



Xi (Robby) Qiu

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WORK EXPERIENCE

Software Engineer – PayPal

San Jose, CA | Jul 2023 – Present

- Spearheaded the development of 3 microservices for PayPal's rewards platform serving over 10 million users, achieving a 10x increase in rewarded transactions. Used Java, Spring Boot, Spring Batch, and Message Queue.
- Increased revenue by 30% through developing a feature to charge rewards commissions directly from merchants. Eliminated the cost of intermediary agencies for merchants.
- Designed, developed, and tested the capability to serve product-based offers on the rewards platform in addition to merchant-based offers. Enhanced the granularity of rewards.
- Led an initiative to improve the test framework. Reduced functional test execution time by 40%, increased test coverage for all components by 10%, and improved traceability of test case changes.
- Deployed the rewards platform's microservices to 600+ distributed instances, identified key performing metrics, and set up monitoring dashboards and threshold alerts.

Software Engineer Intern – PayPal

San Jose, CA | May 2022 – Aug 2022

- Reduced deployment latency by 50% through externalizing text content from JavaScript code using PayPal's localization service. Enabled instant live update for text content changes.
- Created an open-source npm module with 100+ downloads that generates consistent JSON payload for hashing.

Software Engineer Intern – Second State (open-source company)

Beijing, China | Jun 2021 – Aug 2021

- Created a tutorial on using Docker to containerize ML models with WebAssembly VM and deploying on AWS Lambda. Published as a GitHub repository and received 50+ stars.
- Developed code examples of serverless functions using Rust and deployed on WebAssembly-powered cloud platform.

Product Manager Intern – TikTok

Beijing, China | Dec 2020 – Apr 2021

- Improved key risk metrics by 60% through analyzing advertiser behavioral data using SQL and Python. Detected features of risky advertisers and implemented corresponding risk-control measures.
- Designed a credit system for 25k TikTok advertisers in collaboration with the engineering team.
- Presented risk metrics updates and analysis in cross-functional weekly meetings of 50+ people.

EDUCATION

University of Pennsylvania – Master of Computer and Information Technology

Aug 2021 – May 2023

- GPA: 4.0 | Courses: Data Structures, Algorithms, Database Systems, Machine Learning, Distributed Systems

University of Oxford – BA in Philosophy, Politics and Economics

Oct 2015 – Jun 2019

- Overall Honours Classification: First Class – GPA equivalent: 4.0

PROJECTS

RAG App for Climbing Trip Planning | Python, LangChain, Vector DB, Scrapy | [Link](#)

Mar 2024 – Present

- Developed a retrieval augmented generation recommendation system for rock climbing trip planning. Used LangChain for prototyping and optimized performance with prompt engineering and fine-tuning.
- Created a web scraper with Scrapy and stored the data in a vector DB for retrieval.

ML Models for Image Classification | Python, PyTorch, NumPy | [Link](#)

Jan 2023 – May 2023

- Trained 3 models (logistic regression, CNN, ResNet50) to detect diseases types based on images of cassava leaves.
- Created a report with an analysis of hyperparameter tuning and validation metrics (F1 score and accuracy).

Distributed Cloud Platform | C++, Unix | [Link](#)

Sep 2022 – Dec 2022

- Created a distributed cloud platform that offers email and file storage services in a team of 4. The platform supports multiple frontend and backend servers, and features data replication, fault tolerance, and data recovery.

Face Analysis iOS App | Swift, Core ML | [Link](#)

Sep 2022

- Developed an iOS app that extracts faces in a photo and shows predicted age, gender, and emotion for each face. Integrated image recognition models with SwiftUI and Core ML.

Full-Stack Social Network App | JavaScript, React, Node.js, MongoDB | [Link](#)

Sep 2021 – Dec 2021

- Created Reddit-like web app in a team of 3 under the Scrum framework and deployed through Heroku.
- Independently implemented in-app synchronous chatting that supports image, audio, and video. Built the feature through polling, file streaming with Multer, and file storage with MongoDB GridFS.