

AHMAD SALMAN

AI/ML & Python Developer | Computer Science Undergraduate, SZABIST

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PROFESSIONAL SUMMARY

Computer Science undergraduate (Expected 2027) who built and shipped a full-stack Retrieval-Augmented Generation (RAG) system — FastAPI + FAISS + Sentence-Transformers + OpenAI API, with a React frontend — alongside Python data-analysis pipelines and C++ system simulations, all published on GitHub. Led a 4-6 person student team through two semester-long software projects from design to delivery. Seeking an AI/ML, Python, or Software Development internship to keep building production-grade systems.

TECHNICAL SKILLS

- **Languages:** Python, C++, Java, SQL, Assembly
- **AI / ML:** Retrieval-Augmented Generation (RAG), FAISS vector search, Sentence-Transformers embeddings, OpenAI API integration, prompt-based query normalization
- **Data & Analytics:** NumPy, Pandas, Matplotlib, Jupyter, Exploratory Data Analysis (EDA), data cleaning
- **Software Engineering:** Object-Oriented Programming, Git/GitHub version control, REST API integration, FastAPI, React, VS Code, Linux/Kali Linux
- **Currently learning:** scikit-learn, SQL at production depth, n8n workflow automation, model fine-tuning

Keywords: Python, C++, Java, SQL, Machine Learning, AI, LLM, RAG, Retrieval-Augmented Generation, FAISS, Sentence-Transformers, Embeddings, OpenAI API, FastAPI, NumPy, Pandas, Matplotlib, Data Analysis, EDA, OOP, Object-Oriented Programming, Git, GitHub, Linux, Software Development

PROJECTS (GITHUB: GITHUB.COM/EDUSALMAN345)

PDF Oracle (PDF-LLM) — Full-Stack RAG System — *Python · FastAPI · FAISS · Sentence-Transformers · OpenAI API · React*

- Built a full-stack Retrieval-Augmented Generation system: FastAPI backend extracts and cleans PDF text, chunks it by sentence groups, and embeds chunks with Sentence-Transformers (all-MiniLM-L6-v2).
- Indexed embeddings in a FAISS vector store for similarity search, retrieving the top-3 relevant chunks per query and generating context-grounded answers via OpenAI gpt-4o-mini — explicitly refusing to answer outside retrieved context.
- Added an LLM-based query normalization step before retrieval to improve search accuracy, and built a React + Vite + Tailwind chat frontend with Markdown rendering and animated UI.

Netflix Content Trend Analysis — *Python · Pandas · NumPy · Matplotlib · Jupyter*

- Cleaned and analyzed a multi-thousand-row Netflix content dataset using Pandas/NumPy, handling missing values and inconsistent date formats before analysis.
- Built 5+ Matplotlib visualizations breaking down genre distribution and release trends over time, with written interpretation of each chart in the notebook.

Data Analysis Toolkit (NumPy / Pandas) — *Python · NumPy · Pandas*

- Built reusable NumPy/Pandas utilities for array transformation, aggregation, and dataframe filtering across three linked repos (Data_Analyser_With_Numpy, numpy, Pandas).

Bank Management System with ATM Simulation — *C++ · OOP · System Design*

- Designed a multi-class C++ banking system (Account, Transaction, Auth classes) with PIN-based authentication, balance tracking, and a full deposit/withdraw/transfer flow with input validation.

EDUCATION

BS Computer Science — Expected 2027

SZABIST — Shaheed Zulfikar Ali Bhutto Institute of Science and Technology, Rawalpindi

- Relevant coursework: Data Structures, Object-Oriented Programming, Database Systems, Software Engineering, Linear Algebra.

LEADERSHIP EXPERIENCE

Project Group Leader — SZABIST Academic Projects

- Coordinated a 4-6 person team across two semester-long software projects — splitting work into modules, setting weekly checkpoints, and unblocking peers stuck on debugging issues — while reviewing teammates' OOP code before integration to catch issues like tight coupling and missing validation.

Referred by: Usama Saleem, Application Engineer-LMKR