Jiatong Li

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Education

University of Science and Technology of China, China 09/2022 – 06/2025 (expected)

M.Sc. in Data Science
Advisor: Qi Liu
Cumulative GPA: 3.17/4.3 (81.22/100)

University of Science and Technology of China, China 09/2018 – 06/2022

B.S. in Data Science
Cumulative GPA: 3.90/4.3 (90.71/100)

Research Experiences

Trustworthy Large Language Model Evaluation 2023 – present

Advisor: Qi Liu, USTC; Renjun Hu, Alibaba Cloud

- Conducted research on the reliability and trustworthiness of large language model evaluation.
- Proposed a perfect information game-based evaluation methodology for assessing LLMs' problem-solving ability in dynamic scenarios.
- Proposed a novel evaluation toolkit (PertEval) to unveil LLMs' real knowledge capacity in existing close-ended evaluation benchmarks. The paper is submitted to **NeurIPS 2024 Dataset & Benchmark Track**.
- **Contribution**: proposing idea; conducting experiments, writing papers.

Personalized Learner Modeling in Educational Data Mining 2022 – 2024

Advisor: Qi Liu, USTC

- Conducted research on cognitive diagnosis-based personalized learner modeling, which aims to efficiently utilize learner behavioral data to mine accurate and explainable learners' cognitive states.
- Proposed a Bayesian network-based hierarchical cognitive diagnosis framework (HierCDF) to model knowledge concept dependency relationships in learner modeling process (**KDD' 22**).
- Proposed an inductive learner modeling framework (ID-CDF) to ensure the identifability and enhance the explainability of learner modeling, which opens new research directiosn in this area (**WWW' 24**).
- **Contribution**: proposing idea; conducting experiments, writing papers.

Preprints

- **Jiatong Li**, Renjun Hu, Kunzhe Huang, et al. (2024). PertEval: Unveiling Real Knowledge Capacity of LLMs with Knowledge-Invariant Perturbations. In Arxiv. (**submitted to NeurIPS 2024**)
- **Jiatong Li**, Rui Li, Qi Liu (2023). Beyond Static Datasets: A Deep Interaction Approach to LLM Evaluation. In Arxiv.
- Qi Liu, Yan Zhuang, Haoyang Bi, Zhenya Huang, Weizhe Huang, **Jiatong Li**, Junhao Yu, Zirui Liu, Zirui Hu, Yuting Hong, Zachary A. Pardos, Haiping Ma, Mengxiao Zhu, Shijin Wang, Enhong Chen (2024). Survey of Computerized Adaptive Testing: A Machine Learning Perspective. In Arxiv.

Publications

- **Jiatong Li**, Qi Liu*, Fei Wang, Jiayu Liu, Zhenya Huang, Fangzhou Yao, Linbo Zhu, Yu Su (2024). Towards the Identifiability and Explainability for Personalized Learner Modeling: An Inductive Paradigm. *In Proceedings of the ACM Web Conference 2024* **(WWW '24)**
- **Jiatong Li**, Fei Wang, Qi Liu, Mengxiao Zhu, Wei Huang, Zhenya Huang*, Enhong Chen, Yu Su, Shijin Wang (2022). HierCDF: A Bayesian Network-based Hierarchical Cognitive Diagnosis Framework. *In Proceedings of the 28th ACM SIGKDD Conference on Knowledge Discovery and Data Mining* **(KDD '22)**.

- Fangzhou Yao, Qi Liu, Linan Yue, Weibo Gao, **Jiatong Li**, Xin Li, Yuanjing He (2024). AdaD: An Adaptive Response Denoising Framework for Robust Student Modeling. *In Proceedings of the 30th ACM SIGKDD Conference on Knowledge Discovery and Data Mining* **(KDD '24)**.
- Junzhe Jiang, Shang Qu, Mingyue Cheng, Qi Liu, Zhiding Liu, Hao Zhang, Rujiao Zhang, Kai Zhang, Rui Li, **Jiatong Li**, Min Gao (2024). Reformulating Sequential Recommendation: Learning Dynamic User Interest with Content-enriched Language Modeling. In **DASFAA 2024**.

Professional Experiences

Alibaba Cloud, Hangzhou, China 01/2024 – 09/2024

Large Language Model Research Intern, Platform of Artificial Intelligence

- Explore new methodology for better evaluation of LLMs' knowledge acquirement from various aspects.

iFLYTEK, Hefei, China 01/2022 – 06/2022

Big Data Research & Development Engineer Intern

- Explore interpretable personalized learner modeling in intelligent education.

Conference Presentations

- "A Bayesian Hierarchical Item Response Theory Model for Estimating Attributes of Regular Exams and Students' Knowledge Levels" (Oral Presentation). *The International Meeting of the Psychometric Society (IMPS 2023)*. University of Maryland, College Park, USA. July 2023.

Teaching Experiences

Analysis and Practice of the Data 02/2022 – 07/2022

Teaching Assistant, University of Science and Technology of China

Projects

EduCDM [Code] 01/2023 – 01/2024

- Implemented several cognitive diagnosis models (CDMs) for quick and accurate diagnosis of student cognitive states from response data.
- Reformulated the EduCDM code framework for agile model development.

LUNA [Web] 01/2022 – 01/2023

- Served as the group leader of the data mid-end team. Led team members to manage the update and use of educational data.
- Led the team to develop an educational data crawler platform that can flexibly crawl multimodal educational material and data from the internet.

Honors & Awards

National Scholarship for Graduate Students, China 10/2023
First Prize Academic Scholarship, USTC 2023, 2024
Excellent Graduation Thesis, USTC 06/2022
Outstanding Student Scholarship, USTC 2018 – 2021
First Prize in the Contemporary Undergraduate Mathematical Contest in Modeling, China 09/2019

Skills

- Deep Learning Framework: PyTorch, Tensorflow
- Programming Language: Python, Java, C, C++, SQL, LaTeX
- Languages: English - Fluent (**TOEFL: 111 - R: 30, L: 28, S: 25, W: 28**)