

Hy Nguyen

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EDUCATION

The University of Adelaide <i>Bachelor of Computer Science (Advanced)</i>	Adelaide, SA Feb 2024
• GPA: 6.25/7.0	

EXPERIENCE

Undergraduate Researcher <i>University of Adelaide</i>	Dec 2025 – Present Adelaide, SA
• Benchmarked local search heuristics (LNS, VNS, LKH-3) for the Traveling Salesman Problem with Time Windows (TSPTW) instances enforcing strict computational budgets to ensure algorithmic fairness.	
• Implemented a sequential strategy to transfer solution states between tasks, statistically validating efficiency gains over isolated execution.	
• Optimizing an Evolutionary Algorithm to outperform these local search benchmarks, targeting superior solution quality and success ratios in highly constrained search spaces.	
Research Assistant <i>University of Adelaide</i>	Jul 2025 – Dec 2025 Adelaide, SA
• Contributed to fine-tuning Vision-and-Language foundation models by refining the synthetic data generation pipeline in NVIDIA Isaac Sim .	
• Enhanced existing trajectory algorithms to eliminate path instability, producing 500 high-fidelity video sequences used as ground-truth training data.	
Software Engineer Intern <i>FPT Software</i>	Jul 2025 – Sep 2025 Ho Chi Minh City, VN
• Engineered a full-stack LLM-powered analytics platform for NRC Health , enabling enterprise users to extract custom data insights through natural language queries .	
• Implemented production-ready data-to-text pipelines and prompt engineering strategies, automating report generation to significantly streamline workflows for non-technical stakeholders.	

PROJECTS

CodeRecall <i>Next.js, TypeScript, PostgreSQL</i>	Jan 2026 – Present
• Engineered a full-stack spaced repetition platform, implementing a modified FSRS algorithm to mathematically optimize review intervals based on memory stability metrics.	
• Designed a confidence-based grading system that drives a custom decay formula, dynamically calibrating target retention probabilities to maximize study efficiency.	
Cinesphere - Full-Stack Movie Discovery App <i>Vue.js, Node.js, Express, REST API</i>	Mar 2025 – Jun 2025
• Architected a production-ready web application, implementing a modular MVC architecture to decouple business logic, API routes, and data access layers.	
• Designed a scalable relational database schema (MySQL) and a custom Repository Pattern abstraction layer, optimizing complex join queries for real-time aggregation.	

AWARDS

Jane Street Electronic Trading Challenge First Place	Mar 2025
• Secured 1st Place (out of 15 teams) by engineering a market-making algorithm that utilized statistical arbitrage and real-time order book analysis to maximize PnL.	

TECHNICAL SKILLS

Languages & Databases: Python, C/C++, TypeScript, JavaScript, SQL, Java, Next.js, React, Node.js, Vue.js, Express.js.

Developer Tools & Technologies: Docker, PostgreSQL, MySQL, Git.