

Gongyao Jiang

jiang.gongyao@gmail.com | zzoay.github.io



EDUCATION

The Hong Kong University of Science and Technology (Guangzhou)

Data Science and Analytics, PhD Candidate, supervised by Prof. Qiong Luo.

Jan 2024 - Present

Guangzhou / Hong Kong

Sep 2021 - Jan 2024

Tianjin University

Computer Technology, Master, supervised by Prof. Meishan Zhang.

Tianjin

Guangdong University of Technology

Network Engineering, Bachelor

Sep 2017 - Jun 2021

Guangzhou

PUBLICATIONS

Multi-Modal Content Understanding and Generation

- (CIKM 2025; 1st Author) Chart-CoCa: Self-Improving Chart Understanding of Vision LMs via Code-Driven Synthesis and Candidate-Conditioned Answering.
 - A self-improving VLM framework that establishes a data synthesizing loop through code and enhances reasoning via a candidate-conditioned inference mechanism (test-time scaling).
- (NAACL 2025; 1st Author) JRE-L: Journalist, Reader, and Editor LLMs in the Loop for Science Journalism for the General Audience.
 - A multi-agent collaborative framework that mimics the professional editorial workflow, integrating a simulated "Reader" feedback loop to iteratively align scientific reporting with public accessibility standards.

Socially Aware AI & Human-AI Alignment

- (IUI 2026; 1st Author) ESR-Coach: Leveraging Large Language Models for Training People to Provide Emotionally Supportive Responses.
 - LLMs for training humans in emotional communication through a "simulation-demonstration-feedback" loop to help humans operationalize effective and flexible interpersonal strategies.
- (ACL 2024; 5-th Author) ToMBench: Benchmarking Theory of Mind in Large Language Models.
 - A systematic and multi-granular benchmark that evaluate LLMs' social intelligence and cognitive capability via comprehensive ToM tests.

Structured Prediction & Parsing

- (CL 2024; 1st-Student Author) LLM-Assisted Data Augmentation for Chinese Dialogue-Level Dependency Parsing.
 - A hierarchical data augmentation strategy that leverages LLMs to synthesize training samples with varying degrees of structural invariance.
- (ACL 2023 Findings; 1st Author) A Pilot Study on Dialogue-Level Dependency Parsing for Chinese.
 - A foundational corpus for dialogue-level dependency and a signal-driven transfer mechanism that maps syntax to discourse relations.

Social Media Content Categorization

- (IP&M 2022; 1st Author) Fake news detection via knowledgeable prompt learning.
 - A knowledge-enhanced prompt learning framework designed to bridge the objective gap between pre-training and fine-tuning, thereby aligning the text classification task with the models' intrinsic capabilities.
- (ECAI 2020; 2nd Author) Document and Word Representations Generated by GCN and BERT for Short Text Classification.
 - A hybrid architecture merging GCN-derived topology features with BERT embeddings, augmenting local semantic representations with global topic information to enhance short-text classification.

LLMs for Scientific Discovery and Reasoning

- (Under Review, 1st Author) ChemisTRAG: Table-based Retrieval-Augmented Generation for Chemistry Question Answering.
 - Propose a table-based RAG framework to solve the representation alignment problem in knowledge retrieval and utilization in chemistry QA.
- (Under Review, 3rd Author) ChemThinkBench: Evaluating Fine-Grained Chemical Thinking Abilities of Large Language Models.
 - Construct a comprehensive framework to evaluate (Vision) LLMs' capabilities on chemistry reasoning problems.

RESEARCH & INTERNSHIP EXPERIENCE

HCI Lab at HKUST

Sep 2025 - Jan 2026

Conducted research of LLMs for Humans and Science advised by Prof. Xiaojuan Ma; spearheaded the ESR-Coach system (IUI 2026) for interpersonal skill training and contributed to benchmarking Multimodal LLMs on chemistry reasoning tasks (submitted to ACL 2026).

CoAI Lab at Tsinghua University / Lingxin Intelligence

Jun 2023 - Nov 2023

Conducted research on Social & Emotional AI advised by Prof. Minlie Huang; co-developed training pipelines for emotion-aware LLMs and played a key role in constructing the ToMBench evaluation framework (ACL 2024).

SKILLS & EXPERTISE

- **Domains & Architectures:** NLP, (Multimodal) LLMs, Human-AI Interaction, Agentic Workflows, Retrieval Systems (RAG).
- **Techniques:** Instruction Tuning (SFT), Reinforcement Learning, PEFT (RLHF/PPO), Data Synthesis, Prompt Engineering.
- **Tools:** PyTorch, DeepSpeed, verl, vLLM, LangChain, Elasticsearch.

HONORS & AWARDS

National Scholarship

2023

Extraordinary Academic Scholarship

2021

Outstanding Graduate

2021

COMPETITIONS

Kaggle: Feedback Prize - Evaluating Student Writing

Mar 2022 - Apr 2022

Silver Medal (3%, 43/2058)

Mathematical Contest in Modeling, MCM 2020

Feb 2020 - Mar 2020

Meritorious Winner (8%, 564/7199)