Yizhang ZHU

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EDUCATION

The Hong Kong University of Science and Technology (Guangzhou) **2023.9 - Present**
M.Phil. Student in Data Science and Analytics *GPA 4.00/4.3*
Supervisor: Prof.Yuyu LUO, Co-supervisor: Prof.Nan TANG

Chongqing University **2019.9 - 2023.6**
B.Eng. in Computer Science and Technology *GPA 3.61/4.0*

National University of Singapore Chongqing Research Institute **2022.9 - 2023.5**
Visiting Student in Computer Engineering Joint Program *GPA 89.97/100*
Supervisor: Prof.Yung Chii LIANG

PUBLICATIONS

Are Large Language Models Good Statisticians? **Accepted by NeurIPS'24**
Yizhang ZHU, Shiyin DU, Boyan LI, Yuyu LUO, Nan TANG*

AskChart: Universal Chart Understanding through Textual Enhancement **ICLR'25 Under Review**
*Xudong YANG, Yifan WU, Yizhang ZHU, Nan TANG, Yuyu LUO**

Harnessing the Wikipedia Graph for Effective Multi-Entity Question Answering **ICLR'25 Under Review**
Teng LIN, Yizhang ZHU, Yuyu LUO, Nan TANG

RAMer: Reconstruction-based Adversarial Model for Multi-party Multi-modal Multi-label Emotion Recognition **WWW'25 Under Review**
*Xudong YANG, Yizhang ZHU, Nan TANG, Yuyu LUO**

PROJECTS

LLM-Enhanced Semantic-Aware Graph Learning for Schema Linking in NL2SQL

- The schema linking task in NL2SQL was reformulated as a link prediction problem within the framework of graph learning, where the objective was to establish connections between NL query nodes and schema element nodes.
- The powerful natural language understanding capabilities of large language models were utilized to generate semantic vector embeddings, thereby enhancing the representation of semantic information.
- A graph dataset was constructed based on the Spider and Bird training sets to train a GNN model, enabling a more effective capture of schema structural information.

StatQA: Benchmarking LLMs' Capabilities in Statistical Analysis Tasks

- StatQA Benchmark: Introduced a pipeline to synthesize high-quality StatQA dataset, novelly curated for testing LLMs in specialized statistical analysis involving assessment of method applicability.
- Extensive Experiments: Systematically evaluated representative open-source and proprietary LLMs to establish our benchmark, also investigated the impact of in-context learning and supervised fine-tuning.
- Comparative Study between Humans and LLMs: Highlighted distinct strengths and weaknesses between humans and LLMs, revealed the potential for complementarity and collaboration.
- Summarized key findings and discussed research opportunities in this field.

Anomalies Detection and Prediction in Intelligent Operation and Maintenance of Base Stations

- Analyzed massive data of 67 KPI performance indicators of operator base stations within 29 days.
- Implemented the early warning mechanism including anomalies detection, anomalies prediction and trend prediction for core indicators.
- Deployed multiple cloud servers to build a cluster to parallelize the computation.

FUNDINGS AND AWARDS

HKUST(GZ) Red Bird M.Phil. Studentship **2023.09 - Present**
Excellent Graduates of Chongqing University **2023.06**
General Scholarship of Chongqing University **2022.09**
College Students Big Data Challenging Competition - *National Third Prize* **2021.11**
National Mathematical Contest of Modelling - *First Prize in Chongqing* **2021.10**
"Internet+" College Students Innovation Competition - *Silver Prize in Chongqing* **2021.08**
National Undergraduate Innovation and Entrepreneurship Project - *¥50,000 funding from Chongqing University* **2021.05**
China Collegiate Computing Contest - *Second Prize in Southwest Division* **2021.08**