

# Layyana Junaid

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## Objective

Motivated about **agentic development** while incorporating **LangChain** and **LangGraph**. Eager to apply my agentic development skills in order to design intelligent system which provide real world solution. Enjoy working on data and creating visual representation of that data by utilizing **Matplotlib** and **Seaborn**. Committed to continuous learning and curating **AI-driven solutions** which will make an impact.

## Education

<b>Bachelor of Science in Artificial Intelligence</b> — FAST NUCES, Karachi Campus	2023–2027 (Expected)
<b>A Levels (Pre-Engineering)</b> — Beaconhouse College Program	2021–2023
<b>O Levels (Pre-Engineering)</b> — Beaconhouse School System	2008–2021

## Experience

- AI Intern – Jaffer Business Systems** *Jul–Aug 2025*
- Gained hands-on experience on advanced **AI frameworks**, such as **LangChain** and **LangGraph**, to create intelligent, practical systems based on the **ReAct** and **RAG** methodologies.
  - Developed a **Debt Management Agent** that uses **RAG** and **LangGraph** to retrieve financial data from **Pinecone**, with data embedded and upserted using **Azure OpenAI embeddings**, and applied **Avalanche/Snowball techniques** to increase retrieval accuracy by 20%.
  - Designed a **Smart Conversational Analyser** using **LangChain** and **ReAct Workflows**, incorporating **Groq API** and **DeepGram STT** for **LLM-driven quiz, flashcard, and summarisation**. The system accepts three types of input — real-time audio, MP3/MP4 files, and YouTube links — and processes them seamlessly for intelligent content generation.
  - Improved reasoning chains in **RAG** and **ReAct architectures**, improving multi-agent cooperation and contextual response quality.

## Projects

- AI Music Genre Classifier**
- Developed an **AI-powered application** that uses a **FastAPI backend** to extract audio from **YouTube**, transcribes using **DeepGram STT**, and uses a **ReAct Agent** powered by **Groq LLM** to forecast genres with **85% classification accuracy**.

**Summara – Text Summarization Web App**

- Created a **Flask web application** with **NLP capabilities** for summarizing **.txt, .pdf, and .docx** files in three different modes: **Insightful, Bullet Points, and Minimal**.
- Reduced significant reading time by implementing **text preparation, keyword extraction, and multi-style summarisation** utilising **PyMuPDF, python-docx, and bespoke tokenisation algorithms**.

**Multithreaded File Downloader with Verification**

- Using **C, GTK, and libcurl** with checksum checking, a **multithreaded file downloader** was implemented, resulting in **3× quicker performance** than single-threaded techniques.

**Dynamic Pac-Man for Two Players with AI Ghosts**

- Using **A\*, BFS, Min-Max, and Genetic Algorithms** for adaptive gameplay, a **two-player Pac-Man game** with **AI-driven ghosts** was developed in **Python (Pygame)**.

## Skills

<b>Programming &amp; Data:</b>	Python, C/C++, SQL, MongoDB, NumPy, Pandas, HTML, CSS
<b>AI/ML &amp; LLMs:</b>	TensorFlow, PyTorch, scikit-learn, NLTK, LangChain, LangGraph, Multi-Agent Systems, RAG, ReAct, OpenAI APIs, Azure Embeddings, Groq, DeepGram
<b>Data Analytics:</b>	Data Cleaning, Feature Engineering, EDA, Model Training & Evaluation, NLP Pipelines, Model Deployment
<b>Tools &amp; Platforms:</b>	Pinecone, FastAPI, Flask, Streamlit, Jupyter, Git/GitHub, Linux, Matplotlib, Seaborn

## Certificates

**Google Advanced Data Analytics (Coursera) — Google Prompting Essentials (Coursera)**