

# NGUYEN (NOAH) PHAM

Manchester, United Kingdom

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## Education

### University of Manchester

BSc. (Hons) Computer Science

Graduating in Jun 2027

First Class Honours, Expected

- Relevant Coursework: Software Engineering, Algorithms and Data Structures, Data Science, Operating Systems, Database Systems, Artificial Intelligence, Computer Engineering & Architecture, Discrete Mathematics.
- Activities: Student Representative, Google Developer Student Club, Robotics Society, Manchester Trading Society.

## Experience

### Software Developer Intern

Ping Technology Labs

Oct 2025 – Present

Manchester, United Kingdom

- Led the end-to-end full-stack development of a public DNS directory with **77,000+** records using **Next.js**, **TypeScript**, and **Python (Flask)**, improving load times via server-side rendering and memoized caching layers by **60%**.
- Engineered **10+** high-performance **REST APIs** with **PostgreSQL** and **SQLAlchemy ORM**, implementing TTL-based caching and aggregation queries to power analytics and dynamic filtering.

### Digital Design Web Developer

University of Manchester Students' Union — Part-time

Aug 2025 – Present

Manchester, United Kingdom

- Developed and designed **30+** high-traffic web pages for the Students' Union platform, handling **150,000+** monthly page views and improving user engagement by **50%** through intuitive UI/UX design and seamless navigation flows.
- Built a full-stack web application with **React**, **TypeScript**, **Node.js**, **Express.js**, **AirTable** and **Mapbox GL** to provide all available campus utility locations and mapping for all students and faculty staff.

## Projects

### SpeakWisely | Next.js, TypeScript, PostgreSQL

February 2025

- Built and launched a full-stack AI-Powered application using **Next.js**, **TypeScript**, and **Supabase**, gained and currently supporting **300+ active users** for IELTS speaking practice.
- Architected a **real-time multi-agent conversational AI**, using a **state machine** and **context engineering** to orchestrate seamless handoffs between **specialized agents** for a dynamic, multi-stage test simulation.

### Multi-Agent Project Management System | Next.js, TypeScript, RAG, Python, Redis

November 2025

- Architected a **multi-agent AI backend** using **RAG modeling** and a **fine-tuned GPT-4.1 Nano** to autonomously manage and delegate project tasks, winning **1st Place** out of 100+ teams at the UCL AgentVerse Hackathon.
- Engineered an agentic digital twin data pipeline with **Python** and **Redis** to model individual team member skills and availability, enabling the core system to make intelligent, context-aware assignments.

### Multi-Agent Dementia Care Platform | LangGraph, Next.js, TypeScript, Python

October 2025

- Developed a multi-agent system using **LangGraph** with specialised agents for memory and health monitoring with a centralized contextual memory layer to orchestrate patient reminders and task management, winning 1st Place.

### AI-Powered Coding Interview Coach | Python, Docker, Next.js, TypeScript, Tailwind CSS

April 2025

- Built a full-stack AI coaching platform with a **Next.js** front-end and a secure **Python/Docker** back-end to deliver real-time, AI-driven feedback within a sandboxed execution environment.
- Integrated a low latency voice-driven interface by orchestrating a real-time transcription and text-to-speech pipeline.

### Real-Time Study Space Finder | Next.js, React, Typescript, MongoDB, Mapbox GL

October 2024

- Developed a full-stack interactive mapping application with **Next.js**, **React**, **TypeScript**, **MongoDB** and **Mapbox GL** to visualise real-time study space availability, attracting over **500 monthly active users**.
- Architected a server-less back-end using **Next.js API routes** and **MongoDB** to serve geo-spatial data and power a proximity and amenity filtering, slashing student search time by an estimated **90%**.

## Technical Skills

**Languages:** Python, TypeScript, JavaScript, Java, C++, SQL, Swift, HTML/CSS, Verilog, Assembly, C.

**Frameworks & Libraries:** Next.js, React.js, Node.js, Tailwind CSS, Framer Motion, Qt, PartyKit.

**Database and BaaS:** PostgreSQL, Supabase, MongoDB, MySQL, NoSQL, SQLite, Firebase, Redis.

**Developer Tools & Platforms:** Docker, Git, GitHub, GitLab, Vercel, Linux, CI/CD, Agile, Scrum, L<sup>A</sup>T<sub>E</sub>X.