# Khoi Nguyen Nguyen

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## Education

**The University Of New South Wales (UNSW)** Sydney, NSW

*Bachelor of Science in Computer Science* *Expected Aug 2028*

- WAM: 90.5 / 100.0 (High Distinction)
- Earned International Student Award
- **Relevant Coursework**: Extended Algorithm Design and Analysis, Data Structures and Algorithms, Software Design and Architecture, Computer Systems Fundamentals, Discrete Mathematics

## Experience

**Software Engineer (Ground Station Team)** June 2026 – Present

*BlueSat UNSW (Student-led Engineering Team)* *Sydney, NSW*

- Develop backend services in Rust for the satellite ground station software
- Implement and maintain asynchronous networking components using Tokio and Axum
- Participate in code reviews and Git-based development workflows

**Prompt Engineering Intern** Sep 2025 – Oct 2025

*Bosch* *Ho Chi Minh City*

- Designed and iterated 50+ structured prompts for generative image models, improving product placement accuracy and visual consistency
- Evaluated model outputs using defined quality criteria, increasing generation reliability

**Web Scraping Engineer** Jun 2021 – Jul 2021

*Freelance Developer* *Remote*

- Built a Python-based data pipeline to extract and process 1,000+ Facebook posts and comments for real estate analysis
- Designed ETL workflow using Pandas and PostgreSQL, enabling structured querying of engagement and sentiment data
- Aggregated and analyzed user behavior data to identify trends in customer interest and property demand

## Projects

**Full-Stack University Simulation Game (Unigotchi)** Feb 2026 – Apr 2026

*Node.js, Express.js, JavaScript, Jest, GitLab CI/CD*

- Developed a university life simulator with complex state logic for student stats and time progression.
- Built a RESTful API with Express.js featuring secure authentication and persistent data management.
- Utilized Test-Driven Development (TDD) and Jest to ensure high code coverage and system reliability.
- Collaborated in an Agile team using Git for version control and CI/CD pipelines for automated testing.

**Dynamic Quiz Generation System (AutoQuiz)** Feb 2025 – Apr 2025

*LangChain, Flask, ChromaDB, Python, JavaScript, HTML, CSS*

- Built a full-stack RAG application enabling users to generate quizzes from uploaded documents using LLMs
- Implemented semantic search with vector embeddings (ChromaDB), improving relevance of generated questions
- Developed a Flask backend for document ingestion, retrieval, and LLM orchestration
- Created an interactive web interface for real-time quiz generation

**Artificial Sensory Assistance** Dec 2024 – Jan 2025

*YOLOv8, OpenCV, Python*

- Developed a real-time obstacle detection system for visually impaired navigation using computer vision
- Reduced false positive detections by 15% through custom annotation and distance-based risk zone logic
- Integrated text-to-speech feedback for real-time user alerts
- Awarded 2nd Place at AI Unleashed Hackathon (Vietnam)

## Technical Skills

**Languages**: Python, C/C++, Rust, JavaScript/TypeScript, PHP, SQL
**Frameworks**: Node.js, Flask, Jest, Express.js, React, Bootstrap, Axum
**Developer Tools**: Git, VS Code, GitHub, GitLab
**Libraries**: OpenCV, YOLOv8, MediaPipe, NumPy, LangChain, Tokio