Nimra Faryal

AI / ML Engineer

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Summary

Computer Science graduate from UET Taxila (CGPA 3.69/4.00) with hands-on projects in machine learning, deep learning, computer vision, NLP and LLM applications, backend APIs and IoT. I train models on real-world data and build them into working systems.

Education

University of Engineering and Technology (UET), Taxila Sep 2022 – Jul 2026
BS Computer Science – CGPA 3.69/4.00 *Taxila, Pakistan*

- Merit Scholarship for 1st position in the CS-22 batch in 4th semester (SGPA 3.95); Prime Minister Laptop Scheme awardee.
- Coursework: Artificial Intelligence, Natural Language Processing, Big Data Analytics, Databases, Artificial Neural Networks.

Technical Skills

Machine Learning: Scikit-Learn, Regression, Classification, Random Forest, Feature Engineering, EDA, Pandas, NumPy, Matplotlib, Seaborn
Deep Learning & Vision: PyTorch, CNNs, Transfer Learning, YOLOv8/v11 (OBB, Pose), ByteTrack, Re-ID, OpenCV, Homography, MediaPipe, Roboflow
NLP & LLMs: Hugging Face Transformers, BERT, Whisper, Groq API, Llama, OpenAI API, Prompt Engineering, RAG, Qdrant
Backend & Data: Python, C++, SQL, FastAPI, Flask, REST APIs, PostgreSQL, SQLite, Pytest, Streamlit
IoT & Tools: Raspberry Pi, Arduino, Sensor Integration, Wireless Sensor Networks, Git/GitHub, Google Colab, Kaggle

Hackathon Experience

AMD Developer Hackathon: ACT III – lablab.ai Oct 2026
ACTION GATE: AI Agent Security Gateway (Team Veylora) *GitHub*

- Built a gateway that decides whether an AI agent's planned actions are allowed, need human approval or are blocked, with policy checks, sequence risk analysis and consequence replay.
- FastAPI backend with DeepSeek V3 on AMD Developer Cloud and a Streamlit dashboard; 52 automated tests and 16/16 red-team scenarios detected.

AI Genesis Hackathon – lablab.ai Nov 2025
Multimodal Insurance Claims Processor (Team Stellar Engineers) *Python, Qdrant, BERT, OpenAI*

- Team project using Qdrant vector search to find and rank similar past insurance claims to support claim decisions.

Projects

IoT Forest Monitoring Network (Final Year Project) | *Raspberry Pi, Arduino, Flask, PostgreSQL* GitHub

- Arduino sensor nodes (temperature, humidity, CO_2) send readings over 433 MHz radio to a Raspberry Pi gateway that stores them in PostgreSQL behind a Flask REST API and fire-risk dashboard.

Walmart Weekly Sales Forecasting | *Python, Pandas, Scikit-Learn, Matplotlib* GitHub

- Cleaned and merged store, sales and economic data, engineered features and trained a Random Forest regressor ($R^2 = 0.945$, RMSE = 15,230).

AI Interview Studio | *Groq API, Llama 3.3 70B, Whisper, MediaPipe, YOLOv8n, Streamlit* GitHub

- LLM generates role-specific questions and scores answers transcribed by Whisper; live proctoring tracks gaze and detects phones to give a 0–100 integrity score, with HTML, CSV and JSON reports.

CCTV Suspicious Behaviour Detection | *YOLO11-Pose, ByteTrack, OpenCV* Featured on LinkedIn

- Pose-keypoint rules over shelf zones score each tracked customer and fire live alerts; flagged a grab-and-pocket 0.9 s after the grab on test footage.

Farm Predator Detection | *YOLO11, Roboflow, ByteTrack*

- Built and annotated a custom dataset, trained and retrained a YOLO11 model to detect predators and track poultry with live intrusion alerts.

AI Basketball Analytics & Live Commentary | *YOLO, ByteTrack, Re-ID, Homography, ElevenLabs*

- Fine-tuned YOLO for players, ball, rim and referees; kept IDs through occlusions, measured speed with homography and added voice commentary.

Drone Vehicle Detection, PPE Detection & Object Counting | *YOLO11s-OBB, YOLOv11, OpenCV*

- Rotated-box vehicle detection on drone footage, a custom 7-class PPE model with worker tracking, and line-based counting of vehicles and conveyor oranges.

AI Squat & Push-up Coach and **Sentiment Analysis Web App** | *MediaPipe, Hugging Face, Streamlit*

- Rep counting and form scoring out of 100 from pose keypoints on CPU; Transformers-based positive/negative text classifier with confidence scores.

Achievements & Certifications

- 5th position, Logic and Code Clash Round II (A&D Tech Innovations); Aspire Leaders Program, Cohort 4 (2026); UET Women's Basketball Team (2023–2025); Bronze medal, badminton singles, UET Taxila.
- Certifications: Introduction to Generative AI (Google Cloud); Introduction and Intermediate SQL (DataCamp); hackathon completion certificates, AMD Developer Hackathon ACT III and AI Genesis (lablab.ai).