Jie Liu

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EDUCATION

University of California, Berkeley   Aug 2024 - May 2025 (Expected)
- *Master of Engineering in Electrical Engineering & Computer Science*
- Coursework: Machine Learning, Model optimization, Computer Vision, VR/AR LLM Agents.

University of California, Berkeley   Aug 2022 - May 2024
- *Bachelor of Arts in Computer Science*   GPA: 3.63
- Coursework: Data Structures, Algorithms, Databases and Distributed Systems, Machine Learning.

SKILLS

- **Programming:** Java, C, Python, JavaScript, C++, Go, MATLAB, SQL, NoSQL, x86 Assembly
- **Development:** React, Vue, Spring Boot, GraphQL, MongoDB, MySQL, SSM
- **Tools:** Git, VSCode, Linux, IntelliJ, Docker, AWS, GDB, JUnit
- **Soft Skills:** Problem-solving, teamwork, communication, time management, adaptability

WORK EXPERIENCE

CrossValidataion.ai, *Software Engineer Intern*   May 2024 - Aug 2024
- Enhanced the development of **an AI-driven financial agent** integrating automated data processing and analysis workflows, helping investors leverage insights for investment strategies.
- Designed and implemented **a pipeline for automated extraction and storage of financial data** on **AWS**, ensuring consistent availability of up-to-date information for model training and analysis.
- **Fine-tuned Llama3 and OpenAI models** using SEC filings and news data, collaborating with teammates on backtesting and increasing the model's predictive accuracy by 40%.

Building Blocks of Cognition Laboratory, *Undergraduate Researcher*   May 2023 - May 2024
- **Led the design and implementation** of visual and auditory stimuli for cognitive experiments using **Python** and **MATLAB**, automating the experiment process and ensuring precise data capture.
- **Built a PsychoPy pipeline** to automate response recording, reducing data collection time by 80%.
- **Developed Python scripts to analyze accuracy and response times,** identifying discrepancies and refining the experiment pipeline in collaboration with teammates and the professor.

PROJECTS

Full Link User System | Java, React, Spring Boot, MyBatis, Docker   Mar 2024
- **Developed and maintained a full-stack user management system** utilizing **React** and **Spring Boot**, enabling features such as user registration, login, and an admin panel for user management.
- Built **RESTful APIs** with **Spring Boot** and **MyBatis-Plus**, optimizing database operations and improving system reliability with **global exception handling**.
- Implemented session-based authentication, reducing security risks and improving user retention.

Pintos Operating System | C, Linux, Docker   Feb 2024
- Led the extension of **Pintos OS** by implementing key functionalities across **user programs**, **thread scheduling**, and **file system management**, enhancing overall system performance and scalability.
- Enhanced thread scheduling with **a strict priority scheduler**, improving multitasking efficiency.
- Extended file system with buffer cache and directory support, reducing disk latency by 40%.

RookieDB, A Database Implementation | Java, IntelliJ   Nov 2023
- Developed **a Java-based SQL database system** with B+ tree indexing, query optimization, and NoSQL support, improving query execution efficiency and scalability.
- Implemented **join algorithms** and query optimization, reducing query execution time by 35%.
- Engineered **multigranularity locking** and **recovery mechanisms**, ensuring ACID compliance.