

Abdur Raafay Bin Yasir

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Experience

Pakistan International Airlines

Karachi, Pakistan

AI Intern

Jul 2025 – Sep 2025

- Built an AI-powered automated monitoring system to track employee compliance across multiple workstation screens.

Neurocomputation Lab, NED University

Karachi, Pakistan

Data Science Intern

Mar 2024 – May 2024

- Developed data processing tools and machine learning models to support and accelerate research workflows.

Final Year Design Project

Personal Cognitive Memory Assistant | *Edge AI, Local LLMs, RAG, Embedded Systems*

- Designed a fully localized, offline wearable cognitive assistant, Neuraid, using customized Large Language Models and vector search on edge devices to preserve user data privacy.
- Developed an on-device multimodal pipeline integrating speech-to-text, Chroma vector embeddings, local retrieval, and text-to-speech for conversational memory assistance.
- Used quantization and hardware-level optimization to improve memory efficiency and execution speed on a low-power Raspberry Pi 5 platform.

Academic Projects

Autonomous EDA Agent | *LangGraph, OpenAI API, Streamlit, Python*

- Engineered an autonomous multi-agent data analytics system using LangGraph to convert natural language data queries into executable data engineering tasks.
- Implemented automated Python code generation, execution, and self-correction loops to create dynamic visualizations and predictive insights from CSV datasets.

Grocery Object Detection and Benchmarking | *RT-DETR, YOLOv10x, Faster R-CNN*

- Trained, fine-tuned, and benchmarked Faster R-CNN, RT-DETR, and YOLOv10x on a custom multi-class grocery object detection dataset.
- Evaluated precision-latency trade-offs and compared model performance across complex object overlaps and real-world detection scenarios.

Deep Codebase Intelligence Assistant | *LangChain, FAISS, OpenAI, Git*

- Developed an intelligent repository parser that maps multi-file software repositories into searchable hierarchical vector spaces using FAISS.
- Built context-aware LangChain retrieval workflows to help developers perform semantic code search, repository exploration, and codebase tracing.

Education

NED University of Engineering and Technology

Karachi, Pakistan

Bachelor of Engineering in Computer Systems Engineering

Oct 2022 – Jun 2026

Certifications and Courses

PIAIC Certified Agentic and Robotic AI Engineer Program — Ongoing

CS50's Artificial Intelligence with Python — Harvard University

Certified Data Scientist — NED Academy

Technical Skills

Programming: Python, SQL, C

Frameworks and Libraries: LangChain, LangGraph, TensorFlow, OpenAI Agents SDK, Transformers, Pandas, NumPy

Core Areas: Computer Vision, Object Detection, Edge AI, Embedded Systems, Multi-Agent Systems, Retrieval-Augmented Generation

Tools and Hardware: Raspberry Pi 5, Docker, Git, GitHub, FAISS, Streamlit, Chainlit, FastAPI