

## ZAIN ALI

### Python AI/ML Engineer – AI Automation & Backend Systems

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### Professional Summary

Innovative AI/ML Engineer with expertise in **FastAPI, LangChain, LangGraph, ComfyUI**, and **agentic AI systems**. Skilled in designing **production-grade RAG pipelines, intelligent automation workflows**, and **LLM-powered applications**. Experienced in **cloud deployment, serverless GPU workloads, and end-to-end automation**, delivering scalable AI solutions for real-world business use.

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### Core Competencies

- **Backend & API Development:** FastAPI, Django, Flask, REST/GraphQL
  - **LLM & RAG Solutions:** LangChain, LangGraph, LangSmith, OpenAI, Groq
  - **Automation & Workflows:** n8n, Python scripting, CI/CD pipelines, Event-driven Bots
  - **Image & Video AI:** ComfyUI, ImmersivityAI, RunComfy, RunPod GPU
  - **Cloud & Deployment:** Docker, AWS S3, RunPod, CudoCompute, Firebase
  - **Data Processing:** Regex, NLP, OCR Post-Processing, Data Parsing
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### Key Projects

#### 1. RAG Chatbot with FastAPI & LangChain

- Built a **resume QA chatbot** that answers strictly from uploaded PDFs.
- Implemented **vector search** with Jina & FAISS and integrated OpenAI/Groq for sub-second responses.

#### 2. Serverless ComfyUI on RunPod

- Created and deployed a **GPU-accelerated Docker image** (insyakdev99/comfyui3-gpu:latest) to RunPod Serverless.

- Exposed a high-performance API for **image generation pipelines**.

### 3. ImmersityAI Image Processing Workflow

- Automated **image upload/download via Dropbox** with presigned URLs.
- Converted outputs across multiple formats for production pipelines.

### 4. n8n Automation & Bots

- **Telegram Image & Video Generation Bot**
    - Designed an **n8n workflow** that receives image/video requests from Telegram, triggers **ComfyUI pipelines**, and sends the generated media back to the chat.
    - Supports automated queuing, error handling, and delivery of high-resolution outputs.
  - **Social Media Posting Automation**
    - Built an **n8n-powered marketing workflow** to auto-generate content, schedule, and post **LinkedIn marketing updates** twice daily.
    - Integrated with custom AI prompts for **image creation and caption generation**, providing fully hands-off content distribution.
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### Technical Highlights

- **LangGraph:** Built multi-turn, memory-aware conversation flows with MongoDB persistence.
  - **CI/CD:** Automated GitHub Actions + Docker Hub pipelines for rapid deployment.
  - **Performance:** Optimized large-PDF embeddings for real-time retrieval at scale.
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### Professional Experience

#### Python Application Developer – Prima Dona

*Jan 2024 – Present*

- Developed a text-to-image generation tool using Python and ComfyUI, reducing image processing time by **25%**.
- Designed RESTful APIs in FastAPI handling **500+ daily client-facing requests**.

- Partnered with cross-functional teams to debug and optimize backend systems, improving app performance by **15%**.
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## Education

**BS Information Technology** – Government College University, Faisalabad (2020 – 2024)

Relevant Coursework: Data Structures, Algorithms, Database Systems

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## Certifications

- Cisco **Python Essentials 1**
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## Languages

- **English:** Professional Proficiency
  - **Urdu:** Native
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## Career Goals

Architect and deploy **agentic AI systems** and **enterprise-grade RAG applications**, combining **LangChain**, **LangGraph**, **n8n automation**, and cutting-edge LLM frameworks to deliver intelligent, autonomous business solutions.