JUNCHI YAO

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EDUCATION

University of Electronic Science and Technology of China (UESTC) 2022-Now **Chengdu, China**

- B.S. in Information Management and Information System, GPA 3.93/4.0
- Visiting School Program: Khalifa University - YFEL 2024, the Winner of Research Competition
- Selected Scholarships: Outstanding Student Scholarship for TWICE (2023, 2024)

PUBLICATIONS

- **[ACL] Understanding the Repeat Curse in Large Language Models from a Feature Perspective**
  Junchi Yao*, Shu Yang*, Jianhua Xu, Lijie Hu, Mengdi Li, Di Wang
  Annual Meeting of the Association for Computational Linguistics (ACL 2025 Findings)
- **[ACL] Fraud-R1: A Multi-Round Benchmark for Assessing the Robustness of LLM Against Augmented Fraud and Phishing Inducements**
  Shu Yang, Shenzhe Zhu, Zeyu Wu, Keyu Wang, **Junchi Yao**, Junchao Wu, Lijie Hu, Mengdi Li, Derek F Wong, Di Wang
  Annual Meeting of the Association for Computational Linguistics (ACL 2025 Findings)
- **[ICML] Is Your LLM-Based Multi-Agent a Reliable Real-World Planner? Exploring Fraud Detection in Travel Planning**
  Junchi Yao*, Jianhua Xu*, Tianyu Xin*, Ziyi Wang, Shenzhe Zhu, Shu Yang, Di Wang
  ICML 2025 Workshop on Multi - Agent Systems
- **[SR] Social Opinions Prediction Utilizes Fusing Dynamics Equation with LLM-based Agents**
  Junchi Yao, Hongjie Zhang, Jie Ou, Dingyi Zuo, Zheng Yang, Zhicheng Dong
  Scientific Reports (SR) 15, 15472 (2025)
- **[RAIIE] Search for Lost Submersibles Based on the Greedy Ant Algorithm**
  Junchi Yao, Haolin Guo, Xinyu Mao, Yuhui Guo
  Proceedings of the 2024 3rd International Symposium on Robotics, Artificial Intelligence and Information Engineering (RAIIE 2024)

ACADEMIC EXPERIENCE

Open-Source LLMs Collaboration Beats Closed-Source LLMs: A Scalable Multi-Agent System **May. - Aug. 2025**

Research Intern | Supervised by Outstanding Young Researcher Peng Ye (Shanghai AI Lab, CUHK)

- Proposed SMACS, a scalable multi-agent collaboration system integrating fifteen open-source LLMs, which outperforms the average of leading closed-source models like GPT-4.1 by 11.12% across 8 mainstream benchmarks.
- Designed a Retrieval-based Prior Selection (RPS) strategy, enabling continuous integration of new LLMs and generalization to diverse questions by assigning relevance scores to select Top-k LLMs at the instance level.
- Developed an Exploration-Exploitation-Driven Posterior Enhancement (EPE) strategy, encouraging diverse response generation through prior dropping and using a hybrid posterior score to select high-quality responses, breaking through performance upper bounds.

Scaling Physical Reasoning with the PHYSICS Dataset **Mar. - May 2025**

Research Intern | Supervised by Outstanding Young Researcher Ganqu Cui (Shanghai AI Lab, THU)

- Constructed PHYSICS, a premier physics dataset boasting 16,568 entries and the widest difficulty range to date, with separate training and test splits to optimize model training and evaluation.
- Introduced a Rule+Model framework, pioneering tailored rules and models for physics problems, achieving 12.58% greater accuracy in evaluating physics reasoning abilities.
- Evaluated physics capabilities across various LLMs, uncovering significant performance limitations and providing detailed analysis of challenges to advance LLM physics proficiency.

Understanding the Repeat Curse in Large Language Models from a Feature Perspective **Jun. 2024 - Feb. 2025**

Research Intern | supervised by Assistant Professor Di Wang (KAUST)

- Proposed 'Duplicatus Charm', an interpretable pipeline, identifying human-understandable repetition features.
- Employed Sparsed Autoencoder (SAE) to adjust feature activation value, and observed the model output to assess the presence of the repeat curse.
- Identified the features related to names, time, and mathematics are particularly prone to inducing repetition.

STARTUP EXPERIENCE

GoAfar Technology Co., Ltd. (AI+Travel) **Oct. 2023 - Feb. 2025**

Co-founder, LLM Algorithm Engineer, and Technical Partner

- Led the design of a Retrieval-Augmented Generation (RAG) system, dividing travel routes by day and defining start and end points for LLM integration. Planned data annotation and established a regional attraction database for tailored responses.
- Created a guided query system to understand user preferences. Used RAG to recommend attractions, executed route planning using BFS, formatted results in JSON, and provided route visualization via a map API.
- Converted attraction data into a directed weighted graph, applied BFS for route feasibility, and used a regression model to score routes. Offered multiple route options and evaluations to support LLM output. Planning an executable route takes only 0.5 seconds, with an accuracy rate exceeding 90%.

LEADERSHIP & ACTIVITIES

Alumni Association of UESTC | *Student General Secretary* **Apr. 2024 - Oct. 2024**

- Organized alumni visit activities for the school anniversary, served as the host, and accumulated 10+ organized events.
- Served as a student representative, accompanied President Jun Hu to the **Hong Kong Global University Presidents Summit**, and promoted UESTC to students from universities worldwide.

Student Union of UESTC | *Director of External Relations* **Apr. 2023 - Apr. 2024**

- Cooperated with companies including Bilibili and China Telecom, with total sponsorship amount exceeding 5w yuan.

Outstanding Liren Class of UESTC | *Class President* **Mar.2023 - Mar. 2025**

- Led the team members in completing the zero-carbon enterprise venture capital research in Yancheng Environmental Protection Science and Technology City, Jiangsu, and wrote a research report of over 100,000 words.

SKILLS

- Programming Languages & Framework： Python, Java, C, Mysql, Matlab, Latex, Pytorch, Transformer
- Tools： Git, Office, Origin, Overleaf
- Language: IELTS 7.5 (7.5 8.5 6.5 6.5)