Amanpreet Ahluwalia

University of Hertfordshire

Portfolio

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GitHub | LinkedIn

PROFILE

AI/ML Engineer with 5+ years of experience in enterprise automation and applied AI. Currently focused on building LLM powered applications for real-world impact using ethical AI principles, thoughtful design and intelligent automation. Strong foundation to deploy end-to-end ML pipelines, developing real-time assistants and working across modern GenAI stacks.

Passionate about delivering scalable, user-centric AI solutions that blend engineering, data science and product thinking.

WORK EXPERIENCE

AI Specialist Intern | GBCS Group **June 2025 to Present**

- Developing AI-based functionalities for React-based frontend projects.
- Defining requirements for AI libraries and technologies to meet project specifications.

AI/ML Engineer Intern | 3NS.AI, London **Feb 2025 to May 2025**

- Deployed Gen AI pipelines using LLaMA, DeepSeek, Mistral to automate structured data extraction from Legal and financial documents, improving audit report accuracy by 40% and reducing manual effort by 60%.
- Developed due diligence tool using LlamaIndex + LangChain for real time business metric retrieval and report generation.

IT Specialist | Bristlecone India Ltd. (A Mahindra Group Company), India **Aug 2019 to Oct 2024**

- Developed AI-powered analytics dashboards, integrating Google APIs to automate EDI workflows, improving decision-making efficiency by 25%.
- Built ML-driven models for cash flow forecasting and intercompany risk prediction.
- Automated ERP, Supply-chain and financial workflows using Python REST APIs and predictive analytics.
- Established 40+ EDI trading partners while optimising AI system scalability, increasing deployment flexibility by 30%.
- Crafted Data Modelling and reporting across distributed teams enabling 30% faster decision-making for stakeholders.

SKILLS

AI Engineering Machine Learning, NLP, Computer Vision, Retrieval-Augmented Generation, Deep Learning, Generative AI, Reinforcement Learning, MLOps, Data Analytics, Responsible AI

- Programming Languages: Python, SQL, JavaScript, Java, C#, R.
- AI/ML Frameworks: Scikit-learn, XGBoost, PyTorch, TensorFlow, Keras, Transformers.
- LLM & RAG Tools: LangChain, HuggingFace, FAISS, LlamaIndex, Langgraph, Pinecone.
- Data Analytics: Pandas, NumPy, Matplotlib, Seaborn, Feature Eng., RStudio, MATLAB.
- MLOps: Gradio, Streamlit, MLflow, Supabase, Docker, Jenkins, Flask, FastAPI, AWS Sagemaker, REST APIs.
- Cloud: PostgreSQL, MongoDB, SQLite, Streamlit Cloud, AWS, Azure.
- IDEs: Vision Studio, PyCharm, VSCode, Jupyter Notebook, Google Collab, Code spaces.
- Additional Tools: ROS Noetic, NetLogo, Unity, GitHub, Salesforce, Jira, EDI, NetSuite.

ACHIEVEMENTS

- 10+ Spot Awards for exceptional team performance at Bristlecone India Ltd.
- Recognised for achieving a 5-year career milestone with consistent contributions.
- Mentored 50+ students during NVIDIA workshops to debug and optimise real-time AI models.

EDUCATION

- **Master of Science in Artificial Intelligence and Robotics** – *University of Hertfordshire, UK* **2024**
- **Postgraduate Diploma in IT Management –** *Symbiosis University, Pune* **2019 - 2021**
- **Bachelor of Information Technology Engineering –** *MIT, Pune* **2014 - 2018**

PROJECTS

Chat with Your PDFs (RAG-Based Assistant)

- Built Groq-based RAG pipeline to allow users to query uploaded PDFs using vector stores and LLMs.

PV Output Prediction

- Used XGBoost regression to forecast solar panel output based on real-time weather and solar radiations alongside tracking experiments via MLflow.

AutoApplyX – AI Job Search Agent

- LangChain resume evaluator and job scraper using semantic search and PDF parsing.

AI Memoir Co-Writer

- Interactive LangGraph agent that rewrites, reflects and complies memoirs using LangChain.

Health Insurance Cost Predictor

- Implemented a regression model predicting insurance premiums based on user lifestyle.

Autonomous Vehicle simulation

- Programmed robot car for autonomous navigation to navigate a virtual track using Raycast sensors and C# scripting for real-time obstacle avoidance and adaptive path planning.

Diabetes Prediction System

- Designed a classification model achieving 93% accuracy for diabetes prediction using BMI.
- Optimised preprocessing pipelines, reducing data handling time by 35% in PyTorch.

CERTIFICATIONS

HuggingFace AI Agents Course (2025)

- Completed GAIA benchmark for autonomous AI agents, developing a LangChain-based AI agent using LLMs and tool use.

NVIDIA Fundamentals of Deep Learning (2024)

- 98% accuracy on image classification tasks using CNNs with optimised pipelines.

NVIDIA Applications of AI for Predictive Maintenance (2025)

- Built predictive maintenance systems using XGBoost, LSTM and Autoencoders with GPU-accelerated tools like RAPIDS and TensorFlow.

Microsoft Certified: Azure AI Fundamentals and Responsible AI Hackathon (2025)

- Attended Microsoft AI Conference and built AI dashboards using PowerAutomate and PowerFabric. Completed certification covering ML, NLP, computer vision and generative AI aligned with the AI-900 exam.

BCG GenAI (Data Scientist | Forage | January 2025)

- Developed an AI-powered financial chatbot for BCG's GenAI Consulting team, integrating and interpreting complex financial data from 10-K and 10-Q reports.