HANZLA NAWAZ

AI/ML Engineer | Machine Learning Engineer | Data Scientist

Email: hanzlanawaz151@gmail.com | Phone: +92 343 402 3151 | Location: Lahore, Pakistan
LinkedIn: linkedin.com/in/hanzlawatto | GitHub: github.com/Hanzla-Nawaz | Portfolio: kaggle.com/hanzlanawaz

PROFESSIONAL SUMMARY

Results-driven AI/ML engineer with 2+ years of experience designing and deploying scalable machine learning products, LLM-based applications, and robust backend systems. Proficient in Python, FastAPI, and MLOps tools, with expertise in modern AI frameworks (PyTorch, TensorFlow) and LLM technologies. Developed end-to-end LLM pipelines and vector search solutions to automate workflows and deliver high-impact insights at scale. Strong collaborator who translates complex requirements into AI-driven solutions, achieving measurable results.

TECHNICAL SKILLS

Programming Languages: Python, JavaScript, SQL, NoSQL, HTML/CSS

Frameworks & APIs: FastAPI, Flask, REST APIs, Django

Machine Learning: PyTorch, TensorFlow, Scikit-learn

AI & NLP: Hugging Face Transformers, OpenAI GPT, BERT, LangChain, RAG, LangGraph, CrewAI

Computer Vision: Vision Transformers (ViT), OpenCV, Gradio

MLOps & DevOps: Docker, MLflow, CI/CD, GitHub Actions, Git

Cloud & Databases: AWS, GCP, PostgreSQL, MongoDB, MS SQL Server, Pinecone, Qdrant (vector DBs)

Data Tools: Pandas, NumPy, Plotly, Matplotlib, Jupyter

PROFESSIONAL EXPERIENCE

AI Engineer
Xeven Solutions | Lahore, Pakistan
April 2025 – Present

- Building LLM-powered applications using OpenAI APIs to automate workflows and accelerate customer insights generation
- Developing high-performance backend systems with FastAPI, achieving 99.8% system uptime and scalable API performance
- implementing retrieval-augmented generation (RAG) pipeline using LangChain and vector search, boosting contextual query accuracy by 30%
- optimization of Pinecone and Qdrant vector databases for semantic search, achieving sub-second query latency
- Architected PostgreSQL and MS SQL Server schemas for application logging and bot history management

Machine Learning Engineer
Omdena | Remote
November 2023 – October 2024

- Automated preprocessing of tuberculosis case data in Kaduna, Nigeria, reducing manual data-cleaning effort by 50%
- Developed predictive regression models for TB case outcomes, improving forecast accuracy by 15% to support public health interventions
- Collaborated with global teams to counter misinformation in Nepal, leveraging AI tools (CrewAI, Groq API) to identify and flag false content
- Implemented data validation and quality assurance protocols for healthcare datasets

KEY PROJECTS

Data Science Assistant Toolkit (DSATK)
Python • Pandas • Scikit-learn • MLflow • Automation

- Created a Python-based toolkit to automate common data science workflows (data cleaning, feature engineering, model training)
- Integrated libraries like Pandas, Scikit-learn, and MLflow to streamline ML pipeline development, significantly reducing project development time and ensuring reproducible experiments

SpaceX Launch Data Analysis & Prediction
Python • Scikit-learn • Random Forest • XGBoost • Data Analysis

- Analyzed SpaceX Falcon 9 launch dataset using Python and Scikit-learn for comprehensive data exploration
- Engineered features and trained classification models (Random Forest, XGBoost) to predict rocket first-stage landing success with 83% accuracy
- Automated data wrangling and visualization using Pandas and Matplotlib to derive actionable insights on launch factors

IoT Medical Security System
Python • TensorFlow • Federated Learning • LoRA • Adversarial ML

- Developed privacy-preserving healthcare IoT security solution using federated learning across 5 client sites with differential privacy
- Designed hybrid Transformer-CNN model with LoRA fine-tuning, boosting cyber-attack detection F1-score by 22% while maintaining 92% accuracy
- Integrated meta-learning (MAML) and adversarial training (FGSM/PGD) for robust detection across 8 threat types

KEY PROJECTS (CONTINUED)

NutriVision: AI Nutrition Analyzer
Python • Vision Transformers (ViT) • Gradio • REST APIs • Computer Vision

- Built vision-based nutrition analysis system using Vision Transformers (ViT) with 89% ingredient classification accuracy
- Integrated nutrition APIs to calculate macronutrient values for identified foods in real-time
- Developed interactive Gradio dashboard with custom CSS styling to display nutritional breakdowns of meals

Automated Meeting Minutes Generator
Python • Whisper v3 • Mistral 7B • NLP • 4-bit Quantization

- Created end-to-end meeting transcription and summarization tool reducing manual note-taking time by 65%
- Utilized OpenAI Whisper v3 for speech-to-text processing achieving 98% accuracy through chunked audio processing
- Employed 7B-parameter language model (Mistral 7B) with prompt engineering to extract action items and structured summaries
- Implemented 4-bit quantization (BitsAndBytes) to deploy large language model on consumer hardware

EDUCATION

Bachelor of Science in Artificial Intelligence
Superior University | Lahore, Pakistan
September 2020 – December 2024 | GPA: 3.3/4.0

CERTIFICATIONS & PROFESSIONAL DEVELOPMENT

- Generative AI with LLMs (OpenAI, March 2024)
- IBM Data Science Professional Certificate (March 2023)
- Introduction to Cybersecurity Tools & Cyber Attacks (May 2022)
- GRC Analyst (March 2022)
- Data Manipulation with pandas (April 2022)
- Intermediate Python (October 2021)
- McKinsey Forward Program, Business Analytics (2024)
- Aspire Leaders Program (Aspire Institute, 2024)

HACKATHONS & COMPETITIONS

- NASA Space Apps Challenge (2024) – Developed space data analysis solution in global hackathon
- Llama 3 Hackathon (2024) – Built open-source chatbot solution leveraging Llama 3 model