BAHA KIZIL

AI ENGINEER

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Linkedin
GitHub
Hugging Face
Medium

ABOUT ME

My journey into AI began with robotics programming and evolved through hands-on experience in computer vision, NLP, LLMs, and time series forecasting. With a strong foundation in mechatronics engineering, I've built AI systems using PyTorch, LangChain, and DeepStream. I've worked on model training, dataset design, API integration, and cloud deployment. I continuously explore new technologies to develop impactful, production-ready AI solutions across domains.

EDUCATION

BACHELOR'S DEGREE
MECHATRONICS ENGINEERING

BAHCESEHIR UNIVERSITY Istanbul, Turkey
2020 - 2025

EXPERIENCE

MVP AI APP DEVELOPMENT (FREELANCE)
03/2025 – 05/2025

Developed the MVP of an AI-powered web app featuring a voice-enabled chatbot using GPT-4o mini, Whisper, and ElevenLabs. I built the entire backend with Python and FastAPI, handling all API integrations, prompt engineering, and real-time conversation flow. The frontend was implemented at a minimal level using HTML, JavaScript, TailwindCSS, and Clerk, with the focus placed on backend performance and AI integration.

GUESS
08/2024 - 02/2025

I work full-time as an IT intern at Guess Turkey. I'm responsible for all tech equipment at the head office and provide IT support across the region. I develop Power Automate solutions to streamline workflows in HR and regional operations, assist the finance team with ERP automation improvements, and collaborate with the GUESS Europe IT team in Lugano.

TAV TECHNOLOGIES
02/2024 - 06/2024

During my 5-month R&D internship, I worked on AI projects including Time Series Analysis, Human Action Recognition, Object Detection, and API development. I explored advanced solutions using Hugging Face, Papers with Code, Kaggle, and GitHub. Gaining hands-on experience with CNN/RNN architectures in PyTorch, I focused on model training, fine-tuning, and optimization, while also contributing to dataset design and model logic, enhancing accuracy and efficiency.

BEWELL TECHNOLOGY
07/2022 - 09/2022

I gained many experiences such as project processes and meetings. In this process, I took the first step of my experience on how to prepare for the TUBITAK project and how the project process is formed and sustainable.

TECHNICAL SKILLS

Programming Languages: Python
AI & ML: Model Training & Fine-Tuning, Time Series Forecasting, NLP (Prompt Engineering), Real-Time Computer Vision, LLM & Multi-Agent Orchestration, Chatbot & STT-TTS Pipeline Development
Libraries & Frameworks: PyTorch, TensorFlow, OpenCV, Pandas, NumPy, Matplotlib, FastAPI, LangChain, Supervision
AI Platforms & Integrations: OpenAI API, Hugging Face, ElevenLabs, Tavily API, Roboflow, DeepStream
Cloud & Infrastructure: RunPod, Google Cloud, Docker, Raspberry Pi, Tailscale, X2Go, Linux (Ubuntu), Git
Web App Utilities & UI Tools (Basic Level): Figma, Clerk, Firebase Auth, HTML/CSS, JavaScript, REST API Integration

SOFT SKILLS

- Continuous Learner with Strong Curiosity
- Research-Oriented and Innovation-Focused
- Passionate About Emerging Technologies
- Quick to Adapt and Self-Driven
- Proactive and Independent Problem Solver

CERTIFICATES

- AI Agents - Hugging Face 02/2025
- PyTorch Bootcamp - OpenCV University 02/2025
- AI Developer Specialization - IBM 12/2024
- Python Course - ODTU SEM 09/2017

LANGUAGES

- English B2
- German A2

PROJECTS

SMART TRAFFIC MONITORING
03/2025

I designed a real-time system to detect emergency lane violations, analyze lane flow, to classify vehicles with RTSP. Fine-tuned a YOLOv12N model on a custom Roboflow dataset and used polygon-based lane detection with OpenCV and Supervision to track vehicles and visualize per-lane speed. Estimated lane speeds by analyzing pixel-based bounding box motion. The system detects emergency lane violations in real time and adapts to various camera zones for scalable smart city use.

REAL-TIME THREAT DETECTION
02/2025

This fully local AI-powered system, developed with YOLOv11n and DeepSeek 1.5B, detects firearms from CCTV in real time. I fine-tuned YOLOv11n on a custom Roboflow dataset via Google Colab, transforming it into an object detection agent. DeepSeek analyzes threats, while a mail agent delivers results instantly. LangChain integration enables seamless workflow automation and efficient threat management.

AI SUPPORTED SMART GROWBOX (CAPSTONE)
10/2025 - Current

I am developing an automated indoor agriculture system using a closed growbox. The system integrates a Raspberry Pi 5 for environmental control, real-time decision-making via OpenAI API, and a YOLO-trained camera module for plant health assessment. A Flask-based panel provides users with health analysis and estimated fruiting time using time series analysis and computer vision. The goal is fully automated plant cultivation from start to finish.

COFFEE SALES ANALYSIS AND PREDICTION
07/2024

This project focuses on improving business efficiency by analyzing and forecasting a coffee shop's daily sales data using PyTorch. By training a model on both sales and weather data, the system gains the ability to predict future sales based on weather conditions. Additionally, all data and forecasted results are visualized to provide actionable insights.

AIRPORT DATA ANALYSIS PROJECT
04/2024

I developed a project that processes complex, thousands of lines long JSON files, which contain data from all sensors and computers at airports. The project collects and organizes each parameter in these JSON files, converting them into a structured and interpretable Excel format that airport staff can use effectively.