

HASINDU WANNINAYAKE

AI Engineer | Machine Learning Engineer | AI Automation Specialist

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PROFESSIONAL SUMMARY

AI Engineer and Machine Learning Specialist with 3+ years of production experience designing, building, and deploying end-to-end AI systems. Proven expertise in Large Language Models (LLMs), Retrieval-Augmented Generation (RAG), Computer Vision, MLOps pipelines, and multi-agent AI orchestration. Unique combination of deep AI engineering capability and full-stack development proficiency, enabling seamless integration of AI into production applications. Anthropic Claude Code certified. Passionate about building AI that solves real business problems at scale.

CORE TECHNICAL SKILLS

AI & Machine Learning

- LLMs & Generative AI: OpenAI GPT-4o, Anthropic Claude, Google Gemini — production API integration, prompt engineering, system prompt design
- RAG Pipelines: LangChain, LlamaIndex concepts, ChromaDB, Pinecone concepts, vector embeddings, hybrid retrieval, reranking, document intelligence
- Computer Vision: YOLOv8 (custom training, 6 damage classes, 97.98% mAP@50), ConvNeXt-V2 fine-tuning, OpenCV, PyTorch, object detection, image classification
- Classical ML: Scikit-learn, XGBoost, LightGBM, CatBoost, Random Forest, TF-IDF, Logistic Regression, model evaluation, ensemble methods
- Deep Learning: TensorFlow, PyTorch, CNN architectures, transfer learning, fine-tuning, model optimization
- MLOps: DVC, MLflow experiment tracking, Docker, CI/CD with GitHub Actions, model versioning, reproducible pipelines
- Agentic AI: LangGraph multi-agent orchestration, LangChain agents, Claude Code with MCP (Model Context Protocol), autonomous AI workflows
- NLP: TF-IDF vectorization, text classification, hate speech detection, document Q&A, sentiment analysis
- AI Automation: n8n workflow orchestration, Zapier concepts, agentic pipelines, business process automation

Programming & Infrastructure

- Languages: Python (primary), JavaScript/TypeScript (ES6+), Java, SQL, R (basic)
- Frameworks: Flask, FastAPI (foundational), Node.js, Express.js, React.js, Next.js, Spring Boot
- Databases: MySQL, MongoDB, ChromaDB, SQLite, vector databases, SQL Server
- Cloud: AWS (EC2, S3, Lambda, RDS), GCP (Firebase, Cloud Run concepts), Azure (foundational)
- DevOps: Docker, GitHub Actions CI/CD, Git, DVC, MLflow, Postman

CERTIFICATIONS & AWARDS

- Anthropic Claude Code in Action Certificate — Anthropic (2024) | Agentic CLI workflows, MCP integration, context management
- Young Computer Scientist Merit Award — 2017 & 2018 (Java Game Development — National Competition)
- SLIIT Codefest Merit Award — 2017

KEY AI / ML PROJECTS

Vehicle Insurance Fraud Detection System Python · PyTorch · YOLOv8 · ConvNeXt-V2 · XGBoost · LightGBM · GPT-4o
github.com/iron-voldy/insurance_AI

- Trained custom YOLOv8s damage detector on 6 damage classes achieving 97.98% train mAP@50 and 72.58% test mAP@50 across 120 epochs
- Fine-tuned ConvNeXt-V2 nano fraud classifier achieving 85.81% accuracy across genuine/fake and 4 damage severity classes
- Integrated GPT-4o for natural-language claim advisory and obstacle scene analysis; ensemble scoring with XGBoost + LightGBM
- Developed full human-in-the-loop annotation workflow with multi-annotator conflict resolution and YOLO/COCO/CSV dataset export

End-to-End Chest Disease Classification (MLOps Pipeline)

Python · TensorFlow · DVC · MLflow · Docker · GitHub Actions CI/CD
github.com/Iron-voldy/End-to-End-Chest-Disease-Classification

- Production-grade MLOps pipeline: data ingestion, preprocessing, model training, evaluation, automated deployment
- MLflow experiment tracking, DVC data versioning, Docker containerisation, CI/CD via GitHub Actions
- End-to-end reproducibility from raw data to deployed model serving

Multi-Agent AI Blog Generation Platform

Python · LangGraph · Groq LLM · Agentic AI · Multi-Agent Orchestration
github.com/Iron-voldy/Multi-Agentic-Blog-Generation

- Built fully automated AI blogging pipeline using LangGraph multi-agent orchestration with Groq LLM
- Agents autonomously research, draft, review, and publish technical blog posts — no manual intervention

DocGenius — RAG Document Intelligence System

Python · LangChain · OpenAI · ChromaDB · Streamlit · Vector Embeddings

- Document intelligence app answering natural-language questions using LangChain retrieval chains and OpenAI embeddings
- Restricted LLM responses strictly to document context, preventing hallucination on out-of-scope queries

LLM-Powered Travel Itinerary Generator — Aahaas (Production)

LLM APIs · n8n · Node.js · MySQL · Prompt Engineering · REST APIs

- Production AI system: user submits trip details, system auto-generates personalised multi-day travel plans via LLM APIs
- Built semantic validation layer to detect logically inconsistent LLM output before database writes
- Full n8n orchestration pipeline connecting LLM calls, backend services, and MySQL data flows

Hate Speech Detection System

Python · Flask · React · Scikit-learn · TF-IDF · Logistic Regression

- Full-stack NLP classifier: Flask REST API backend + React frontend for real-time hate speech classification
- TF-IDF vectorisation with Logistic Regression; clean separation of model training, API serving, and UI layers

PROFESSIONAL EXPERIENCE

Full Stack Software Engineer — Aahaas

Nov 2025 – May 2026

Colombo, Sri Lanka | Travel Super-App Startup (Sole Engineer)

- Sole engineer — owned architecture, development, deployment, and production support across full stack and AI layers
- Built AI-powered quotation automation for Apple Holidays using prompt engineering, n8n, and REST APIs
- Designed database schemas, API endpoints, and AI workflow integrations for travel planning operations

Junior Software Developer (Contract) — Xsoftus

Sri Lanka | 2024 – 2025

- Built and maintained full-stack client solutions using JavaScript, PHP, MySQL, HTML, CSS

Software Development Tutor — Destiny Lab

Sri Lanka | 2022 – 2025

- Taught Java, JavaScript, web development, Android development, OOP, and software fundamentals

Software Development Intern — Sysoft Developers

Sri Lanka | May 2022 – Oct 2022

- Developed client-facing websites and features using PHP, HTML, CSS, JavaScript, and MySQL

EDUCATION

BEng (Hons) in Software Engineering — IIC University

2022 – 2026 (Ongoing)

BSc (Hons) in Information Technology — SLIIT

2024 – Present (Ongoing)

REFERENCES

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