

Arnav Goel

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I'm a final-year CS student at NUS who has built an AI assistant an energy operator uses every day and a browser agent with 1,000 users. I've also shipped Java into lending software used inside banks, and 3 internal platforms that replaced manual work at NUS.

Education

National University of Singapore

Aug 2023 - Jun 2027 (Expected)

Bachelor of Computing (Honours), Computer Science | Minors: Data Engineering, Management

Awards: DXC Technology Coding Challenge, National Rank #1 · Class XII 98.6%, top 0.1% in India

Coursework: Algorithms, Operating Systems, Databases, Machine Learning, NLP, Big Data Systems, Cloud Computing

Technical Skills

Languages: Python, Java, TypeScript, JavaScript, Go, SQL, Swift, Rust

Backend & Cloud: FastAPI, Flask, Node.js, React, Next.js, REST APIs, MySQL, PostgreSQL, Docker, AWS, CI/CD, testing

AI: PyTorch, CUDA, multi-GPU training, LLM agents, fine-tuning (LoRA), speech recognition

Experience

iEnergy Digital

Jul 2026 - Aug 2026

AI Engineer Intern | Python, FastAPI, Next.js, AWS

- Designed an AI agent that answers an energy operator's safety officers in plain English, in under **3 seconds**.
- Engineered it to check its own work, trying several database queries, keeping the best and learning from past mistakes.
- Worked directly with the officers who use it to decide what to build next.
- Rolled out a voice version officers use hands-free on site in **30+ languages**, tested nightly so updates never broke it.

NUS Information Technology

Jan 2026 - Jun 2026

Software Engineer Intern | Python, Flask, React, MySQL

- Automated the network team's manual work across **6 university systems** with 3 internal web platforms.
- Secured them with single sign-on, role-based access and a full audit trail, so every change traces to a person.
- Added safe controls for bulk network changes, letting operators stop a faulty change mid-run before it spreads.

Interactive 3D Design Lab, NUS and Apple

Apr 2025 - Jan 2026

Software Engineer and Undergraduate Researcher | Swift, SwiftUI, visionOS

- Built BellsTrace with Apple and stroke clinicians, a Vision Pro test using eye and hand tracking, tried on **30+ patients**.
- Created the clinician's iPad app that controls the headset live over Wi-Fi and turns each session into a PDF report.
- Measured where patients missed targets and how their eyes moved, detail the paper test used today cannot capture.

Aurionpro Solutions

May 2025 - Jul 2025

Software Engineer Intern | Java, Apache Spark, Oracle SQL

- Shipped lending features that commercial banks use to run their loans on SmartLender, written in Java and Spark.
- Standardised releases so banks tested exactly the build they would run.
- Prototyped splitting SmartLender's large codebase into smaller services that can be released independently.

Projects

Final-Year Project: Training an LLM from Scratch | PyTorch, CUDA, NUS GPU cluster

- Trained a **1.38B-parameter** language model from scratch on multiple GPUs, reaching the GPT-2-level target.
- Proved the results are reproducible, with two runs on different GPUs agreeing within **0.5%**.
- Ran the full training pipeline on **2 GPUs** where the reference setup assumes 8, at 79% of ideal speed per GPU.

Select to AI: Browser AI Agent | JavaScript, Chrome extension

- Grew a Chrome extension to **1,000 users** and a Featured badge, then turned it into an agent that does web tasks itself.
- Improved how it tells a question from a request to act, raising accuracy from **68.0% to 94.7%**.

Leadership & Community

- Organised and mentored Spatial Hack AI 2026 at the Apple Developer Center Singapore, for **126 participants**.
- Taught Introduction to AI and Machine Learning as an NUS Teaching Assistant, and ran revision for 3 other courses.
- Led a residential cluster of 15 students as Cluster Leader and Fire Warden, running events and settling disputes.
- Tutored primary-school pupils one-to-one as a Teach SG volunteer with the Ministry of Education.