JIANG YANBO

GitHub: https://github.com/jybxie123   Email: YJIANG057@e.ntu.edu.sg   Tel.:(65) 83552891

Education

Nanyang Technological University   08/2023-03/2025
  Master of Science   Data Science (GPA:4.42/5.0)
Zhejiang University   09/2018-06/2022
  Bachelor of Engineering   Computer Science and Technology (GPA: 3.71/4.0)
  Advanced Honor Class, Chu Kochen Honors College (Ranking: Top 2%)

Experience

Algorithm Dev Engineer (Java, Intern)   06/2024-Present
Alibaba Cloud, Hangzhou, China

- Developed an **order completion module** for Data Management System based on Qwen LLM, achieving an adoption rate of over **60%,** leading to a **50%** improvement in order commitment efficiency and a **30%** increase in approval efficiency.
- Parsed and analyzed SQL templates and distributions. Built an **SQL knowledge base** via Elastic Search for data correct orders, increasing output speed and accuracy, with a **20%** improvement in adoption rate.

Quant Developer (Python, C++, Intern)   01/2024-06/2024
MS Capital, Singapore

- Developed and evaluated features using Python for BTCUSD **1-3 minutes offset prediction**, leveraging price-volume data with **rolling window computations** and **advanced transformations**, improving model accuracy by **7%** over baseline.
- Implemented feature selection using **correlation analysis** and **Elastic Net** to minimize multicollinearity, enhancing model stability and reducing prediction error by **25%.** Innovated a novel approach to handle Crypto's high volatility in short-term predictions.
- Developed **backtesting system** with snapshot retention, data backup, and a genetic algorithm interface, leveraging multi-processing and service registration for enhanced performance and scalability.
- Created log analysis system using pandas for **real-time PnL**, **trade statistics**, and **abnormal order detection** with alerts.

Full Stack Engineer (Golang, Full time)   07/2022-06/2023
Open Pie, Hangzhou, China

- **CloudInfra**: Built a four-layer **resource orchestration** system: the template layer (for creating and validating templates), the plan layer (for listing plans), the apply layer (for invoking third-party cloud service SDKs), and the post-apply layer (for association and availability checks), reducing configuration time by **20x** with **one-click setup** and supporting **rollback** and **re-run** operations.
- **Kubernetes**: Developed a **Helm-based** Gitea version management system and a **one-step cloud database deployment** script, boosting deployment efficiency by **17x**. Integrated tenant whitelisting and circuit-breaker logic with **Istio**.
- **ETL**: Implemented MD5 checks for file integrity and encrypted streaming to S3, enhancing data transfer speed by 2.7x with **asynchronous processing**.

Project

Contrastive Automated Model Evaluation (core member before graduation)   12/2021-06/2022
ZJU, Accepted by ICCV2023, the 4th author: https://github.com/jybxie123/Contrastive_AutoEval

- Combined **contrastive learning** and image classification in a **multi-task framework** to verify the **linear accuracy correlation**.
- Constructed a meta-dataset with varied distributions under the same labels, fitting a linear correlation function to predict image classification accuracy from self-supervised task accuracy. Achieved **0.5 MAE** and **top performance** across multiple tasks.

Large Language Model Backward Gradient Sparse   12/2023-Present
NUS and A STAR I2R

- Apply **lossy compression** to the intermediate activations in **Transformers** and linear layers, ensuring **unbiased** gradient estimates. With an additional 5-10 epochs and a precision drop of less than 3%, **up to 90% memory sparsity** can be achieved.
- Validate the additivity of gradient errors and use a **dynamic programming algorithm** to compute optimal inter-layer sparsity weights, improving accuracy by **2%** and reducing additional training time by **30%** at the same sparsity level.

Surgical Action Triplet Recognition 2021   07/2021-09/2021
CUHK Summer Research Project

- Implement TMRNet and apply it to multi-class surgical endoscopic image recognition tasks.
- Modify the network by adding a time-based 1D convolution Gradient Library, improving prediction accuracy by 10% over the baseline.

Honor

The **1st-class Scholarship** of ZJU in the 2018-2019, 2019-2020 academic years;
The provincial third prize of mathematics competition for college students;
The Provincial Third Prize of National Students Mathematical Contest in Modeling;
The outstanding student in academic year 2018-2019 and 2019-2020;
The outstanding graduate of Zhejiang University