

ALEX LIN

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EXPERIENCE

Software Engineer Intern

June 2024 – Present

BlackRock | Client Experience Platform Team

New York City, NY

- Improved a high-impact retrieval augmented generation (R.A.G.) chatbot with internal image retrieval features, increasing customer traffic to BlackRock product pages
- 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, fully automated the chatbot's data processing workflow by hosting a fine-tuned vision model through Flask APIs and eliminated 5 hours of manual data processing per week.
- Created and deployed new chatbot features through Agile methodology with continuous integration, continuous deployment, and test automation via Azure DevOps and Jira

Research Programmer Intern

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 Intern

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internal MongoDB database maintenance to save 5 hours weekly in database management and ensured the timely update of outdated information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, front-end pages, 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, HTML, CSS, OCaml

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

Bachelors of Computer Science | Teaching Assistant: Machine Learning | GPA 4.00

Providence, RI

Sep. 2021 – May 2025