Zeinab Kobaissi

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GitHub: https://github.com/zeinabkobaissi/aiengineer_projects.git

EDUCATION

Lebanese University 2022-2025

Bachelor of computer science

PROJECTS & EXTRACURRICULAR

AI Appointments Booking using MCP Feb. 2026

- Designed an AI-powered appointment management system using a client–server architecture.
- Incorporated a local LLM (Ollama) with MCP tools to enable natural language interaction for booking, listing, and deleting appointments reducing user interaction steps compared to manual form-based flows.
- Clarified tool-based access control, ensuring the LLM interacts with data only through predefined MCP tools.
- Implemented CSV-based persistence for appointment data, simulating real-world backend storage.

Autonomous AI Project Manager using LangGraph Jan. 2026

- Orchestrated a multi-agent system, leveraging LangGraph to convert user requests into specific sub-goals, resulting in faster task completion due to streamlined agent workflows.
- Directed persistent conversational memory using LangGraph checkpointing for multi-step reasoning.
- Coordinated specialized agents (Research, Developer, Analyst, Performer) through conditional routing and iterative refinement providing end to end solution generation.

End-to-End ML Tracking, CI/CD & Cloud Deployment System Dec. 2025

- Developed a full MLOps pipeline using MLflow and DagsHub for centralized experiment tracking, model versioning, and metrics visualization (demonstrated on Iris dataset).
- Launched an automated CI/CD pipelines with GitHub Actions for training, testing, and deployment.
- Containerized the ML application with Docker to ensure reproducible environments.
- Deployed the system on AWS (EC2, S3) with secure secrets management via GitHub Secrets and environment variables.

Breast Cancer Prediction API Nov. 2025

- Generated a FastAPI-based ML API predicting breast cancer type from 30 diagnostic features, achieving 98% recall on a held-out test set after hyperparameter tuning; exposed endpoints via Swagger UI for easy clinical-style integration.

AI Powered Rag Knowledge Assistant Aug. 2025

- Created a Retrieval-Augmented Generation system over a 500-page PDF corpus (~800k characters, ~200k tokens), chunked into ~1,500 overlapping segments using recursive character-based splitting, enabling efficient embedding-based retrieval and LLM-powered question answering using Gradio interface and Ollama.

AI Customer Support Automation Workflow **Aug. 2025**

- Engineered a customer support automation workflow using n8n. The system starts when a customer sends an email, which is then classified using an LLM to understand the intent. If the email is an informational request, the system retrieves relevant data from a vector store and generates a response automatically. This allowed us to handle common customer inquiries without human intervention and reduce response time significantly.

SKILLS

Programming languages: Python, PHP, Javascript, Java
ML & AI: PyTorch, TensorFlow, Scikit-learn, RAG, LangChain, LangGraph, Agno
MLOps & DevOps: MLflow, DagsHub, Docker, GitHub Actions (CI/CD)
Backend & APIs: FastAPI, Pydantic, Gradio
Database: PostgreSQL
Cloud: AWS (S3, EC2)
LLMs and Agents: Ollama, Model Context Protocol (MCP), Tool Calling, n8n
Data & Visualization: Pandas, Matplotlib, NumPy, Seaborn
Languages: English, Arabic(native)

PROFESSIONAL EXPERIENCE

Internship at Integrated digital systems (IDS) **Aug. 2024- Sept. 2024**

PHP software developer- Full stack & Backend systems

- Completed a 2-month internship developing an end-to-end production-grade full-stack web platform to manage club activities, members, events, and website content.
- Achieved secure role-based authentication and authorization systems for administrators and public users.
- Arranged RESTful APIs and database-driven workflows for content, user, and event management.
- Produced admin dashboards for real-time data control and operational monitoring.