
  Conference of the Nations of the Americas Chapter of the Association for Computational Linguistics: Human Language Technologies. **NAACL 2025 (Ind)**

- **Learning by Teaching: Enhancing Music Learning Through LLM-Based Teachable Agents**
  Lingxi Jin, Baicheng Lin, **Mengze Hong**, Hyo-Jeong So, Kun Zhang
  International Conference on Artificial Intelligence in Education. **AIED 2025**

- **Exploring the Impact of an LLM-Powered Teachable Agent on Learning Gains and Cognitive Load in Music Education**
  Lingxi Jin, Baicheng Lin, **Mengze Hong**, Kun Zhang, Hyo-Jeong So
  Conference on Human Factors in Computing Systems. **CHI 2025 (workshop)**

- **InfantCryNet: A Data-driven Framework for Intelligent Analysis of Infant Cries**
  Mengze Hong, Chen Jason Zhang, Lingxiao Yang, Yuanfeng Song, Di Jiang
  Proceedings of Machine Learning Research **ACML 2024**

PREPRINTS

- **LLM-in-the-Loop: Replicating Human Insight with Instruction-tuned Large Language Models**
  Mengze Hong, Wailing Ng, Chen Jason Zhang, Di Jiang

- **Pairwise Judgment Formulation for Semantic Embedding Model in Web Search**
  Mengze Hong, Di Jiang, Wailing Ng, Zichang Guo, Chen Jason Zhang

- **Neural-Bayesian Program Learning for Few-shot Dialogue Intent Parsing**
  Mengze Hong, Di Jiang, Yuanfeng Song, Chen Jason Zhang

- **Technical Report: A Practical Guide to Kaldi ASR Optimization**
  Mengze Hong, Di Jiang

- **Contextualized Token Discrimination for Speech Search Query Correction**
  Junyu Lu, Di Jiang, **Mengze Hong**, Victor Junqiu Wei, Qintian Guo, Zhiyang Su

INVITED TALKS

- **Za Bank and HKU, Seminar (Oct. 2025) –** Hong Kong's New Web3 Era: How Stablecoins, RWA, and DeFi are Transforming the Future of Finance

- **HashKey, Podcast (Jul. 2025) –** AI Meets Web3: How These Emerging Technologies Will Transform Our Lives?

- **SHTM, PolyU, Guest Lecture (Jun. 2025) –** Large Language Model Driven AI Chatbots and Virtual Avatars in Hospitality and Service Sectors.

- **HTM570 Innovative Experience Design, PolyU, Guest Lecture (May. 2025) –** From Concept to Reality: Blockchain Applications in Supply Chain, Healthcare, and Hospitality.

- **Business School, PolyU, Workshop (Oct. 2024) –** Applying AI in Accounting and Finance: Transforming Practices for the Future.

MEDIA COVERAGE

I have served as an invited columnist for 文汇报 (Wen Wei Po, HK) on LLMs and Web3 technology.

- 从黑箱到白链：去中心化智能引领未来 (Decentralized Intelligence Leads the Future)

- 金融大模型进军Web3：赋能去中心化未来的智能核心 (Financial LLMs in Web3: Empowering Decentralized Future)

- 大模型时代的AI与Web3生态 (AI and Web3 Ecosystems in the Era of Large Models)

HONORS AND AWARDS

- **Faculty Best Student Award, Nottingham**   Jun 2024
- **Best Presentation Award at MLMI 2023 Conference**   Oct 2024
- **Dean's Excellence Scholarship Award, Nottingham**   Jun 2023