

Eric Zhou

Software Engineering Student · Backend Systems · Autonomous Robotics

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EDUCATION

University of New South Wales (UNSW) Feb 2023 – Present
Bachelor of Engineering (Honours) — Software Engineering · Sydney, AU

Knox Grammar School 2021 – 2022

EXPERIENCE

Team Lead, Behaviours — rUNSWift 2025
UNSW · RoboCup International Robotics Competition · 5× World Champions
Python · ROS2 · Behaviour Trees · C++

- Architected the high-level decision-making and tactical behaviour system for autonomous humanoid robots competing at RoboCup international — one of the world's most prestigious robotics competitions.
- Implemented robot behaviour logic in Python on ROS2, integrating real-time perception, localisation, and locomotion subsystems across multiple robots simultaneously.
- Designed multi-robot coordination strategies using shared game-state broadcasting over field networks, enabling emergent team-level tactics without guaranteed communication.
- Led a technical sub-team and collaborated across vision, localisation, and motion disciplines under tight competition time pressure.

Student Ambassador — UNSW Engineering 2025 – Present

- Represent UNSW Engineering at open days, campus tours, and outreach events; engage prospective students on course pathways and university life.

President — UNSW Social Golf Society 2025 – Present
Vice President (External), 2024–2025

- Oversee operations, sponsorship negotiations, and event planning for one of UNSW's largest sports societies; manage a committee of 10+ and a Discord community of 100+.
- Secured external sponsorships and partnerships with local golf venues and equipment suppliers.

PROJECTS

Northbound — UBL 2.1 Order Management API

2024

TypeScript · Node.js · Express · Supabase (PostgreSQL) · Jest · OpenAPI 3.0 · Swagger

- Served as Scrum Master and core engineer on a 5-person team building a production REST API for generating and managing UBL 2.1 XML order documents used in B2B e-invoicing and procurement.
- Designed a validation pipeline that enforces UBL 2.1 XML schema compliance before database writes, reducing invalid document errors to zero in integration testing.
- Drove full Agile lifecycle: sprint planning, backlog refinement, Jira tracking, and retrospectives across the project.
- Delivered full test coverage via Jest (unit + integration) and design-first API documentation with OpenAPI 3.0 / Swagger.

Real-Time Multiplayer Quiz Platform

2024

TypeScript · Node.js · Express · WebSockets · REST APIs

- Built a full-stack Kahoot-style platform supporting concurrent multiplayer sessions with live scoring and game state synchronisation.
- Designed a WebSocket event protocol for host/player roles, handling player disconnects and reconnects gracefully mid-game.
- Managed isolated in-memory game state per session with real-time broadcast to all connected clients.

Property Rental Platform

2024

React · TypeScript · REST APIs · Component Architecture

- Developed a responsive Airbnb-style frontend with dynamic search (location, dates, price, type filters), listing management, and multi-step booking flows.
- Implemented scalable component hierarchy to avoid prop-drilling across complex, stateful booking and search UX flows.

SKILLS

Languages	TypeScript, JavaScript, Python, C, Java, HTML, CSS
Frameworks	Node.js, Express, React, Next.js, ROS2, Jest, OpenAPI/Swagger
Databases	PostgreSQL, Supabase, SQL
Tools & Other	Git, Jira, Agile/Scrum, Technical Documentation, Bilingual (English, Mandarin)

AWARDS & RECOGNITION

- **Gold Medal (Individual)** — Unigames Nationals Golf, 2024
- **Gold Medal (Team)** — Unigames Nationals Golf, 2023
- **Chinese Language Prize** — Sydney Grammar School, 2019