Yiming Ren

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Education

The University of Sydney

Master of Software Engineering (Expected Graduation: Dec 2025)
Bachelor of Software Engineering *(Honours, Class 2 Division 2)* (2020 – 2024)

Work Experience

Software Engineer Intern – Yanfeng Automotive Interiors
Shanghai, China | 2023 – 2024

Developed embedded Python modules and test scripts for in-vehicle infotainment/HMI systems, collaborating with cross-functional hardware and UX teams.

In School Projects

Bookmania | Full-stack Developer, team of 4 (Mar – Jun 2022)
Django REST, React/Redux, Bootstrap — Created the bookstore e-commerce stack, covering user auth, search, cart, and checkout flows.

"King of Bots" Game Platform | Back-end Lead, team of 5(Aug - Nov 2023)
Spring Boot, Vue.js, MySQL, WebSocket — Developed real-time matchmaking and bot-execution microservices with WebSocket push to the front end.

ECG ↔ PPG Reconstruction | Lead ML Engineer, Capstone (Aug - Nov 2023)
TensorFlow/Keras, Python — Trained CNN–LSTM + attention models to reconstruct 12–lead ECG signals from single–channel PPG.

Character Management Web App | Full-stack Developer (Aug – Nov 2023)
Next.js, Node/Express, MongoDB, JWT — Built a MERN dashboard with REST endpoints, role-based authentication, and a character-comparison view.

X-ray Bone-Shadow Suppression | Thesis Project (2024)
PyTorch, DDPM / DDIM / Elucidated Diffusion — Built three diffusion pipelines to remove rib and clavicle shadows from chest X-rays.

Campus Tutor Web App | Full-stack Developer, team of 6 (Aug - Nov 2024)
FastAPI, React, Docker, PostgreSQL, OpenAI API — Built an AI-assisted teaching platform for students and teachers to share materials, prepare lessons, and communicate via GPT-powered Q&A.

Low-Light Enhancement for Surgical Videos | Thesis Project (2025)
PyTorch, BasicSR, DDPM, 3D CNN — Developed a video enhancement pipeline using diffusion models tailored for low-light surgical footage; explored temporal consistency via 3D convolutions and attention-based architectures.

Programming Languages

Python (TensorFlow / PyTorch, FastAPI, Django)

JavaScript / TypeScript (React, Next.js, Node.js, Vue)

Java (Spring Boot)

SQL (PostgreSQL, MySQL)

Working familiarity with **Bash scripting, HTML & CSS**

Skills

Programming & Development

Machine Learning & AI: hands-on with CNN/LSTM, attention and diffusion models, data preprocessing, feature engineering and GPU-based training

Testing & QA: writes unit, integration and end-to-end tests using pytest, JUnit and React Testing Library; integrates static analysis, coverage reports and CI pipelines (GitHub Actions, Bitbucket CI).

Software Engineering & Project Management: practises Agile/Scrum and XP sprints, drafts user stories and acceptance criteria, produces system–architecture diagrams, feasibility studies and risk assessments; tools include Jira & Trello.

Soft Skills: clear technical communication, analytical problem–solving, collaborative teamwork, mentoring juniors and presenting to stakeholders.