

SANTOSH MANOHARADAS

Full-Stack Engineer | AI & LLM Integration

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Summary

Final-year Computer Science student (graduating September 2026) with hands-on production experience building AI-driven full-stack applications. At Artslab Creatives, shipped LLM-powered chatbots, autonomous AI agent workflows, and n8n automation pipelines for live client deployments on AWS, translating AI capabilities directly into working products. Brings practical depth across the stack: React on the frontend, FastAPI on the backend, and machine learning ranging from computer vision to LLM integration. Recognised at CodeSprint 8 for NLP-driven AI work, with a focus on building systems that are deployable, not just demonstrable.

Technical Skills

ML & AI: PyTorch, Scikit-learn, YOLO, NumPy, Pandas, NLP, Deep Learning, OpenAI, LangChain, RAG, AI Agents

Frontend: React.js, JavaScript, HTML5, CSS3, WordPress, Shopify

Backend & Developer Tools: FastAPI, REST APIs, n8n, AWS, Git, CLI Scripting

Languages: Python, JavaScript, Java, Dart, SQL

Full Stack: Laravel, REST API Integration, UI Architecture, AWS Deployment

Professional Experience

Artslab Creatives

May 2024 – Present

Associate Software Engineer (Jul 2025 – Present)

- Engineered LLM-powered chatbots and autonomous AI agents using the OpenAI API, building n8n automation workflows for content generation and campaign delivery pipelines deployed on AWS for live client products.
- Built and maintained FastAPI backend services and REST API middleware layers enabling reliable third-party integrations across client platforms.
- Developed full-stack features end-to-end in React.js and Laravel, from UI architecture through to AWS deployment.
- Designed automated data pipelines reducing manual operational overhead and improving cross-system data consistency.

Software Developer Intern (May 2024 – Jun 2025)

- Integrated AI chatbot systems using the OpenAI API into client-facing platforms, alongside full-stack UI development in React.js and Laravel.
- Collaborated with cross-functional teams on QA testing and deployment of web applications under production timelines.

Freelance

2023 – Present

Web Developer & Digital Consultant

- Delivered end-to-end Shopify and WordPress builds for small business clients, covering store setup, theme customisation, and payment integration.
- Developed custom Laravel-based web applications tailored to client-specific workflows and business logic.
- Implemented website performance optimisation, including caching, asset compression, and Core Web Vitals improvements, with measurable page load gains.
- Applied on-page and technical SEO practices resulting in improved organic search visibility for multiple client sites.

Education

Informatics Institute of Technology (IIT)

2022 – 2026

BSc (Hons) Computer Science – University of Westminster

St. Nicholas' International College

2010 – 2021

Cambridge O-Level & A-Level | Physics, Mathematics, Computer Science

Projects

KnowledgeBase AI – RAG-Powered Document Intelligence Platform

Nov 2024 – Jan 2025

Python, LangChain, OpenAI API, ChromaDB, FastAPI

- Engineered an end-to-end Retrieval-Augmented Generation system enabling semantic Q&A over large private document collections using LangChain and OpenAI GPT-4o.
- Built a document ingestion pipeline supporting PDF, DOCX, and web scraping; chunked content with LangChain TextSplitter and indexed OpenAI `text-embedding-3-small` vectors into ChromaDB.
- Developed a FastAPI backend with streaming LLM responses and a React.js frontend with multi-session conversation history.
- Implemented hybrid retrieval combining dense vector search with keyword filtering, improving answer precision on domain-specific queries by ~30%.
- Deployed on AWS EC2 with Docker containerisation, supporting concurrent users with response latencies under 2 seconds.

Digital Witness AI – Retail Security Framework

Jan 2025 – Present

Python, PyTorch, YOLO, BiLSTM, Streamlit

- Architected an AI-powered retail security system integrating a real-time CCTV analysis pipeline with POS transaction data to audit scanning discrepancies.
- Engineered a PyTorch-based hybrid deep learning model utilising YOLO for action detection and a BiLSTM with Temporal Attention for sequence classification.
- Built a multithreaded Streamlit application serving live video inference with Explainable AI insights (Grad-CAM, SHAP) and automated forensic GIF generation.

Verisight – AI-Powered Misinformation Mitigation Tool

Oct 2023 – Sep 2024

NLP, Python, Scikit-learn, LangChain

- Awarded CodeSprint 8 2nd Runner-Up for a platform using machine learning to evaluate news credibility and curb misinformation spread.
- Engineered NLP models to detect headline-body incongruency and cross-article inconsistencies to surface reporting discrepancies.
- Built AI-driven cross-referencing features to visualise source contradictions and generate automated summaries for rapid fact verification.
- Integrated a community layer allowing users to contribute contextual notes, enabling collaborative auditing of digital media veracity.

Predictive ML Pipeline – Loan Eligibility Framework

Jan 2026

Python, Scikit-learn, Pandas

- Engineered a dual-stage CRISP-DM pipeline to automate loan approval classification and estimate maximum lending values.
- Developed and optimised Logistic Regression, Naïve Bayes, and KNN models integrated into a probability-based Voting Ensemble.
- Used GridSearchCV for hyperparameter tuning; evaluated performance via AUC-ROC curves, confusion matrices, and regression metrics, including R^2 , MSE, and MAE.

Awards & Certifications

CodeSprint 8 – 2nd Runner-Up

Best 2nd Year Group Project (Verisight)

AWS Certified Cloud Practitioner

Extracurricular Activities

Rotaract Club of IIT

- Treasurer (2024/25)
- Joint sports and recreational activities director (2023/24)

IIT Steve House Coordinator

- Active member of Steve House

IIT Basketball Team

- Active member of the IIT Basketball Team, competing in inter-institute tournaments.

References

Mr. Kushan Bhareti

Director, Inforwaves & Visiting Lecturer, IIT

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Mr. Miyuru Dharmage

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