

QIWEN ZENG

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Experience

ML Research Contributor

Jan 2025 – Present

Quantitative Finance Research Initiative

Remote

- Developing research on **financial forecasting models**, leveraging Hidden Markov Models (**HMM**) and Long Short-Term Memory (**LSTM**) networks to explore predictive methodologies.
- Building **data pre-processing pipelines** for large-scale financial datasets, focusing on feature engineering.
- Exploring and implementing **various ML methods** for time-series analysis and pattern recognition.

AG Mednet (Software Engineer in Test Intern)

May 2023 – Aug 2023

New Judi - Clinical Trials Platform Testing

Boston, MA

- Reduced post-release defects by **20%** by developing test plans and cases from requirements and specifications.
- Cut manual testing time by **40%** by automating BDD test scripts with **Selenium** (with Java) and **Cucumber**.
- Improved deployment efficiency by **25%** by integrating automated tests into the CI/CD pipeline using **Jenkins**.
- Conducted product testing using **PostgreSQL** for database validation, identifying key areas for improvements.
- Logged and tracked defects in **Jira**, provided detailed information to assist faster issue resolution by developers.

IBM (Software Engineer Intern)

June 2020 – Aug 2022

Full Stack Development: Baker Tilly International Full-Stack Inventory Management System

Remote

- Reduced operational time by **50%** with an inventory system for managing warehouse, engaging over **2000** people.
- Improved report generation speed by **35%** by implementing a **Vue.js** dashboard for real-time decision-making.
- Optimized API response time by **30%** via **Redis** caching, reducing database load for large-scale transactional data.
- Engineered **RESTful APIs** with **Spring Boot**, integrating **RabbitMQ** with message batching & prefetching.
- Implemented **JWT**-based authentication and authorization for secure user management and role-based access control.
- Optimized CI/CD pipeline by containerizing services with **Docker** for faster and reproducible deployments.

Data Engineering: FAW-Volkswagen Intelligent Platform

- Analyzed behavior data across **9 countries** to build **user portraits** for a car platform **recommendation system**.
- Improved recommendation accuracy by **20%** with hybrid models (**collaborative & content-based filtering**).
- Increased click-through and conversion rates by **15%** through **A/B testing** and model optimization.
- Applied **NLP** for **sentiment analysis** and **topic modeling** on transcribed voice logs to enhance personalization.

Technical Skills

Languages:

Java, Python, JavaScript, C#/.NET, C/C++, R

Backend:

Spring Boot, Node.js, Express.js, Flask, Elasticsearch

Frontend:

React.js, Vue.js, TypeScript, TailwindCSS

Databases:

MySQL, PostgreSQL, MongoDB, Redis, RabbitMQ

DevOps:

Docker, Kubernetes, AWS, Git, Jenkins, Jira

Others:

GraphQL, Swagger, Postman, Tableau, ArcGIS

Projects

Jobify: Job Application Tracking *React, Node.js, Express.js, MongoDB*

Mar 2024 - May 2024

- Developed a website where users can register, track applications and generate statistics for better management.
- Designed user interfaces with **React**, used **React Router** for seamless page transitions and nested pages.
- Built a backend with **Node.js/Express.js**, handling user management and **CRUD** operations with **Mongoose**.
- Handled requests and responses with **Axios**, implemented various configurations for data retrieval and manipulation.

Education

Tufts University, Master's in Computer Science

Sept 2021 – Feb 2024

University of Wisconsin-Madison, Master's in Civil Engineering

Sept 2019 – Dec 2020

Fuzhou University, Bachelor's in Civil Engineering (Water Resources Track)

Sept 2015 – Jun 2019