# Terence Zhang

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## EDUCATION

**University of Auckland** — Auckland, New Zealand
*Bachelor of Science (Honours) with First Class Honours in Computer Science* — *Feb. 2021 – Nov. 2024*
- **GPA**: 8.38 / 9.0
- **Scholarships**: Summer Research Scholarship, Postgraduate Honours Scholarship

## EXPERIENCE

**Teaching Assistant** — Feb. 2023 – Feb. 2025
*University of Auckland* — *Auckland, New Zealand*
- Marked and evaluated 200+ student assignments in computer systems, algorithms, and data structures, providing consistent and accurate feedback, improving assignment scores by 10-15%.
- Analysed common patterns and misconceptions in student responses to inform instructors about areas needing clarification.

**Research Assistant** — Nov. 2023 – Feb. 2024
*University of Auckland* — *Auckland, New Zealand*
- Conducted a comprehensive literature review on the ethical use of generative AI, synthesising findings from multiple academic sources.
- Produced a report summarising key AI biases, hallucinations, and responsible use guidelines, which was adopted as a reference across multiple university courses for 500+ students.
- Presented findings to faculty, clearly communicating insights and recommendations for responsible AI integration.

## PROJECTS

**LinkUp** | *MongoDB, Express.js, React, Node.js, TypeScript, Zustand, Socket.io* — Oct. 2025 – Present
- Engineered a full-stack real-time messaging platform with one-on-one and group chat functionality, including admin controls for scalable group management.
- Designed and implemented real-time communication architecture using WebSockets, supporting presence, message delivery, and group-level broadcasts with efficient state synchronisation.
- Built secure authentication and authorisation using JWT, ensuring message access and user sessions are protected.
- Optimised MongoDB queries and database schema for efficient message storage and retrieval.

**Pinfinity** | *Next.js, TypeScript, MongoDB, Prisma, Tailwind CSS, Zustand* — Sep. 2025 – Present
- Developed a full-stack image-sharing application with authentication, CRUD operations, likes, comments, and follow functionality.
- Implemented backend with Prisma and MongoDB, integrating Cloudflare R2 for scalable and reliable image storage.
- Built a responsive, mobile-first UI using Tailwind CSS and managed application state efficiently with Zustand.
- Optimised API endpoints and database queries, improving data retrieval speed and overall performance.

**Adversarial Insight ML** | *Python, PyTorch, Tensorboard* — Jul. 2023 – Oct. 2023
- Developed a Python package to evaluate image-classification model robustness against multiple adversarial attacks, simulating real-world threat scenarios.
- Designed modular, maintainable code in a team of five, adopted by multiple universities for teaching and benchmarking.
- Implemented automated evaluation pipelines with configurable attacks, producing reproducible results and performance metrics for model benchmarking.

## TECHNICAL SKILLS

**Languages**: JavaScript, TypeScript, HTML/CSS, Python, Java, SQL (MySQL, Postgres)
**Frameworks / Libraries**: React, Node.js, Express.js, Next.js, Tailwind CSS, Zustand, Redux
**Concepts**: Object-Oriented Programming, Data Structures & Algorithms, Networking, Cybersecurity, Artificial Intelligence/Machine Learning, Responsive Design, RESTful APIs
**Databases / Cloud**: MongoDB, Amazon Web Services (AWS)