Alex Lin

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Experience

Software Engineer June 2024 – Aug 2024

BlackRock | Client Experience Platform Team *New York City, NY*

- Improved a high-impact retrieval augmented generation (R.A.G.) chatbot with better answers and internal image retrieval, increasing customer traffic to BlackRock product pages by 10%
- Developed backend REST APIs with senior data science engineers to integrate GPT-4, Azure Blob storage, and an in-house vector database into the chatbot
- Packaged a Python library for internal document parsing and automated data pre-processing workflows, resulting in a 75% decrease in team-wide data processing time
- Created and deployed new chatbot features through Agile methodology with continuous integration, continuous deployment, and test automation via Azure DevOps and Jira

Research Programmer June 2023 – Aug. 2023

Boston Fusion Corp. | ARCLIGHT Team *Lexington, MA*

- Enhanced state-of-the-art machine learning models with a custom Python API for conducting remote server inferences as an internal tool for company-wide AI development
- Implemented a state-of-the-art object detection pipeline in Python for model assessment (PR-Curves, F-1 Score, etc.) for the ARCLIGHT team's testing and metrics
- Deployed model training pipeline through Docker and optimized performance for a 30% decrease in training set-up time
- Investigated and provided possible methods for the application of transformers and masking techniques for novel object detection

Data Analyst June 2022 – Aug. 2022

Boston Medical Data Science | Using Technology to Improve Healthcare Operations *Boston, MA*

- Developed a database model with MongoDB to efficiently query and compute medical records needed for the main applications data source.
- Automated the internal MongoDB database maintenance to save 5 hours weekly in database management and ensured the timely update of outdated information
- Created a Java backend under the guidance of a staff engineer for application database operations

Projects

Squatty | *https://github.com/alex-lin64/Squatty*

- Implemented squat detection and classification for squat counting from the ground up using Tensorflow and Mediapipe
- Enhanced performance with OOP design and cython threads, achieving real-time performance
- Enhanced user experience by integrating Arduino-controlled features to improve user satisfaction by 50%

Course Clusters | *https://github.com/alex-lin64/Course-Clusters*

- A distributed and scalable course registration system developed through NodeJS and Javascript and deployed to EC2 instances on AWS
- Designed a core distribution API complete with data sharding, a gossip protocol, and map-reduce
- Designed a course search and registration API complete with 2-phase locking and TF-IDF indexing

Book of Ps | *https://github.com/alex-lin64/Book-Of-Ps*

- Digital recipe repository built on top of a custom hypertext framework
- Developed hypertext linking on text, images, and nodes, complete with user login and sharing akin to Google Docs
- Built on Typescript, React, NodeJs, MongoDB, and Express.js, deployed via Vercel and Render

Technical Skills

Languages: Typescript, Python, Javascript, Java, Go, C, Bash
Technologies: Azure DevOps, AzureML, Jira, Pytorch/Tensorflow, Linux, React, AWS, Docker, SQL, Git, Docker
Relevant Coursework: Machine Learning, Deep Learning, Data Structures & Algorithms, Computer Systems, Computer Networks, Distributed Systems, Embedded Systems

Education

Brown University Providence, RI

Bachelors of Computer Science | Teaching Assistant: Machine Learning | GPA 4.00 *Sep. 2021 – May 2025*