Hammad Ashraf

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EDUCATION

FAST National University of Computer and Emerging Sciences — Lahore, Pakistan
Bachelor of Science in Data Science — Graduated August 2025
Relevant Coursework: Machine Learning, Deep Learning, Natural Language Processing, Generative AI

WORK EXPERIENCE

Techweer — Lahore, Pakistan
Prompt Engineer — September 2024 – November 2024

- Designed and tested **50+ prompt templates** for **large language model** applications, improving response accuracy by **30%** through systematic **A/B testing** and performance evaluation across **10 production use cases**
- Reduced inconsistent outputs by **20%** through **iterative refinement** and cross-functional collaboration with engineering teams to align AI outputs with business requirements

Bytewise Limited — Islamabad, Pakistan
Data Engineer — March 2024 – June 2024

- Processed and validated datasets containing over **100,000 records**, improving **data quality** and consistency for **machine learning workflows** with **data validation** checks identifying inconsistencies in **15%** of datasets
- Automated **3 data preprocessing pipelines** using **Python** and **SQL**, reducing **manual processing time** by **30%** and minimizing data errors across workflows

PROJECTS

License Plate Detection System with YOLOv8 — Python, YOLOv8, OpenCV, PyTorch

- Built **object detection system** using **YOLOv8 architecture**, achieving **91% mean average precision** on custom dataset of **1,000 annotated** license plate images
- Optimized model inference speed to **38 frames per second** on GPU through **hyperparameter tuning**, **data augmentation** techniques, and efficient preprocessing pipeline

Twitter Sentiment Analysis with NLP — Python, Scikit-learn, NLTK

- Built **sentiment classifier** for tweets using **natural language processing** techniques and **machine learning pipelines** for **opinion mining** and sentiment detection
- Improved **F1-score to 0.89** by optimizing **text preprocessing** steps including tokenization, stopword removal, and applying **feature engineering** with **TF-IDF vectorization**

Real-Time Volume Control with Hand Gestures — Python, OpenCV, MediaPipe, Pycaw

- Developed touchless volume control application using **MediaPipe hand tracking** to detect **21 hand landmarks** in **real-time** for gesture-based system control
- Achieved **30 frames per second** processing speed with consistent performance across varying lighting conditions through optimized **computer vision** algorithms

Face Mask Detection with Deep Learning — Python, TensorFlow, Keras, OpenCV

- Trained **convolutional neural network** on dataset of **5,000 images**, achieving **90% classification accuracy** for **face mask detection** using **transfer learning**
- Deployed model for **real-time webcam inference** at **20 frames per second**, applying **data preprocessing** and augmentation for improved model robustness

LEADERSHIP AND COMMUNITY ENGAGEMENT

Future Fest 2025 – Event Host — Lahore, Pakistan

- Hosted live stage programming for Pakistan's largest technology conference with **5,000 attendees**, managing event flow and moderating technical panel discussions

Devathon – Event Organizer — Lahore, Pakistan

- Coordinated logistics and workshops for Lahore's largest hackathon and AI competition, supporting **200 participants** across multiple technical tracks

TECHNICAL SKILLS

Programming Languages: Python, SQL, JavaScript, C++
ML/DL Frameworks: PyTorch, TensorFlow, Keras, Scikit-learn, XGBoost, Hugging Face Transformers
Natural Language Processing: NLTK, Sentiment Analysis, Text Preprocessing, Tokenization, Feature Engineering, TF-IDF
Computer Vision: OpenCV, YOLO, MediaPipe, Object Detection, Image Classification, Data Augmentation, Real-Time Processing
Data Processing: NumPy, Pandas, Data Cleaning, Data Validation, Feature Engineering, ETL Pipelines
Machine Learning: Supervised Learning, Unsupervised Learning, Model Training, Hyperparameter Tuning, Cross-Validation
Deep Learning: CNNs, RNNs, Transfer Learning, Model Fine-Tuning, Neural Networks
AI & LLMs: Prompt Engineering, A/B Testing, OpenAI API, GPT Models, LangChain, RAG
Tools: Git, GitHub, Docker, Jupyter, Google Colab, Linux, VS Code, MySQL, MongoDB