

Muhammad Omar Farooq Bandial

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EDUCATION

FAST NUCES University

Bachelor of Science in Data Science

- **Dean's Honors List:** Spring 2025, Fall 2025, Spring 2026

Lahore, Pakistan

Aug. 2022 – June 2026

EXPERIENCE

Data Science Intern

June 2025 – Aug. 2025

TenX

Lahore, Pakistan

- Designed and delivered an NLP-based question generation system for the company's edtech pipeline, automating quiz creation from raw educational content
- Evaluated multiple generative architectures (T5, BART) and distractor strategies, selecting the highest-performing pipeline based on ROUGE benchmarks

AI/ML Intern

June 2024 – Aug. 2024

Arcana Info (Pvt.) Ltd — AI Powered Business Automation

Lahore, Pakistan

- Built an automated customer support ticket classifier using TF-IDF and Logistic Regression on 10K+ tickets, achieving 85% accuracy across department and priority categories
- Deployed the model as a Flask REST API with NLTK/spaCy preprocessing pipelines for real-time ticket routing

PROJECTS

AI-Powered Interviewer (FYP) | *React, FastAPI, GPT-4, Gemini 2.5-Flash, Whisper, AWS*

2025 – 2026

- Built a serverless AI recruitment platform that automates candidate screening through resume parsing, personalized question generation, asynchronous video interviews, and LLM-based evaluation
- Implemented a hybrid resume parser using pdfplumber for text extraction with Gemini 2.5-Flash vision fallback for scanned PDFs, mapping to structured JSON schemas
- Developed an "LLM-as-a-judge" scoring engine using GPT-4 with evidence-first evaluation — extracting transcript quotes before scoring on 1–5 rubrics for technical correctness, efficiency, and STAR structure
- Integrated OpenAI Whisper for speech-to-text transcription and OpenAI TTS for question delivery, with anti-cheat monitoring via visibility-change, blur, and mic-mute event logging
- Deployed on AWS using Lambda, S3, SQS, and Step Functions with PostgreSQL (RDS) for session persistence and DynamoDB for metadata

Automatic Question Generator | *BART, Hugging Face, spaCy, Sense2Vec, SQuAD*

[GitHub](#)

- Fine-tuned facebook/bart-base on 10K SQuAD context-answer pairs for MCQ and fill-in-the-blank question generation, achieving ROUGE-1: 57.95 and ROUGE-2: 46.62
- Engineered a distractor pipeline: over-generated 20–30 candidates via Sense2Vec, filtered with fuzzywuzzy, and ranked using MMR with SentenceTransformers
- Implemented keyword extraction (PKE TextRank) and NER (spaCy) for answer-aware generation; deployed as a Streamlit web app

MedVision AI – Chest X-Ray Diagnosis | *PyTorch, MobileNetV2, DenseNet121, CheXpert*

[GitHub](#)

- Trained a MobileNetV2 classifier on the CheXpert dataset for multi-label detection of 14 chest pathologies, fusing patient metadata (age, sex, view, projection) with image features before classification
- Implemented a dual-model pipeline with a custom-trained MobileNetV2 and a pre-trained DenseNet121 (torchxrayvision) for cross-validated X-ray diagnosis
- Built a Flask REST API with session management and integrated Gemma 3 4B (Ollama) for conversational explanation of diagnosis results with a React/TypeScript frontend

TECHNICAL SKILLS

Languages: Python, SQL, JavaScript, TypeScript, C++, HTML/CSS

Frameworks: FastAPI, Flask, React, Node.js, Streamlit, Tailwind CSS, Vite

AI/ML: PyTorch, GPT-4, Gemini, OpenAI Whisper, Hugging Face Transformers, scikit-learn, spaCy, NLTK, Ollama

Cloud & DevOps: AWS (Lambda, S3, SQS, Step Functions, RDS), PostgreSQL, Docker, Git

Libraries: pandas, NumPy, Plotly, BeautifulSoup, KeyBERT, Sense2Vec, SentenceTransformers