Berkay Aydemir

Software Engineer | AI & Backend Systems

+905382297801 | berkayaydmr@hotmail.com | Istanbul, Turkey
github.com/berkayaydmr | linkedin.com/in/berkayaydemir | berkayaydemir.com

SUMMARY

Software engineer with a strong foundation in computer engineering and backend development, experienced in building scalable systems and distributed services using Go and .NET. Worked on real-world projects involving APIs, asynchronous processing, and microservice architectures, with hands-on experience in cloud environments and modern development practices. Recently focused on integrating AI into applications by building embedding-based recommendation systems, semantic retrieval pipelines, and LLM-powered tools on top of structured and unstructured data.

SKILLS

Languages: Go, C#, Java, TypeScript, SQL
Backend Development: REST APIs, gRPC, Microservices, Asynchronous Processing
AI & LLM Applications: Embeddings, Vector Similarity Search, Semantic Retrieval, LLM Integration
Databases & Messaging: PostgreSQL, Redis, RabbitMQ, Kafka
Cloud & DevOps: Docker, Docker Compose, CI/CD (GitHub Actions, Azure DevOps), Microsoft Azure, AWS
Frontend: Angular, Vue.js, HTML, CSS

EXPERIENCE

Software Developer Intern - Gowit Technology Feb 2022 – Oct 2022

- Developed backend services using Golang and Python, working with REST and gRPC-based microservices
- Contributed to event-driven systems utilizing Kafka for asynchronous communication between services
- Worked with PostgreSQL and GORM for data modeling and persistence
- Improved system reliability and scalability by contributing to distributed service architecture
- Collaborated with engineering teams to build and maintain production-grade backend components

Cloud Solutions Unit Intern - Microsoft Jun 2023 – Aug 2023

- Developed a full-stack application with a .NET backend and Flutter frontend
- Designed and implemented cloud-ready backend architecture following scalable service principles
- Automated application deployment using Azure DevOps CI/CD pipelines
- Gained hands-on experience with Microsoft Azure services and cloud-based application development

Backend Developer Intern - Teknasyon Jul 2024 – Sep 2024

- Developed and deployed backend services using Golang, focusing on API design and system reliability
- Built a CLI-based AI tool to analyze git repository changes and generate summaries using LLMs
- Improved existing backend components by enhancing test coverage, documentation, and feature extensions
- Collaborated with engineers to maintain and extend production-ready backend systems

Software Developer Intern - ID3 Jul 2025 – Oct 2025

- Developed backend features using Java, contributing to enterprise-level applications
- Refactored legacy code to improve readability, maintainability, and system structure
- Implemented unit tests using JUnit and Mockito to increase code reliability
- Worked with senior engineers applying SOLID principles and clean architecture practices

PROJECTS

Movai - AI-powered Movie Recommendation Platform (Graduation Project)

- Designed and implemented an embedding-based recommendation system using pgvector and cosine similarity for personalized movie discovery
- Built a user embedding model by aggregating interaction signals (likes, ratings, watchlist, clicks) with weighted contributions in vector space
- Generated item embeddings using OpenAI text embedding models based on movie metadata (title, genre, description)

- Implemented real-time content enrichment via TMDB API with on-demand ingestion and background job processing for related content expansion
- Developed a background worker system to manage asynchronous tasks, including content synchronization and embedding updates
- Supported multi-language content (EN/TR/ES) with consistent embedding strategy across localized data
- Designed a scalable backend architecture using ASP.NET Core, PostgreSQL, and vector search for efficient similarity-based retrieval

Find Prompt - AI-powered Learning Assistant (RAG Pipeline with Qdrant)

- Built an end-to-end retrieval-augmented generation (RAG) pipeline for processing educational documents
- Implemented text chunking (800 chars, 120 overlap) and embedding generation, storing vectors in Qdrant for scalable similarity search
- Designed a hybrid retrieval system (top-k, cosine similarity) with course-level filtering and dynamic context selection
- Developed an ingestion pipeline: file upload → text extraction → chunking → embedding → vector store upsert
- Used LLMs for both topic extraction from uploaded content and context-aware answer generation
- Ensured data consistency by synchronizing file lifecycle events with vector storage (including cleanup on deletion)
- Built a full-stack system with .NET backend and Vue.js frontend, enabling users to manage courses, upload content, and generate AI-assisted study materials

Git-AI - AI-powered Git Diff Analyzer (Go CLI Tool)

- Built a Go-based CLI tool to analyze git diffs between branches and generate AI-powered summaries and code review feedback
- Integrated OpenAI Chat Completions API to produce structured outputs including change summaries, review insights, and PR title suggestions
- Designed a prompt template system to standardize LLM responses for consistent and actionable code review output
- Implemented secure local storage for API keys and model configurations using AES-GCM encryption with environment-based key management
- Enabled developers to automate diff analysis workflows directly from the terminal, improving development efficiency

Anadolu Ligi - Sports League Management Platform (Production System)

- Designed and developed a full-stack sports league management platform enabling users to create teams, schedule matches, and track results
- Built backend services using Golang and REST APIs, supporting core features such as team management, match scheduling, and score tracking
- Developed web and admin interfaces using Angular and TypeScript for managing league operations
- Achieved 1500+ monthly active users, demonstrating real-world adoption and system reliability
- Deployed and maintained the system in a production environment, ensuring availability and scalability

Pine Ink - Tattoo Artist Marketplace & Social Platform (Go & Neo4j)

- Developed a platform enabling tattoo artists to create profiles, showcase their work, and connect with potential clients
- Built a Go-based backend using Neo4j to model user–content interactions (likes, saves, follows) as graph relationships
- Designed a graph-based recommendation engine to surface relevant artists and posts through multi-hop traversal
- Implemented ranking strategies based on interaction types and relationship depth to personalize content discovery

EDUCATION

Computer Engineering (English) – Işık University Oct 2020 – Jan 2026

MÜDEK-accredited program covering Data Structures, Algorithms, Operating Systems, Computer Vision, Machine Learning, and Game Development using Java as core language.

REFERENCES

Erman Imer

Senior Software Engineer, EPAM Systems

Tel: +905071072040 | ermanimer@gmail.com