BAKAR QURESHI

AI/ML & FULL-STACK ENGINEER

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SUMMARY

I'm an AI/ML Engineer and final-year software engineering student building production ready AI systems. I work with computer vision models, RAG, and agentic AI workflows. Experienced in PyTorch, LangGraph and cloud deployment AWS.

SKILLS

AI/ML: PyTorch, TensorFlow, Keras, scikit-learn, LangGraph, LangChain, LLM fine-tuning (Hugging Face TRL), local models, Weights & Biases, NumPy, Pandas

Languages: Python, JavaScript (ES6+), C#, C++

Web & Backend: React, Next.js, FastAPI, Flask, Node.js, Express.js, ASP.NET Core, EF Core, REST APIs, JWT authentication

Databases: PostgreSQL (pgvector), MongoDB, MySQL

Cloud & Tools: AWS (EC2, RDS, S3, CloudFront), Docker, Git/GitHub, Linux (Ubuntu/WSL), Jupyter

PROJECTS

Olive & Ember: role-based restaurant with AI agents | Next.js, ASP.NET Core, PostgreSQL, Ollama

- Built **role-based workspaces** for **six roles** (Admin, HR, Finance, Employee, Kitchen staff, Customer) in a full-stack Next.js and ASP.NET Core platform.
- Built **order-focused** and **finance-focused AI agents** running on local **Ollama** inference.
- Gave agents **permission-scoped** backend tools with **role checks** and bounded tool invocation.

Mnemo: project-scoped RAG app | FastAPI, LangGraph, pgvector, Groq, React, AWS

- Built and deployed a full-stack RAG app where can you have a conversation with your own documents.
- Pipeline build using **LangGraph** and **pgvector**, and used Groq for fast LLM responses
- I have Implemented custom JWT/bcrypt authentication , and used **httpOnly** cookie for security.
- Deployed on the **AWS**, I have used EC2, RDS, S3 and cloudfront.

Solar Sentinel: solar panel fault detection | PyTorch, ResNet-101, Flask, React

- Built a system that classify **6** types of solar panels.
- Used **ResNet model** with transfer learning on my small and imbalanced dataset of 861 images.
- Got **96.3%+** testing accuracy using data augmentation.

EDUCATION

Bachelor of Science in Software Engineering
International Islamic University Islamabad **2023-Present**