Qurui Zhang

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Education

2025 - present Master's Degree in Data Science at **Boston University**
2020 - 2024 Bachelor's Degree in Data Science and Big Data Technology at **Nanjing University of Posts and Telecommunications**

Internship

SHEIN International Import & Export Co. (Guangzhou)

Data Analysis Intern 07/2023 – 09/2023

- Built Tableau dashboards with interactive maps/filters, boosting analysis efficiency by 30% and supporting market strategy.
- Analyzed sales & traffic data to detect anomalies and deliver recommendations that raised new-product conversion rates.
- Applied BiLSTM on 1.8M reviews to extract commute insights, informing product design/marketing and earning team recognition.

Projects

Bioinformatics Copilot

Student Research Assistant, MIT CSAIL 02/2025 – present

- Integrated OpenAI, DeepSeek, and Anthropic models via a unified abstraction, enabling reliable parsing of natural-language instructions into structured task parameters.
- Orchestrated single-cell and multi-omics workflows with automated script generation and closed-loop SLURM job management (sbatch/squeue submission, monitoring, evaluation).
- Developed a PyQt5 desktop GUI with real-time progress visualization and one-click job control, lowering analysis barriers and cutting operational overhead.

Path Planning for Intelligent Question Answering Based on LLMs

Project Lead 01/2024 – 06/2024

- Fine-tuned the QWEN-7B model and built a specialized dataset for tourist attraction Q&A, which significantly improved the model's accuracy in this domain.
- Integrated the QWEN model series with the LangChain framework to develop a knowledge-based Q&A system and implemented real-time route planning using the Gaode API, improving both usability and response efficiency.
- Developed a comprehensive evaluation methodology to assess knowledge-based Q&A capabilities and agent performance in large language models, ensuring scientific and objective evaluation while providing critical data for subsequent optimization.

Deep Reinforcement Learning Research Based on TD3 Algorithm Link to Paper

Project Leader 01/2024 – 06/2024

Proposed LPT3, a reinforcement learning algorithm combining LSTM, PER, and TD3, achieving +326% and +101% average returns on HopperBulletEnv-v0 and HalfCheetahPyBulletEnv-v0, with faster convergence and higher control accuracy.

Skills

Programming Languages	Proficient in Python for data analytics, machine learning, and deep learning applications.
Data Analysis	Proficient in Python for data cleaning, visualization, and modeling; experienced in SQL for data extraction, processing, and analysis.
Deep Learning	Experienced with deep learning frameworks such as PyTorch; used BiLSTM-CRF for entity extraction and named entity recognition tasks.
Large Language Models	Hands-on experience in fine-tuning large language models and building LLM-powered agents with external tool integration, applied to tasks such as information extraction, workflow automation, and decision support.