

Amarpal Singh

England, UK | **Full UK Right to Work – No Sponsorship Required**

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Professional Summary

MSc Computing graduate with professional experience developing full-stack applications using JavaScript, TypeScript, React.js, Next.js, Node.js, Express.js, PostgreSQL, and MongoDB. Experienced in REST APIs, database integration, production deployment, and RAG applications using pgvector, embeddings, vector search, and local LLM inference. Seeking a Graduate Software Engineer or Junior Full-Stack Developer role in the UK.

Technical Skills

Languages: JavaScript, TypeScript, HTML5, CSS3

Frontend: React.js, Next.js, Tailwind CSS

Backend: Node.js, Express.js, REST APIs

Databases: PostgreSQL, MongoDB, MySQL, pgvector

AI/LLM: Retrieval-Augmented Generation (RAG), Vector Search, Embeddings, Ollama

Tools: Git, GitHub, Postman, Vercel

Professional Experience

Full Stack Web Developer

Jan 2024 – Dec 2024

Kirloskar Jainson Engineers, India

- Developed and deployed a production full-stack business website using React.js, Node.js, and Express.js to support the company's online product and service presence.
- Designed and implemented RESTful APIs using Express.js to process customer enquiries and support frontend-to-backend communication.
- Built reusable and responsive React components to provide consistent functionality across desktop, tablet, and mobile devices.
- Worked directly with stakeholders to translate business requirements into technical features and production-ready functionality.
- Optimised frontend assets and application structure to improve website performance, maintainability, and responsiveness.

Freelance Full Stack Web Developer

Jul 2023 – Dec 2023

Self-Employed

- Designed, developed, and deployed full-stack business websites using React.js and Node.js based on client requirements.
- Worked directly with clients to gather requirements and translate business needs into functional web solutions.
- Developed reusable frontend components and responsive interfaces for desktop, tablet, and mobile devices.
- Managed application deployment, maintenance, updates, and troubleshooting for live client websites.
- Worked independently across the development lifecycle, from requirements gathering and implementation to deployment and post-launch support.

Projects

AI Teaching Assistant for LMS – MSc Project

Next.js, TypeScript, PostgreSQL, pgvector, RAG

- Developed an AI-powered academic assistant using Retrieval-Augmented Generation (RAG) to provide contextual, course-specific support to students.
- Designed a full-stack RAG architecture combining document ingestion, semantic retrieval, vector search, and local LLM-based response generation.
- Implemented vector similarity search using PostgreSQL and pgvector to retrieve semantically relevant course content.
- Integrated Ollama for local LLM inference and embedding generation, enabling AI processing without relying entirely on external AI APIs.
- Developed document ingestion workflows supporting PDF and DOCX uploads with automated text chunking, tokenisation, and embedding generation.
- Built the frontend using Next.js, TypeScript, and Tailwind CSS with responsive interfaces for student interaction.

Jainson Engineers Website – Live Production Website

React.js, Node.js, Express.js

- Developed and deployed a production business website presenting engineering products and services to customers.
- Implemented structured product and service interfaces with responsive navigation across desktop and mobile devices.
- Integrated frontend functionality with backend services to support business requirements and customer interactions.
- Maintained and updated the live production application following deployment.

HC Jain Sales India Website – Live Production Website

- Developed and deployed a commercial website presenting company information and product offerings with responsive interfaces across desktop, tablet, and mobile devices.
- Managed production deployment, maintenance, and structured product content to improve accessibility of business information.

Education

MSc Computing

Jan 2025 – May 2026

University of Lancashire, UK

Bachelor of Computer Applications (BCA)

Sept 2020 – Jul 2023

PCTE Group of Institutes, India