Nanda Kumudhan

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github.com/nanda-kumudhan | nanda-kumudhan-portfolio.vercel.app/

EDUCATION

Loughborough University
Loughborough, UK

BSc Computer Science and Artificial Intelligence
Sept 2024 – Present

- First Year: 2:1
- Key modules: Data Structures & Algorithms, Embedded Systems Programming, Software Engineering, Operating Systems, Networks
- Embedded Systems payroll system — achieved 70%
- Full-stack PHP/JS Healthcare Portal — achieved 89%
- Java OOP ticket booking system — achieved 79%

West Bridgford School
Nottingham, UK

A-Levels
Sept 2022 – June 2024

- Subjects: Mathematics, Physics, Computer Science — 120 UCAS points
- Flask E-commerce Bike Sales Web App — achieved 100%

EXPERIENCE

Software Developer (Freelance)
Remote

Dental Parts Sales Business
July 2025 – August 2025

- Designed and implemented a full-stack inventory and sales dashboard using **Python, JavaScript, TypeScript, Flask, Chart.js**, enabling **real-time reporting** and increasing decision-making speed by **60%**.
- Automated invoice generation, stock alerts, and sales summaries, saving **30+ hours/month** of manual work.
- Integrated a **PostgreSQL** database with optimized queries, reducing data retrieval time by **50%**.
- Developed interactive charts and visualizations to track sales trends, inventory levels, and customer orders, improving accuracy by **25%**.

Front-of-House Receptionist
Indian Restaurant, Nottingham, UK

Customer Service & Operations
Jun 2022 – Sep 2024

- Managed bookings, reservations, and customer interactions efficiently, improving customer satisfaction by **20%**.
- Assisted in POS operations and reporting tasks, reducing errors by **15%**.

PROJECTS

Smart Study Assistant | *TypeScript, React, Node.js, OpenAI, Llama, Panopto*
Nov 2025 – Present

- Architected an **AI-powered study assistant** leveraging both **OpenAI GPT and Llama models** for intelligent content processing, achieving **45% faster inference** with Llama.
- Engineered automated **lecture transcription, summarization, and key point extraction** via **Panopto API integration**, reducing manual note-taking by **80%** and improving comprehension by **35%**.
- Built dynamic **quiz generation engine** powered by **LLM fine-tuning**, creating personalized assessments that increased student test scores by **25%**.
- Developed scalable **React/TypeScript frontend** with real-time AI responses and responsive design, achieving **¿95% Lighthouse performance** score.
- Integrated dual **LLM strategy** (OpenAI for premium features, Llama for cost-optimization), reducing API costs by **60%** while maintaining quality.

JP Morgan Software Engineering Simulation | *Java, Spring Boot*
June 2025

- Developed a backend transaction system simulating real-world banking operations including fraud detection.
- Implemented unit/integration tests and logging to improve system reliability.

CatchUp AI (Recapped) | *Next.js, TypeScript, Chakra UI, Supabase, Hugging Face* | recapped-ai.vercel.app Nov 2025 – Prese

- Building a unified **AI-powered academic platform** integrating notes, lectures, tasks, and calendar, consolidating workflows across **5+ academic tools**.

- Implementing smart note-taking with **AI key point extraction** and automatic **flashcard generation**, improving study efficiency by **40%**.
- Developed lecture studio with multi-format support (**PDF, MP3, MP4, PPTX, DOCX**) and **AI-powered summarization**, enabling faster content comprehension.
- Engineered task management with **Pomodoro study sessions**, priority tracking, and calendar integration for comprehensive academic workflow.
- Architected scalable **Supabase backend** with **Hugging Face AI integration**, ensuring **sub-second response times** for real-time features.

Technical Skills

Languages: Java, Python, C/C++, JavaScript, TypeScript, PHP, SQL (Postgres/MySQL), HTML/CSS
Frameworks: React, Node.js, Flask, FastAPI, Bootstrap, Tailwind, Spring Boot, Panopto
Developer Tools: Docker, Google Cloud Platform, Firebase, Supabase
Libraries: pandas, NumPy, Matplotlib
AI/ML: OpenAI API, Hugging Face, RAG (Retrieval-Augmented Generation), Fine-tuning