

Muhammad Ismail

Machine Learning Engineer

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PROFESSIONAL PROFILE

AI Engineer with 2+ years of industry experience building and deploying end-to-end machine learning solutions in production environments. Skilled in Python, PyTorch, Transformers, RAG pipelines, LLM workflows, and MLOps practices including Docker, CI/CD, and AWS deployments. Currently completing an MSc in Data Science at Kingston University, with a dissertation applying diffusion models and Vision Transformers (ViT) for brain tumour detection — combining deep research skills with practical engineering. Experienced in collaborating with multidisciplinary teams to translate complex stakeholder requirements into scalable, secure, and reliable AI systems. Passionate about staying current with the ML research landscape and eager to apply these skills in a national security context.

CORE TECHNICAL SKILLS

AI/ML Frameworks	PyTorch, TensorFlow, Scikit-learn, Hugging Face Transformers, Llama2, ViT
LLM & RAG	Prompt engineering, RAG pipelines, LangChain, ChromaDB, vector search, fine-tuning, agents, evaluation
MLOps	Docker, Git/GitHub, CI/CD, MLflow, DVC, model monitoring, retraining pipelines
Cloud — AWS	S3, EC2, Textract — deploying and scaling AI solutions in cloud environments
Software Engineering	Python, C/C++, C#, SQL, JavaScript — REST APIs (Flask/Django), version control, testing
Data & NLP	Pandas, NumPy, feature engineering, NLP, sentiment analysis, text classification
Other Tools	UiPath, Power Automate, n8n, Tableau, Postman, MATLAB, Unity 3D

CAREER HISTORY

RPA & AI Developer | Sybros Tech | Feb 2024 – Sept 2024

- Designed and deployed AI-powered automation agents and ML-integrated workflows using UiPath and Power Automate, managing 50+ concurrent production deployments including monitoring, incident handling, and performance optimisation.
- Built and maintained API-driven integration pipelines across multiple environments, ensuring reliable execution, structured logging, and robust error handling.
- Contributed to winning a new enterprise client in KSA by delivering bespoke AI automation solutions — demonstrating the ability to translate stakeholder needs into impactful technical outcomes.
- Collaborated cross-functionally to scope, prototype, and iterate on intelligent workflows in fast-paced delivery settings.

Python Developer | BANYO LTD | Oct 2023 – May 2024

- Developed and maintained scalable Python data pipelines for extraction, transformation, and automation using BeautifulSoup, Selenium, and Scrapy across multiple production sources.
- Built RESTful APIs with Flask to serve processed data to downstream applications, with structured error handling, retry mechanisms, and production-ready logging.
- Enforced data integrity checks and dynamic request handling, demonstrating strong software engineering practices.

Data Scientist | Psi-Square | Jun 2023 – Jan 2024

- Worked on supervised ML and NLP projects including data labelling, model training, fine-tuning, and evaluation on real-world use cases.
- Conducted research and experiments comparing ML and deep learning architectures, tuning models based on performance, robustness, and deployment constraints.
- Integrated external APIs and internal services to streamline data flow for downstream models and analytics pipelines.

- Developed and maintained Python scripts for data cleaning, feature engineering, and model evaluation to improve ML workflow efficiency.

KEY PROJECTS

Brain Tumour Classification via Synthetic Data — MSc Dissertation

Developed a deep learning framework combining diffusion models (Hugging Face Diffusers) and Vision Transformers (ViT) for synthetic brain MRI generation and classification using PyTorch. Evaluated outputs using FID, KID, and t-SNE metrics. Directly aligns with Roke's research prototyping and AI/ML model development mission.

LocalGPT — Retrieval-Augmented Generation Pipeline

Built a custom RAG pipeline to convert PDF documents into queryable knowledge bases using semantic vector search, Instructor Embeddings, and ChromaDB. A hands-on LLM application using LangChain-compatible components for intelligent document retrieval.

Multi-Model Computer Vision System (YOLOv8 + CNN)

Designed and trained four CNN-based models for pet breed classification, fine-tuned YOLOv8 for object detection, and integrated all models into a real-time Streamlit web application — demonstrating end-to-end ML deployment.

GPT-2 Chatbot — NLP

Developed a closed-scope conversational agent using GPT-2 Transformers, trained on a high-performance computing environment, achieving 85%+ conversational accuracy through data pre-processing and model tuning.

EDUCATION

MSc Data Science | Kingston University, London | Sept 2024 – Sept 2025

- Dissertation: Synthetic brain tumour MRI generation via diffusion models + ViT classification.
- Relevant modules: Machine Learning, Deep Learning, Data Visualisation, Cloud Computing.

BSc Computer Science | University of Central Punjab, Lahore | Oct 2019 – Jul 2023

- CGPA: 3.27/4.00 — Final Year Project: Immersive VR educational application (Unity 3D, C#).

VOLUNTEERING & COMMUNITY

Organised a blanket collection drive for flood victims in Sindh, Pakistan, gathering 50+ double blankets for affected families — demonstrating initiative and community leadership beyond professional responsibilities.

SECURITY CLEARANCE

Willing and eligible to undergo Developed Vetting (DV) clearance as required for this role.

References available on request