Mingrui (Shawn) Xiao

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SUMMARY

Full-stack software engineer skilled in building scalable web applications, cloud systems, and AI-powered solutions. Strong in Java, C++, C#, Python, TypeScript, React, .NET, and AWS/Azure. Experienced in machine learning research, system design, and delivering secure, reliable, user-focused applications.

SKILLS AND CERTIFICATES

Programming Languages: Java, C, C++, C#, Python, HTML, CSS, JavaScript, TypeScript, Flask.
Frameworks: Spring Boot, Django, Flask, Node.js, React.js, Vue.js.
Databases: PostgreSQL, MongoDB, Microsoft SQL Server.
Cloud Platforms: AWS, Azure.
Backend & Architecture: RESTful API Development, Microservices Architecture.
SCM and CI/CD: Docker, GitHub, Azure DevOps.
ML / AI: CUDA, PyTorch, TensorFlow.
Project Management: Agile, Scrum, Jira, Confluence
Languages: English, Mandarin, Japanese.
Certificate: AWS Certified Cloud Practitioner (In progress)

EDUCATION HISTORY

The University of Sydney **Sydney, Australia**
July 2023 – July 2025
Master of Information Technology and Master of Information Technology Management.
NANZAN University **Nagoya, Aichi, Japan**
Apr 2019 – Mar 2023
Bachelor of Mathematics.

WORK EXPERIENCE

IT Consultant **Sydney Chinese School, Sydney**
Nov 2025 - Present
- Optimize the school website, including front-end UI design and back-end database processing.
- Designed and developed a new CRM system that streamlined student–teacher data management, expecting to reduce administrative workload by 25%.
- Primary technologies used: Google Admin, TypeScript and React.

Software Engineer **ECO JAPAN K.K., Japan**
Mar 2020 - Dec 2020
- Led a 7-member cross-functional team to build a food delivery platform used by 3,000+ local customers in the Nagoya region.
- Designed, developed, and launched a food delivery application, QING QI SU DA, using C#, .NET, and Microsoft SQL Server, which was later acquired by HungryPanda, a major global food delivery platform.
- Increased order-processing efficiency by 50% through backend optimizations and database indexing using Microsoft SQL Server.
- Reduced rider assignment time by 40% through optimized dispatch logic.
- Built an Administrator Back-Office Management System to manage rider profiles, restaurant partners, delivery orders, and time/attendance tracking, enhancing operational efficiency.

Volunteer | Tutor **YWCA, Japan**
Sep 2017 - June 2023
- Teaching high and middle-school students Japanese and Mathematics.

PROJECTS

Research

- Improved GAN methods for generating images with features. And improved StyleGAN2 technology. Produced a thesis published in Japan.
- This research is in the study of Machine Learning, and particularly the study of GAN techniques.
- Using Linux most of the time, learning and using Python3 to implement the logic.
- Using CUDA, TensorFlow and PyTorch to train the models to get the desired results.

Farm Management CMS (Full-Stack System for Agriculture Business)

- Developed a centralized Farm Management CMS used to manage 2000+ farm assets, activities, bookings, using React (TypeScript) frontend and Azure Functions (TypeScript) backend with Prisma ORM and Azure SQL Server database.
- Built and optimized key modules including Farm Management, Asset Management, Activity Management, Booking Management, Feature Tags, and User Management.
- Implemented role-based authentication using Microsoft Entra ID, ensuring secure admin access control across APIs and UI.
- Designed structured, accessible, and responsive UIs using Material-UI (MUI) and global theme systems to maintain design consistency.
- Integrated Azure Blob Storage for secure media uploads and storage, and optimized backend API performance.
- Built CI/CD pipelines that reduced deployment time from 10 minutes to 2 minutes, improving developer productivity.

Full-Stack Smart Fitness system

- Trained a PyTorch pose estimation model achieving 92% detection accuracy for major joints in standard fitness movements.
- Implemented real-time inference pipeline reducing frame processing latency to <80ms.
- Using flask to connect python backend to react frontend.
- A smart agent function to analysis and generate plans to trainee, using LangChain to link ChatGPT API.
- Using springboot framework connect PostgreSQL database to store record and exercise data for agent to analysis.

Full-Stack Role Enquiry system

- Using React.js, Node.js, Express.js to develop this system.
- The role information is stored using MongoDB connection.
- Using MVC framework, the project code is clearer and more organized.
- User experience and website performance is enhanced by implementing React Hooks, React Router and CSS modules.

Tower Defense Game

- Using Java to implement the logics.
- Multiple classes to make project code more organized.
- Using Gradle to run and test the project code.