




Husnain Razzaq Othi

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 Aspiring AI Engineer | Chemical Engineer | Python & Machine Learning Enthusiast

Professional Summary

Enthusiastic and self-driven **AI Engineer in progress** with a background in **Chemical Engineering** and a strong foundation in **Python programming, machine learning, and process optimization**. Proficient in tools like **FastAPI, LangChain, Docker, and LangGraph**, with a focus on **LLM agents, RAG pipelines, and API development**. Passionate about bridging the gap between AI and industrial applications, particularly in **quality control, predictive maintenance, and digital transformation** in manufacturing.

Technical Skills

Languages & Tools

- **Programming:** Python, SQL, Bash
 - **AI/ML:** Scikit-learn, Pandas, NumPy, OpenAI API, HuggingFace
 - **Frameworks:** FastAPI, LangChain, Streamlit
 - **DevOps:** Docker, GitHub Actions
 - **LLM & Agents:** LangGraph, FAISS, OpenAI Functions, Groq API, LangSmith
 - **Simulation & Process Tools:** Aspen HYSYS, MATLAB (basic)
 - **Databases:** SQLite, PostgreSQL (basic)
 - **Others:** Git, Jupyter Notebook, Replit
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Domain Expertise

- **Chemical Engineering Core:** Reaction Kinetics, Process Control, Heat Transfer, Plant Simulation

- **AI in Industry:**

- Predictive Maintenance
 - Quality Control using CV/ML
 - Supply Chain Optimization
 - Process Automation & Optimization using LLM Agents
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Projects

◆ **Resume Optimizer using LLM Agents**

Built an end-to-end AI assistant using LangGraph and LangChain for evaluating and optimizing resumes based on job descriptions. Features include:

- Evaluator Agent for scoring resume-job match
- Optimizer Agent for improving resume sections
- API Integration with Groq (Mixtral) for fast performance

◆ **RAG-based Knowledge Assistant**

Developed a Retrieval-Augmented Generation (RAG) app with LangChain + FAISS + OpenAI + FastAPI. Integrated GitHub Actions for CI/CD and LangSmith for debugging/tracing.

◆ **Urea Plant Simulation**

Modeled urea synthesis loop in Aspen HYSYS and explored optimization opportunities using Python scripts. Mapped process sensors for potential AI integration.

Education




B.Sc. Chemical Engineering

University of the Punjab, Lahore

CGPA: 3.XX / 4.0

Graduation Year: 2024

Certifications

-  [Prompt Engineering for ChatGPT – DeepLearning.AI & OpenAI]
 -  [Mathematics for Machine Learning – Coursera (In Progress)]
 -  [Python for Everybody – University of Michigan]
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Career Objectives

To join a forward-thinking organization like **Fauji Fertilizer Company** or an AI-powered manufacturing unit where I can apply **AI and Chemical Engineering** knowledge together to develop **intelligent automation systems**, enhance **product quality**, and support **digital transformation** initiatives.

Soft Skills

- Problem-solving mindset
- Strong communication
- Quick learner and self-initiated
- Research-driven with project ownership