

FURKAN TÜRKOĞLU

Software Engineer | Applied AI, Retrieval & Backend

Ankara, Türkiye · +90 541 743 08 43 · furkanturkogluu.0@gmail.com
linkedin.com/in/furkan-turkogluu · github.com/f0rknturkoglu

PROFILE

Software Engineering graduate focused on retrieval-augmented generation, evaluation and backend engineering. Built and benchmarked legal-document RAG pipelines, local LLM applications and database-backed APIs using Python, FastAPI, PostgreSQL and React.

EXPERIENCE

BOTAŞ (Petroleum Pipeline Corporation) | Software Engineering Intern Aug 2026

- Developed a local-LLM and RAG-powered IT support prototype for knowledge-based solutions, request classification and ticket workflows.
- Combined FastAPI, React, pgvector retrieval and Markdown-driven operational rules without relying on external LLM APIs.

BOTAŞ (Petroleum Pipeline Corporation) | Software Engineering Intern Aug 2025

- Built a real-time YOLOv8 PPE-detection proof of concept; integrated browser and phone camera inputs with a web/mobile prototype.

SELECTED PROJECTS

Turkish Legal RAG Benchmark Python · FAISS · BGE-M3 · FastAPI · React 2024–2025

- Benchmarked four RAG architectures on 422 Turkish legal documents (5,979 chunks) and a balanced set of 1,030 questions under controlled evaluation conditions.
- Achieved 85.3% retrieval recall, 0.472 answer F1 and 0.790 composite RAGAS score with a reranker-based configuration; used paired statistical tests.
- Implemented a legal Q&A prototype with FastAPI, React, hybrid retrieval, SSE streaming and inline source citations.

forkOS Python · FastAPI · PostgreSQL · React · MCP 2026

- Built a local-first personal workflow platform with job aggregation, learning, RSS, task planning and full-text search.
- Exposed bounded Model Context Protocol (MCP) tools and integrated persistent ingestion queues, an event log and source adapters.

RepoLens .NET 10 · PostgreSQL · pgvector · React 2026

- Combined PostgreSQL full-text search and vector similarity using Reciprocal Rank Fusion for evidence-backed GitHub repository research.
- Designed deterministic scoring, a durable database worker and a modular ASP.NET Core backend.

EDUCATION

B.Sc. Software Engineering | Karabük University | 2022–2026 | GPA: 3.16/4.00

TECHNICAL SKILLS

Languages Python, C#, TypeScript, JavaScript, SQL, Rust

AI & Retrieval RAG, FAISS, BM25, BGE-M3, cross-encoder reranking, RAGAS, Transformers, YOLOv8

Backend & Tools FastAPI, ASP.NET Core, PostgreSQL, pgvector, React, Docker, Git, SSE, REST APIs

LANGUAGES

Turkish (native) | English (working proficiency)