



# BAHA KIZIL

AI ENGINEER

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Ortakoy / Istanbul  
Portfolio

in LinkedIn  
GitHub  
Hugging Face  
M Medium

## ABOUT ME

Ambitious and motivated AI engineer candidate, focused on transforming advanced technologies into practical solutions. Committed to continuous learning, innovation, and creating long-term impact in the field of artificial intelligence.

## EDUCATION

BACHELOR'S DEGREE  
MECHATRONICS ENGINEERING

BAHCESEHIR UNIVERSITY Istanbul, Turkey  
2020 - 2025

## EXPERIENCE

### KAFEIN TECHNOLOGY SOLUTIONS

06/2025 - 09/2025

Contributed to an enterprise AI workflow automation platform by developing modular MCP servers with FastMCP, backend services with FastAPI, and AI orchestration using LangChain/LangGraph. Designed advanced RAG systems on PostgreSQL + PGVector with dynamic embeddings, chunking strategies, and reranker integration. Improved workflow observability with LangSmith, and gained experience in Docker, AWS deployment, CI/CD, and R&D processes including MVP definition and POC development.

### MVP AI WEB APP DEVELOPMENT (FREELANCE)

03/2025 - 06/2025

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, real-time conversation flow, and database management using Supabase. 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

Full-time IT intern at Guess Turkey, handling regional tech support and head office equipment. Develop Power Automate solutions for HR workflows, assist finance ERP automation, and collaborate with GUESS Europe IT 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.

## TECHNICAL SKILLS

### Programming Languages: Python

AI & ML: Model Training & Fine-Tuning, Time Series Forecasting, NLP (Prompt & Context Engineering), Computer Vision, LLMs & Multi-Agent Systems, RAG Architectures, Chatbot Development, STT/TTS Pipelines, Workflow Automation

**Libraries & Frameworks:** OpenCV, Pandas, NumPy, Matplotlib, FastAPI, FastMCP, LangChain, LangGraph, Supervision

**Platforms & Integrations:** N8N, Langflow, OpenAI API, Hugging Face, ElevenLabs, Supabase, Roboflow, DeepStream

**Cloud & Infrastructure:** AWS Google Cloud, Docker, Linux, Runpod

## SOFT SKILLS

- Continuous Learner with Strong Curiosity
- Research-Oriented and Innovation-Focused
- Passionate About Emerging Technologies
- Proactive and Independent Problem Solver

## CERTIFICATES

- |                                      |         |
|--------------------------------------|---------|
| MCP Tools - Hugging Face             | 06/2025 |
| 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

### SEMANTIC CV MANAGEMENT WEB APP

06/2025

Developed a professional CV search and management web app using FastAPI, React, Supabase, LangChain, and OpenAI. Built a semantic search pipeline with OpenAI embeddings stored in Supabase. Designed a hybrid search combining keyword filtering and embedding similarity, with GPT-4.1 nano-based reranking via prompt engineering. Used LangChain agents for natural language CV querying. Supabase handled auth, metadata, and file storage. Deployed frontend (React, TailwindCSS) via Netlify and backend on a self-hosted server.

### 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)

10/2024 - 05/2025

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 FastAPI-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

Trained a time series forecasting model with PyTorch using sales and weather data to predict a coffee shop's daily sales. Used Pandas and NumPy for preprocessing, and Matplotlib to visualize results for improving business efficiency.