Hayrunnisa Büşra Erdem



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Professional Summary

Adaptable and impact-driven Computer Engineering senior with hands-on experience in building LLM pipelines, RAG architectures, AI agents, and backend automations. Proven track record in rapid prototyping with modern AI frameworks, prompt engineering, and API integrations. Active IBM SkillsBuild Student Ambassador passionate about building autonomous systems, troubleshooting complex workflows, and deploying production-ready AI solutions in fast-paced startup environments.

Technical Skills

AI & Agentic Systems: LLM Integration, Retrieval-Augmented Generation (RAG), AI Agents, Prompt Engineering & Evaluation, Semantic Search, Vector Databases.
Rapid Prototyping & Dev Tools: Python, FastAPI, Streamlit, Cursor, Replit, RESTful APIs, Webhooks, Git/GitHub.
Backend & Databases: PostgreSQL, PL/pgSQL (Triggers, Views), C#, ASP.NET Core MVC, Data Pipelines.
Machine Learning & Core: PyTorch, Scikit-learn, XGBoost, Data Preprocessing & Validation.
Languages: English (Full Professional Proficiency / Fluent), **Turkish** (Native)

Education

İnönü University **Malatya/Türkiye**
Computer Engineering **08/2023 – Present**
GPA:(2.99/4.0)

Experience

FlyRank AI **Remote**
Backend AI Engineering Intern **07/2026 – 09/2026**
• Building and optimizing backend AI services, focusing on integrating LLM capabilities into internal pipelines.
•Assisting in creating modular API workflows and data ingestion routines for AI-driven automation.
•Experimenting with prompt design and output validation to enhance the accuracy and reliability of AI agents.

Microsoft AI Innovators Program **Remote**
AI Engineering Intern **07/2026 – 08/2026**
• Selected for the competitive AI engineering program; developed and submitted an end-to-end local RAG capstone project.
• Deployed local language models on edge environments using Microsoft Foundry Local tooling, optimizing inference efficiency.

IBM SkillsBuild (Student Ambassador Turkey) **Volunteer**
Student Ambassador **04/2026 – Present**
•Organize workshops, share technical learning paths, and mentor peers on practical AI tools, cloud platforms, and modern development practices.
•Represent the developer ecosystem with clear technical communication and collaborative problem-solving.

Technical Projects

Offline Document Q&A & RAG Knowledge Assistant | Python, Local LLMs, Vector Embeddings **07/2026 – 08/2026**
• Architected an end-to-end offline Retrieval-Augmented Generation (RAG) assistant designed to ingest unstructured documents and execute real-time contextual search. Engineered custom semantic chunking, dynamic prompt routing, and vector retrieval pipelines to eliminate hallucinations, deploying a responsive prototype interface for automated document indexing and low-latency QA inference.

Multimodal Bitcoin Volatility Prediction | Python, PyTorch, FinBERT, Streamlit **01/2026 – 05/2026**
• Built an end-to-end multimodal pipeline aligning ~200,000 tweets with 1-minute BTC data using temporal left-join fusion, FinBERT sentiment analytics, PyTorch LSTM/CNN-BiLSTM architectures, and an Ensemble Blending Model, complete with systematic error analysis and an interactive Streamlit dashboard.

Public Transportation Management System | PostgreSQL, PL/pgSQL, SQL **10/2025 – 01/2026**
• Designed a normalized relational database schema enforcing ACID compliance and CASCADE constraints. Developed advanced PL/pgSQL triggers for real-time balance updates, custom functions for financial analytics, and dynamic SQL Views to optimize automated operational reporting.