

Xueqi Li

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Education

Carnegie Mellon University, School of Computer Science Aug 2024 - May 2026 (Expected)
Master of Computational Data Science Pittsburgh, PA, USA

- Courses: Intro to Computer Systems, Foundations of Computational Data Science, Intro to Machine Learning (Fall), Database Systems (Fall), Distributed Systems (Fall).

Beijing Jiaotong University (BJTU) Sep 2020 - Jun 2024
B.Eng in Software Engineering Beijing, China

- GPA: **3.87/4.0**, Ranking: **1/183**, National Scholarship (top 0.2% students nationwide).
- Core courses: Data Structure, Computer Network, Database System, Operating System, Machine Learning.

Skills

- **Programming Languages:** Java, Python, C++, C, SQL, Lua, Assembly, JavaScript, HTML, CSS.
- **Frameworks:** Spring Boot, Django, PyTorch, Qt, MyBatis, dlib, OpenCV.
- **Tech Stack:** MySQL, Redis, MongoDB, Elasticsearch, Lucene, Kafka, Docker, Kubernetes, XXL-JOB, Git, Drools, Poetry, Linux, Jupyter Notebook, CI/CD, Azure.

Work Experience

NetEase Youdao, Inc. Sep 2023 - Apr 2024
Software Development Intern (Backend), youdao Ads R&D Team Beijing, China

- **Feature Development.** Developed 30+ backend RESTful APIs for advertising, KOL search, asynchronous notification based on Spring Boot, MySQL, and Elasticsearch. Deployed system via CI/CD, Docker, K8s.
- **Performance Optimization.** Implemented incremental reindex for parent-child index based on Elasticsearch pipelines, reducing reindex interval by 80% and lowering CPU load by 70%.
- **Data Synchronization.** Built data synchronization from MySQL to Elasticsearch based on binary log and Kafka. Devised partial update based on Painless Script to avoid overwrite of 4 million KOL documents.
- **Development Workflow.** Gained insight into development, testing, bugfix, and deployment workflow. Upgraded 4 projects to JDK 21 and Spring Boot 3.2 for better performance utilizing virtual threads.

Projects

Home Monitoring System github.com/xueqili02/home-monitoring-system Jul 2023

- The system supports real-time webcam streaming based on **Django, MySQL, OpenCV, and ECS**.
- Implemented secure facial log in with blink detection based on **face_recognition** and **dlib**.
- Optimized **API performance** with model preloading, video frame extraction, and face image preprocessing. Reduced API response time by over 20%.

eMovie github.com/xueqili02/emovie Apr 2023 - Jun 2023

- Implemented fuzzy query based on **Lucene**, reducing API response time by over 70ms compared to SQL.
- Utilized **Redis, Lua, blocking queue** under Cache-Aside pattern to cache movie metadata and purchase tickets, allowing APIs to manage high concurrency requests in distributed environments.
- Integrated **Drools rules engine** to optimize price calculation and refactor code into drl files.
- Developed **TF-IDF, hybrid, collaborative filtering** models for diverse movie recommendations.

Database Management System Jun 2024

- Built SQL parser and executor for SQL execution. Utilized **Qt** and **Linux pipelines** for GUI.
- Implemented PK and FK checks for data integrity. Achieved table join based on nested loops.
- Incorporated **LRU** for buffer pool management to refresh unused pages and improve cache hit ratio.

Labs of Intro to Computer Systems May 2024 - Jul 2024

- Solved bit operation puzzles of logicals, conditions, loops, integers, and floats with limited **C** operators.
- Reverse engineered exe file and used code injection and return-oriented programming based on **Assembly**.
- Implemented a cache simulator in **C** based on N-way set-associative mapping.