

Tom Xue

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Summary

Full-stack developer highly skilled in Python (FastAPI, Celery) and TypeScript (React, Node.js). Proven experienced in building scalable web apps and distributed data systems, integrating relational (PostgreSQL) and vector (Milvus) databases. Proficient in API design, containerized deployment with Docker, and CI/CD pipelines (GitHub Actions). Hands-on with cloud platforms (AWS, GCP), delivering production-ready, high-performance solutions. Experienced in Agile/Scrum development.

Skills

Languages: JavaScript, **TypeScript**, Python, C++
Web tech: **Express.js**, **JWT**, Node.js, **FastAPI**, Prisma, **Restful API**
Front end: **React**, GraphQL, Tailwind, HTML5, CSS3,
DB: SQL, MySQL, **Postgres**, Redis
Cloud & Tool: **AWS**, GCP, Docker, Git, GitHub Actions, webpack, vite

Work Experience

Software Engineering Intern 06.2024 – 08.2024 **LCFC Artificial Intelligence Lab**

Description: Multimodal **RAG** system (AINAS) based on **Langchain**, supporting image/vector retrieval, text-to-image search, task scheduling, and knowledge management.

Technologies: JavaScript, React, FastAPI (Python), PostgreSQL, Docker, Pytest, GitHub Actions, Docker

- Developed single page web app with **React**(Javascript), delivering interactive UI components for multimodal retrieval and search.
- Implemented **RESTful APIs** using FastAPI(python).
- Designed and maintained relational database schemas with **PostgreSQL**, ensuring data consistency, efficient indexing, and reliable transactional support.
- Integrated vector database(**Milvus**) to enable high-performance similarity search and retrieval for multimodal data (text, image, audio).
- Built unit and integration tests with Pytest and created a mock server to simulate **LLM/CLIP** responses,
- Set up **CICD** workflows with Docker and GitHub Actions.
- Migrated the project environment from Windows to **Linux**, resolving dependency conflicts and optimizing containerization for production readiness.

Project Experience

Full Stack Developer

ReadySetHire (GitHub: [Link](#))

Description: Full-stack recruiting management platform, supporting candidate/job/interview workflows, resume management, and audio interview with ASR transcription.

Technologies: React, TypeScript, Vite, Tailwind CSS, Node.js, Express, Prisma, RESTful API, OpenAPI, Jest, Docker, **AWS** (EC2, S3, RDS)

- Designed and developed responsive and interactive UI with **React + TypeScript**, ensuring cross-browser compatibility and performance optimization.

- Implemented **server-side logic** and **JWT authentication** using Node.js/Express, integrated audio recording and ASR transcription for interviews.
- Designed and maintained relational database schemas with Prisma, optimized queries for candidate and job modules.
- Authored API documentation with **OpenAPI**, enabling smooth front-end/back-end integration.
- Developed automated unit and integration tests with **Jest**, and preserved E2E hooks for critical workflows.
- Containerized the application with **Docker** to ensure scalable deployment and maintainability.
- Deployed and hosted services on **AWS**, ensuring reliability, scalability, and production readiness.

Achievements:

- Delivered a complete end-to-end recruiting platform from requirements gathering to deployment, demonstrating **full-stack** capability.
- Improved developer efficiency by standardizing API documentation (OpenAPI) and containerized environment, reducing onboarding/setup time by ~50%.

Certificates & Awards

Top 3 in UQ's Competitive Programming Group (CPG) Weekly Contest

AWS Solutions Architect (In progress)

Education

The University of Queensland (UQ)

Bachelor of Computer Science

Jul.2021 – Nov.2025