

Melis Güçlü

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Computer Engineer with interests in artificial intelligence, deep learning, neural networks, machine learning, web and mobile development, and cloud systems.

Education

Eskisehir Osmangazi University

Bachelor of Engineering in Computer Engineering; GPA: 3.17

Eskisehir, Turkey

October 2022 – January 2026

Experience

Software Engineer Intern

Coyotiv GmbH

Berlin, Germany (Remote)

July 2025 – Present

- Contributed as a Full-Stack Developer to Minikampus, an AI-driven educational platform generating math questions and visual content for 1K+ students, enhancing engagement through interactive learning tools.
- Developed scalable backend services using Express.js, TypeScript, and MongoDB, implementing email automation and cron jobs that improved notification reliability and reduced manual maintenance.
- Optimized prompt engineering workflows for automated question and image generation using LLMs, improving content diversity and accuracy through iterative model fine-tuning and dataset curation.
- Built and refined frontend features with Vue.js and an admin panel to enable educators to analyze and track student progress efficiently.
- Collaborated in a cross-functional team using Slack, Trello, and agile practices to coordinate tasks and deliver production ready features.
- Built a full RAG pipeline for Coyotiv's internal educational bot (Taiga) by generating embeddings for all course transcripts, indexing them in a vector database, and implementing a retrieval layer that delivers precise, context-aware answers. Automated transcript extraction for video lectures via scheduled processing, and added robust guardrails to enforce curriculum-only responses; substantially improving accuracy, safety, and student learning experience.

IT Intern

Anot – IT & Automation Department

Eskisehir, Turkey

June 2025 – July 2025

- Gained experience with PLC and HMI configuration.

- Participated in diagnosing and resolving IP configuration issues on factory devices.

Volunteer Research Assistant

Eskisehir Osmangazi University

Eskisehir, Turkey

Nov 2023 – Nov 2024

- Collaborated with Emrah Atilgan, Ph.D., on a sentiment and thematic analysis project analyzing 10K+ e-commerce reviews to identify emerging customer trends and brand sentiment patterns.
- Implemented Latent Dirichlet Allocation (LDA) using Python and NLTK for topic modeling and sentiment classification, improving topic coherence and analytical insights across multilingual datasets.

Projects

Hybrid Recommender System for Steam Games — Designed and implemented a full-stack hybrid recommender system for Steam games by combining collaborative filtering and content-based approaches using a deep learning model. Built a neural architecture with user and item embeddings fused with game tag features to predict both recommendation likelihood and expected playtime. Developed multiple recommendation strategies including user-based, cold-start, similar users, and similar games discovery, enhanced with diversity and novelty re-ranking. Deployed the system with a FastAPI backend and a Next.js frontend, exposing production-ready REST APIs and an interactive UI for personalized recommendations and exploration.

Habifol — Part of the developer team of Habifol, a React Native Expo-based habit tracking app where users unlock hidden artworks by completing daily habits, gamifying personal growth and improving user engagement. Designed and implemented the mobile UI, integrated RevenueCat for in-app purchases and i18n for multilingual support, and built the Next.js web version. The application is currently live on the App Store.

LAI — Contributed as a Full-Stack Developer to LAI, an AI-powered conversational language learning app built with React Native, Expo, OpenAI, and ElevenLabs, delivering interactive and realistic speaking experiences. Developed user interface components for viewing streaks, past conversations, and learning progress, enhancing user engagement and motivation. Implemented notification and automated email systems in the backend API using Express.js. Integrated OpenAI for AI-driven dialogue generation and ElevenLabs for realistic voice interaction capabilities. Developed the official web version of the application with Next.js

AI-Based Content Repurposing Platform — Designed and developed an AI-driven content repurposing platform that transformed YouTube videos into multilingual blogs and short-form media, automating over 90 percent of manual content creation workflows. Integrated ElevenLabs for advanced text-to-speech, Gladia for transcription, and OpenAI models for content generation, creating a fully automated pipeline from video ingestion to publication-ready content. Improved turnaround time from hours to minutes.

Othello AI Project — Developed and deployed a full-stack Othello game using React, Node.js, and MongoDB, enabling real-time gameplay through a scalable cloud-based architecture. Implemented intelligent AI agents using Minimax with alpha-beta pruning and Monte Carlo Tree Search (MCTS), achieving efficient move evaluation and competitive AI performance against human players. Built real-time multiplayer functionality using WebSocket and Socket.io. Containerized and deployed the application via Google Cloud Run, ensuring automatic scaling and continuous uptime for all active sessions.

Wood Surface Anomaly Detection — Developed an unsupervised deep learning pipeline in PyTorch leveraging convolutional neural networks (CNNs) to detect visual anomalies in wood surfaces. Enhanced model performance through advanced image preprocessing and heatmap visualizations, improving interpretability and identifying key defect regions.

Matqucon – Product Tracking App — Developed a real-time product tracking application using React Native, Express.js, and PostgreSQL to monitor manufacturing processes, enabling live status updates and improved operational visibility. Implemented RESTful APIs, Dockerized services, and optimized relational database schema

Technical Skills

Python, JavaScript, TypeScript, React, React Native, Vue.js, Next.js, Node.js, Express.js, PyTorch, Expo, Websocket, Socket.io, MongoDB, PostgreSQL, Google Cloud Run

Certifications

Goethe-Zertifikat A2 — Certification ID: 1135-AA2A-0002627477

NVIDIA — Fundamentals of Deep Learning — Certification ID: iGUi8KBXT7eYHkuqze1AgQ

Huawei Cloud — Developer Certification — Certificate No: HWDCTEDA376295

Languages

Turkish (Native), English (Professional), German (A2)