Thomas Trinh

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Education

Western Sydney University   **Mar 2022 – Mar 2025**
Bachelor of Information & Communication Technology   *Sydney, NSW*
- Awarded Entry Scholarship – granted based on **ATAR** performance and academic excellence upon admission.

Professional Experience

Software Engineer   **Nov 2024 – Present**
Courtara Pty Ltd   *Bankstown, NSW*
- Proposed and delivered an intuitive touchscreen keyboard for gaming machines using **C++**, **OpenGL**, and **Linux**, reducing input delay from over 1 second to under 80 milliseconds (50% faster) and refactoring the architecture for future scalability.
- Designed and managed a real-time data system using **SQLite**, tracking 100+ player metrics and 100+ machine parameters per session across 200+ machines. Reduced diagnostic latency by 40% and tripled operational throughput by enabling faster, data-driven decisions.
- Implemented a structured validation system in **C++** using input validation, state consistency checks, and device-level access control. Aligned with embedded security best practices, this reduced security-related support cases by 50% over two release cycles and maintained system availability above 99%.
- Collaborated with UX and audio engineers to develop a responsive soundtrack UI using **OpenGL**, reducing trigger latency by 60% and enhancing player immersion and interface fluidity.

Java Developer (Remote)   **Sep 2024 – Dec 2024**
NouveauTech Limited   *Watford, UK*
- Migrated a Spring-based backend application to the latest **Java** version, improving compatibility, maintainability, and security compliance.
- Refactored **RESTful APIs** to align with evolving data models, reducing backend response time by **15%** and enhancing data accuracy.
- Executed end-to-end **functional and non-functional tests** within a **CI/CD pipeline**, ensuring robust deployment across environments.

Software Developer Lead   **Jul 2024 – Nov 2024**
Western Sydney University - Capstone Project   *Parramatta, NSW*
- Led a team of 4 developers and built a platform on **Jupyter Notebook** to automate quiz creation, delivery, grading, and account management—reducing manual marking time from over 6 hours to under 1 hour, and saving over 200 admin hours annually while supporting 1,000+ students per semester.
- Built backend services in **Python** and deployed on **AWS EC2** with a lightweight **Voila** frontend—achieving an 80% improvement in task turnaround for academic staff and supporting 100+ sessions during peak periods.
- Used **Git** for version control and team collaboration, enabling seamless coordination and safe deployment workflows.

Selected Projects

Full Stack eCommerce Website
- Designed and implemented a complete eCommerce platform using **Typescript**, **Javascript**, **NodeJS**, **PostgreSQL**, **Docker** and **REST APIs**, with separate interfaces for users and admins, supporting key features like product browsing, cart management, order processing, and review submissions.
- Developed a centralized dashboard using **React** and **Redux** to streamline admin operations, reducing product management time by 30% and enabling bulk actions to be completed within one minute.
- Implemented secure authentication using **Google OAuth 2.0** and **JWT**, enforcing role-based access and improving session handling reliability across 100+ login sessions during testing.
- Integrated **Stripe API** for seamless payment processing and webhook-based order confirmation, reducing abandoned checkouts by 35% in user testing scenarios.
- Achieved over 90% unit test coverage using prompt-driven test generation with **GitHub Copilot** and **ChatGPT**.

Technical Skills

Languages: C++, Java, C#, Python, JavaScript, TypeScript
Frameworks: Angular, React, ASP.NET Core, NodeJS, ROS Melodic
Databases: MongoDB, PostgreSQL, SQLite
DevOps & Tools: Git, GitHub, Docker, AWS EC2, TurtleBot 3, OpenGL