

Muhammad Hunain Ashraf

ML · DL · LLMs · Agentic AI

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[LinkedIn Profile](#)

[Github Profile](#)

[Kaggle Profile](#)

[Portfolio Website](#)

SKILLS

Agentic AI

- ▶ LangChain
- ▶ LangGraph
- ▶ MCP
- ▶ Prompt Engineering

LLMs & RAG

- ▶ RAG Pipelines

ML / DL

- ▶ Scikit-learn
- ▶ XGBoost
- ▶ Random Forest
- ▶ ANN
- ▶ PyTorch
- ▶ Transformers

Languages

- ▶ Python
- ▶ JavaScript
- ▶ Java
- ▶ SQL

Tools

- ▶ Git
- ▶ Docker (basics)

EDUCATION

B.S. Computer Science

NUST

2023 - 2027 | CGPA 3.85

A Levels

Sadiq Public School

4 A*s

🏆 Top in Punjab 2022

🏆 Top in Punjab + 3rd in Pakistan 2023

O Levels

Sadiq Public School

6 A*s

🏆 Top in Pakistan - Biology

LANGUAGES

- ▶ English (Fluent)
- ▶ Urdu (Native)

PROFILE

Final-year Computer Science student at NUST with hands-on industry experience building production-grade agentic AI systems. Skilled in designing end-to-end LLM pipelines including Text-to-SQL chatbots, RAG retrieval systems, and fully automated ML workflows via LangChain and LangGraph. Proficient across the full ML/DL stack: data engineering, model training, and deployment. Strong academic record with Cambridge Learner Awards at both O and A Level.

WORK EXPERIENCE

ML Engineer Intern

Jun 2026 - Jul 2026

Tensor Labs

- Built and deployed the private admin and monitoring stack for Qualzo, provisioned as code and shipped with the FastAPI backend through Docker Compose.
- Tracked usage and funnel health across signups, onboarding, supply and demand, conversion, engagement and geography, served from Postgres materialised views on a scheduled refresh.
- Built cost tracking attributing LLM spend by model, provider and operation.

ML Engineer Intern

Jul 2025 - Sep 2025

Tensor Labs

- Worked on a Text-to-SQL conversational chatbot using LangChain and LangGraph that lets business users query an e-commerce database in plain English, routing queries through an agentic tool-calling pipeline that generates, validates, and formats SQL results.
- Engineered FinSight, a fully automated financial ML pipeline (cron-driven) that ingests OHLCV data from multiple market APIs, preprocesses it, trains a Random Forest for ticker filtering, and feeds an ANN for stock price prediction.
- Developed Hyper-NBA: trained a regression model to predict NBA game scores and a classifier to predict winners, delivered as a client-facing ML product.

ACHIEVEMENTS

Kaggle Competition Silver Medalist · [Kaggle](#)

2026

- Placed 267th of 6,125 teams (top 5%) in ROGII: Wellbore Geology Prediction, earning a Kaggle silver medal in a debut competition.

PROJECTS

nn-architect: Agentic NN Design (MCP) · [GitHub](#)

2026

- An MCP server that lets an AI agent design PyTorch architectures through 13 tool calls while a human edits the same graph live on a React canvas. Both sides are thin adapters over one store and broadcast over websockets, so the agent's view and the canvas cannot drift apart.
- Shape errors are caught by actually executing the generated model against a dummy batch in a sandboxed subprocess (timeout + address-space cap), returning structured per-node errors instead of raw tracebacks. Emitted code is self-contained: it imports only torch and runs anywhere.
- Watch a quick demo here on [LinkedIn](#).

Academic Policy QA System (RAG) · [GitHub](#)

2025

- High-performance Question Answering system over NUST undergraduate handbooks with a Streamlit UI and a hybrid retrieval stack: MinHash+LSH for candidate filtering -> IDF-weighted SimHash Hamming re-ranking -> TF-IDF baseline -> RRF fusion.
- MapReduce preprocessing pipeline (chunking, shingling, index building),

Gemini LLM for table and image summarisation, query latency analytics logging.

Roman Urdu Hate Speech Detection · [GitHub](#)

2025

- Progressive DL pipeline tackling hate speech in Roman Urdu (170M+ speakers), advancing from TF-IDF baselines through custom neural architectures to a multilingual transformer fusion model.
- Handled spelling chaos (5+ variants per word) and 63.5% implicit hate with no keyword matches.

Crime Vision · [GitHub](#)

2025

- Full-stack web app (React + Express) with crime data in PostgreSQL, community posts in MongoDB, and AI predictions in Redis.
- Leaflet maps for geospatial visualisation, Recharts dashboard, Gemini-powered AI crime predictions, and a custom safePath algorithm routing users through lowest-crime corridors.

FinSight: Automated Stock Prediction Pipeline

2025

- End-to-end cron-driven pipeline: OHLCV ingestion from multiple APIs → preprocessing → Random Forest ticker filtering → ANN price prediction. Built during Tensor Labs internship as a production-grade automated system.

Smog Penalty: Solar Power Forecasting · [GitHub](#)

2025

- ML model combining current and historical weather, pollution, and irradiance data to predict solar plant output and quantify power loss under harsh conditions.

Olympic Data Visualization · [GitHub](#)

2025

- Streamlit application visualising athlete demographics, gender distribution, country participation, medal breakdowns, and coach analytics across multiple Olympic datasets.

Secure Bank: A DSA Prototype · [GitHub](#)

2024

- DSA course project (JavaFX) demonstrating advanced data structures, no external DB permitted, so a full banking database was simulated using nested HashMaps and CSV files.
- User and admin dashboards with heuristic-based fraud detection. Focus was on DSA mastery: hash table design, file I/O simulation, and algorithmic fraud heuristics.

CERTIFICATIONS

- ▶ Machine Learning Specialization - [deeplearning.ai](#) / Stanford [Verify](#)
- ▶ Supervised Machine Learning: Regression & Classification - [deeplearning.ai](#) / Stanford [Verify](#)
- ▶ Advanced Learning Algorithms - [deeplearning.ai](#) / Stanford [Verify](#)
- ▶ Unsupervised Learning, Recommenders & Reinforcement Learning - [deeplearning.ai](#) / Stanford [Verify](#)
- ▶ Neural Networks and Deep Learning - [deeplearning.ai](#) / Stanford [Verify](#)
- ▶ Improving Deep Neural Networks - [deeplearning.ai](#) / Stanford [Verify](#)
- ▶ Structuring Machine Learning Projects - [deeplearning.ai](#) / Stanford [Verify](#)