

Ercan KURTOĞLU

AI/ML Engineer



PERSONAL INFORMATION

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ABOUT ME

I am a Mechatronics Engineer with a total of five years of experience across automation engineering and project management. During my university education, I spent four months in the state of Montana, USA, as part of an exchange program, where I had the opportunity to immerse myself in a different culture and significantly improve my English through daily use. Following graduation, I worked on international projects and lived abroad for two separate periods, totaling nearly one year, gaining hands-on experience in cross-cultural and globally distributed teams.

In the summer of 2023, I made a deliberate career transition into artificial intelligence, which I consider one of the most impactful technological transformations of our time. Since then, I have been actively developing my skills in AI-focused software development and business-oriented applications, working on a broad range of projects that span multiple domains.

Currently, I continue my professional work as a freelancer, contributing to modern, AI-driven solutions and next-generation software systems. I see freelancing as an integral part of the future of work, and by entering this ecosystem early, I have further strengthened my ability to adapt quickly to change while maintaining a strong focus on continuous learning and growth.

PROJECTS

Multi-Channel AI Response Automation (n8n, RAG, and HTL System)

- This project automates intelligent responses to messages and comments from multiple communication platforms including WhatsApp, Signal, iMessage, Google Drive, and ClickUp. The system integrates RAG and Human-in-the-Loop (HITL) review processes to ensure high-quality, context-aware replies. Built in n8n, it orchestrates message ingestion, AI processing, and channel-specific delivery with precision and scalability.

Automated Shorts Creation & Upload | n8n, Google Sheets & Swiftia

- This project automates the process of generating and publishing YouTube Shorts with embedded subtitles from long-form video links. Using n8n, Google Sheets, YouTube API, and Swiftia, the system takes a video URL from a spreadsheet, creates subtitle-enhanced short-form videos, uploads them to YouTube, and tracks the entire lifecycle inside the same sheet. Designed as a scalable content automation pipeline, the workflow eliminates repetitive manual editing and uploading steps, making it ideal for content creators, agencies, and social media teams managing high video volumes.

AI-Driven Sales Team Email Automation Workflow, n8n

- This project automates the process of crafting and sending personalized sales emails to potential clients based on CRM data stored in Airtable. Using n8n, the workflow pulls in new project information, generates a first draft email via a custom AI agent, and routes it to a human sales team member for feedback. If revisions are requested, another AI revision agent updates the message accordingly. Once the email is approved, it is automatically sent to the client's email address found in the CRM. Previous projects are used as context to enrich the sales message, increasing personalization and conversion potential.

PDF Resume Parser with LLM & FastAPI Deployment on AWS

- Developed a personal project to extract and convert sections and corresponding information from PDF resumes into structured JSON format using Large Language Models (LLM). Utilized FastAPI to build a scalable API for parsing resumes, identifying key sections like experience, education, and skills. Implemented AWS deployment for seamless access and efficient processing. The project focused on automating resume parsing, enhancing data extraction accuracy, and enabling fast, real-time integration with cloud environments.

Kubernetes and Docker: Multi-Docker with Kubernetes on GCP

<https://github.com/ErcanKurtoglu/multi-k8s>

- Developed a multi-container application with Node, React, Redis, and Postgres using Docker. Built a CI/CD workflow with GitHub, Travis CI, AWS, and GCP, and deployed it on a Kubernetes cluster following best practices.

TensorFlow Project: Food Vision Multiclass Classification

https://github.com/ErcanKurtoglu/TensorFlow/blob/main/Food_Vision_Project.ipynb

- Developed a food classification model using the Food-101 dataset with transfer learning techniques. Leveraged pre-trained models from TF Hub (based on ImageNet) for feature extraction and aimed to surpass the DeepFood benchmark (77.4% top-1 accuracy).

Scikit-Learn project: Heart-Disease Classification

[https://github.com/ErcanKurtoglu/Scikit-Learn/blob/main/Heart-disease\(Classification\)/end-to-end-heart-disease-classification.ipynb](https://github.com/ErcanKurtoglu/Scikit-Learn/blob/main/Heart-disease(Classification)/end-to-end-heart-disease-classification.ipynb)

- Built a machine learning model using Python-based libraries, incorporating EDA, model training, evaluation, comparison, and hyperparameter tuning. Implemented cross-validation and analyzed feature importance to optimize performance.

WORK EXPERIENCE

Low Code Automation Specialist

Supsis AI Software

11/2025 - Present

- Designed and implemented project-specific automation architectures based on business requirements and workflow analysis.
- Modeled and created custom database tables and data schemas tailored to each project's operational needs.
- Developed JavaScript-based automation logic, including data processing, conditional workflows, scoring systems, and event-driven triggers.
- Built and maintained cross-platform API integrations (REST-based), enabling seamless data exchange between Supsis and external systems (CRM, payment gateways, messaging platforms, etc.).
- Optimized workflow performance and reduced manual operations through structured automation pipelines.
- Collaborated with stakeholders to translate business processes into scalable technical automation solutions.
- Implemented Meta (Facebook/Instagram/WhatsApp) API integrations, including authentication flows, webhook configuration, and real-time event handling.

AI Engineer Freelancer

Upwork

08/2025 - Present

- Designed and delivered cloud-based AI and MLOps solutions, including containerized model training, inference pipelines, and scalable deployment workflows using Docker, Kubernetes, and cloud platforms.
- Built end-to-end CI/CD pipelines for machine learning systems, enabling automated testing, versioning, and deployment of AI models and backend services.
- Developed AI-driven automation systems integrating LLMs, APIs, and external services to optimize business workflows across data processing, decision-making, and content generation.
- Implemented complex automation solutions involving CRM systems, marketing platforms, and payment gateways, ensuring seamless data flow and reliable system integrations.
- Collaborated with international clients to translate business requirements into production-ready AI solutions, focusing on performance, maintainability, and real-world impact.

Project Management

Turkey / Promekanik

06/2022 - 08/2023

- Managed end-to-end lifecycle of automation projects in industrial environments.
- Conducted compliance checks for software systems and ensured proper documentation.
- Coordinated testing and commissioning activities with engineering and operations teams.
- Oversaw the transfer and visualization of operational data for reporting and decision-making.
- Supported technical communication and stakeholder engagement throughout the project phases.

Highlighted Project: Dust Collection Automation – Karabük Iron and Steel Company

- *Oversaw the project management of automation systems for the dust collection facility at Karabük Iron and Steel Company. Responsibilities included software compliance checks, reporting, and management of testing processes.*

Project Management Assistant

Turkey / Demora

12/2021 - 04/2022

- Supported the execution of industrial automation software projects in coordination with project engineers.
- Assisted in maintaining accurate and up-to-date project documentation and technical reports.
- Collaborated with cross-functional teams to track progress and address operational issues.
- Monitored project risks and contributed to mitigation planning.
- Provided regular updates and insights to internal and external stakeholders.

Highlighted Project: Integrated Facility Installation – Van Steel Company

- *Led the electrical and automation project management for the establishment of a fully integrated steel production facility, including the rolling mill, steelmaking unit, dust collection system, and water treatment plant. Responsibilities included developing detailed working schematics, overseeing project progress across multidisciplinary teams, coordinating with contractors and stakeholders, and preparing comprehensive technical and managerial reports for executive leadership and partners.*

Automation Engineer

Turkey / ASM

08/2021 - 12/2021

- Designed and programmed automation systems using PLC, SCADA, and HMI technologies tailored to wastewater treatment applications.
- Developed and documented detailed operational processes and control logic.
- Created and executed test scenarios aligned with system workflows and safety requirements.
- Prepared technical documentation, user manuals, and commissioning reports.
- Configured databases to support data logging, system diagnostics, and reporting.
- Generated automated system reports for monitoring and analysis purposes.

Highlighted Project: Wastewater Treatment Plant – Plastic Recycling Facility

- Led the automation software development for the wastewater treatment system of a plastic recycling company. Responsibilities included configuring PLC, SCADA, and HMI programs, implementing a structured reporting system, and developing a customized database configuration to enable process monitoring and performance tracking.

Automation Engineer

Turkey / Vngtech

02/2020 - 08/2021

- Designed, developed, and deployed industrial automation systems tailored to client requirements.
- Created and implemented automation frameworks, methodologies, and custom tools to standardize operations.
- Programmed and tested PLC, HMI, and SCADA components to optimize machine control and data acquisition.
- Built scripts for transferring process data to relational databases for analysis and monitoring.
- Developed reporting and analysis systems for production efficiency tracking.
- Delivered technical training to on-site staff to ensure sustainable operation and maintenance of systems.
- Ensured automation software compliance for secure and industrial-grade environments.

Highlighted Project: Rolling Mill Automation – ÇagÇelik, Karabük

- Developed and implemented end-to-end automation systems for the rolling mill factory, including software development and the integration of electrical/electronic components. Designed a dedicated production analysis system with a custom database to store and visualize production parameters.

Highlighted Project: Rolling Mill Automation – MedSteel, Iraq

- Completed automation software configuration and deployment for steel production lines. Participated in defining software logic, on-site testing, and client-side communication during commissioning.

Project Engineer

Turkey / MKD

12/2018 - 06/2019

- Designed and developed automation software for hydraulic and press systems tailored to industrial manufacturing needs.
- Created user documentation and manuals to support operational use and maintenance.
- Developed electrical schematics to support the implementation and troubleshooting of automation systems.
- Programmed and tested PLC, SCADA, and motion control (drive) systems.
- Delivered technical training to operators and maintenance personnel for safe and effective use.

Highlighted Project: Busbar Production Line – EAE

- Led the automation and electrical design for the production line of modular busbar distribution systems used in factory power distribution. Responsibilities included designing the electrical system architecture, developing PLC, SCADA, and drive control programs, conducting functional testing, and providing operational training to end users.
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CERTIFICATES

Langchain and Ollama Integration for AI Applications

03/2025 - Udemy

- Completed a hands-on course on integrating Langchain and Ollama to build, automate, and deploy AI applications. Learned to set up the tools, create prompt templates, automate workflows, and manage data retrieval. Gained practical experience in building chatbots, working with document loaders, and deploying applications on AWS.

Docker and Kubernetes

12/2024 - Udemy/Stephen Grider

- Completed a comprehensive course on Docker and Kubernetes, covering everything from foundational concepts to advanced implementation. Gained expertise in building custom Docker images, mastering the Docker CLI for debugging, and creating CI/CD pipelines using GitHub, Travis CI, AWS and GCP.

TensorFlow for Deep Learning Bootcamp

06/2024 - Udemy/ZTM

- Learned TensorFlow 2 to build machine learning models for computer vision, NLP, and time series forecasting.
Developed deep learning applications like CNNs for image and text recognition and gained skills in transfer learning and integrating machine learning into real-world tools.

Complete A.I. & Machine Learning, Data Science Bootcamp

06/2024 - Udemy/ZTM

- This comprehensive program covers Data Science and Machine Learning essentials, including data exploration, visualization, neural networks, and transfer learning. Participants will master tools like Python, TensorFlow, Numpy, and Scikit-Learn, applying them to projects in image recognition, classification, and regression.
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EDUCATION

M.Sc. in Artificial Intelligence Engineering

Gebze Technical University

2026 – Present

Bachelor of Mechatronics Engineering

Karabuk University

2014 - 2018

Associate Degree in Mechatronics

Kocaeli University Vocational School of Higher Education

2011 - 2013

STFA Vocational and Technical Anatolian High School

Mechatronics

2007-2011

LANGUAGES

English

Professional Working Proficiency

Turkish

Native or Bilingual Proficiency

SKILLS

Python

Numpy

Pandas

Matplotlib

Scikit-Learn

XGBoost

LLM	NLP	Computer Vision	Machine Learning	SQL	
Linux	MLOps	AIOps	Langchain	Ollama	
Docker	Kubernetes	CI/CD	GithubActions	AWS	GCP
Engineering	Problem Solving		Teamwork	Flexibility	Time Management

INTEREST

Gym Writing Videos Music Camping-Learn Udemy