Hy Nguyen

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EDUCATION

Adelaide University Adelaide, SA
Bachelor of Computer Science (Advanced) – GPA: 6.28/7.0 (Major GPA: 6.55/7.0) *Feb 2024 – Expected Nov 2026*

WORK EXPERIENCE

Software Engineer Intern Adelaide, SA
Maptek Pty. Limited *Mar 2026 – Present*
- Rewriting a Python-based 3D polygonization pipeline in C++ to eliminate CPU-GPU synchronization stalls, targeting sub-millisecond per-frame latency for meshes with 100K+ vertices.
- Designing multithreaded execution and batched GPU dispatch via CUDA to overlap CPU preprocessing with GPU inference, maximizing pipeline throughput.

Optiver Career Kickstarter – Software Engineering Track Sydney, NSW
Optiver *Mar 2026*
- Selected for a competitive program focused on low-latency systems, networking, and exchange-level trading infrastructure.
- Built a simulated exchange from scratch using gRPC and Protobuf, implementing order matching logic, low-latency network communication, and real-time position and risk management.

Undergraduate Researcher Adelaide, SA
Adelaide University *Dec 2025 – Mar 2026*
- Benchmarked local search heuristics (LNS, VNS, LKH-3) across TSPTW instances scaling from 20 to 200 nodes under strict computational budgets, establishing fair baselines for sequential algorithm transfer.
- Developed a sequential warm-start strategy transferring solution states between tasks, achieving statistically significant efficiency gains ($p < 0.05$) over isolated execution.

Research Assistant *Jul 2025 – Dec 2025*
- Overhauled the synthetic data generation pipeline in NVIDIA Isaac Sim, enabling scalable fine-tuning of Vision-and-Language foundation models on domain-specific tasks.
- Debugged trajectory planning algorithms to eliminate path instability, generating 500+ high-fidelity video sequences used as ground-truth training data.

Software Engineer Intern Ho Chi Minh City, VN
FPT Software *Jul 2025 – Sep 2025*
- Built an LLM-powered analytics platform (React, Python, PostgreSQL) for NRC Health, enabling enterprise users to query structured data via natural language with sub-3s response times.
- Developed data-to-text generation pipelines using structured prompt chains, automating weekly report generation and reducing analyst preparation time for 30+ stakeholders.

PROJECTS

CodeRecall | *Next.js, TypeScript, PostgreSQL* Jan 2026 – Present
- Built a full-stack spaced repetition platform with a modified FSRS algorithm and confidence-based grading, dynamically optimizing review intervals for 200+ coding problems.

AWARDS

Jane Street Electronic Trading Challenge | First Place Mar 2025
- Secured 1st place (out of 15 teams) by engineering a market-making algorithm exploiting statistical arbitrage signals and real-time order book imbalances to maximize risk-adjusted PnL.

TECHNICAL SKILLS

Languages: Python, C/C++, TypeScript, JavaScript, SQL, Java. **Frameworks**: Next.js, React, Node.js, Vue.js, Express.js.
Tools: CUDA, Docker, PostgreSQL, MySQL, Git, Linux, CMake.