

TRAN KHOI NGUYEN (NOAH) PHAM

Manchester, United Kingdom

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Education

University of Manchester

Graduating in 2027

BSc. (Hons) Computer Science

Manchester, United Kingdom

- Relevant Coursework: Data Science, Operating System, Computer Engineering & Architecture, Discrete Mathematics.
- Activities: Student Representative, Google Developer Student Club, Hyperloop Manchester, Manchester Robotics Society, GreatUniHack 23', Hackchester - Cyber Security, Manchester Trading Society and MUDSS.

Experience

Full Stack Software Engineer

Dec 2024 – Present

SpeakWisely

Manchester, United Kingdom

- Led the end-to-end product lifecycle development of a full-stack AI-powered web application using Next.js, TypeScript, and Supabase, successfully acquiring and supporting **200+ active users** for IELTS speaking practice.
- Engineered an automated analysis pipeline integrating OpenAI's Whisper API for transcription and a low latency LLM inference for evaluation, delivering detailed feedback on user-submitted audio in **under 8 seconds**.
- Implemented a secure, multi-tenant backend with Supabase and PostgreSQL, utilising Row Level Security (RLS) to ensure strict data privacy and integrity for all user practice sessions and performance analytics.
- Designed and developed a responsive front-end with Tailwind CSS and Framer Motion, creating an engaging test simulation environment with real-time audio visualisation that increased user immersion and practice effectiveness.

Electronics and Software Engineer

Sep 2023 – Jun 2024

Hyperloop Manchester

Manchester, United Kingdom

- Optimised a multi-panel control GUI in C++ and Qt to visualise mission-critical data, integrating **5+** real-time streams including GPS, live video, and 3D heat maps to reduce system diagnostic time by an estimated **40%**.
- Implemented a low-latency communication protocol between pod micro-controllers and the control station.
- Overhauled the Hyperloop's website using HTML, CSS, and JavaScript, modernizing the design and responsiveness.

Projects

Race the Ages | *Next.js, TypeScript, React, PartyKit, Tailwind CSS, Framer Motion*

November 2024

- Developed a real-time multiplayer game using Next.js, TypeScript, and PartyKit, achieving game state synchronization with **<100ms** latency to deliver a fully functional prototype in 24 hours and winning 2nd Place Overall.
- Built a dynamic and responsive UI with Tailwind CSS and Framer Motion, featuring a sophisticated scoring algorithm that increased player engagement by turning historical education into an interactive competition.

StudyMapper | *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, successfully attracting over **500 monthly active users**.
- Architected a serverless backend using Next.js API routes and MongoDB to serve geospatial data and power a proximity and amenity filtering, slashing student search time by an estimated **90%**.

LeetCoach | *Next.js, TypeScript, Python, Docker, Tailwind CSS*

April 2024

- Built a full-stack AI coaching platform with a Next.js frontend and a secure Python/Docker back-end to deliver real-time, AI-driven feedback from the Gemini API within a sandboxed execution environment.
- Integrated a low latency voice-driven interface by orchestrating a real-time transcription API and the Neuphonic API for text-to-speech, creating a **100%** hands-free user experience to significantly improved accessibility for auditory learners.

Omni | *Next.js, React, TypeScript, Polkadot, AI, Hardhat, Solidity*

May 2025

- Engineered an AI-powered DeFi strategy engine with Next.js, implementing Monte Carlo simulations to generate personalised, risk-adjusted portfolios and reducing user research time significantly.
- Architected a full-stack dApp on the Polkadot network, deploying Solidity smart contracts via Hardhat and integrating the Polkadot API to create a secure, end-to-end workflow from wallet connection to on-chain transaction signing.

Technical Skills

Languages: Python, TypeScript, JavaScript, Java, C++, SQL, 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, SQLite, Firebase

Developer Tools & Platforms: Docker, Git, GitHub, GitLab, Vercel, Linux, Windows, L^AT_EX