# Asrın Gökhan YILMAZ
## AI & Robotics Developer | Mechatronics Engineering Student

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# PROFESSIONAL SUMMARY

I am a dedicated R&D professional and Mechatronics Engineering student with experience in **artificial intelligence, automation systems, and robotics development**. My practical experience includes railway maintenance data analysis systems and academic research in machine learning optimization. I focus on developing practical solutions that connect theoretical knowledge with real-world engineering applications.

# PROFESSIONAL EXPERIENCE

## Research & Development Team Leader|*Zentech Elektrik Elektronik*| March 2025 - Present

- I lead the R&D team and manage machine learning project development focusing on predictive maintenance and computer vision applications
- I oversee project planning, resource allocation, and coordinate with engineering teams to deliver AI-powered solutions
- I established development workflows and supervised the implementation of embedded IoT systems for industrial applications

## Research & Development Intern|*TMS Tren Bakım Onarım A.Ş.*| August 2024 - September 2024

- I developed a vibration-based maintenance prediction model using Python and scikit-learn for railway fault detection
- I created an NLP-powered technical documentation chatbot to assist engineers with technical queries
- I prepared comprehensive presentations to market TMS R&D department's products to international stakeholders

## Technology Instructor & Mentor|*Getap*| September 2023 - June 2024

- I designed and delivered technical curriculum covering Python, C#, Unity, and Arduino programming for high school students
- I mentored student teams through project development from concept to working prototype

## Automation Intern|*Alapros Grain Milling Technology*| July 2023 - August 2023

- I supported assembly, testing, and commissioning of industrial automation systems for milling facilities
- I gained hands-on experience programming Siemens S7-1200 PLCs and designing HMI

panels

•I contributed to electromechanical system integration and industrial automation processes

## Research Assistant (Intern)|*Isparta University of Applied Sciences*| July 2022 - August 2022

•I participated in IoT and industrial electronics focused academic research projects

•I assisted in design, prototyping, and testing of PLC-based smart agriculture automation systems

•I supported research activities in electronic circuit design and embedded systems development

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# KEY PROJECTS

## AI & Machine Learning

•**Railway Maintenance Prediction System**- I developed a Python/scikit-learn model that processes vibration sensor data from high-speed trains to predict potential railway issues and prevent accidents by forecasting maintenance needs

•**Task Success Predictor (TodAI)**- I built a mobile application that learns from users' task completion patterns, reasons for delays, and procrastination habits to predict future task success rates and provide personalized recommendations for improving completion rates

•**Feature Selection Optimization Research**- I conducted research on hybrid reinforcement learning for dynamic feature selection (Submitted to MDPI Journal, under peer review)

•**Computer Vision Agriculture Monitor**- I developed an OpenCV-based algae cultivation monitoring system for automated agricultural monitoring

## Robotics & Embedded Systems

•**Multi-Terrain Climbing Robot**- I designed the mechanical system in SolidWorks and developed C++ motion control algorithms for stable movement on various terrains (TÜBİTAK project)

•**Electric Vehicle Control System**- I led the team developing battery management and

motor control system, delivering a working prototype for Teknofest competition

•**Smart Glasses Computer Vision**- I implemented real-time object recognition using OpenCV on Raspberry Pi platform (TÜBİTAK collaboration)

## Software Development

•**Turkish Knowledge Database API**- I built a Node.js REST API serving trivia questions with MongoDB backend, creating an open-source resource for developers

•**CSV Data Analysis Platform**- I created a web-based preprocessing tool for ML training data with real-time visualization capabilities, available as open-source on GitHub

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# EDUCATION

**Bachelor's in Mechatronics Engineering**|*Isparta University of Applied Sciences*| 2021 - Present

**Associate Degree in Electronics Technology**|*Isparta University of Applied Sciences*| Completed

**High School Diploma**|*Ayvalık Anatolian High School*

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# TECHNICAL SKILLS

**Programming Languages:**Python, C#, C++, JavaScript (Node.js), SQL

**AI & Machine Learning:**PyTorch, TensorFlow, Scikit-learn, OpenCV, Pandas, NumPy

**Engineering & Automation:**PLC Programming (Siemens), Arduino/ESP32, SolidWorks, AutoCAD

**Software & Platforms:**Unity, .NET Framework, REST APIs, Git, Docker, MATLAB

**Languages:**Turkish (Native), English (Advanced), German (Beginner)

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# VOLUNTEERING & COMMUNITY LEADERSHIP

**President**|*ISUBÜ Teknofest Community*| September 2023 - June 2024

- As community president, I organized and managed the establishment of interdisciplinary project teams
- I led three different teams from our university in their preparation process for Teknofest, providing mentorship in project management, technical consulting, and presentation techniques, ensuring all teams successfully passed the competition eliminations

**Instructor**|*Google Developers Group (GDG)*| September 2023 - January 2024

- I organized weekend workshops for university students, providing hands-on training on beginner and intermediate C# programming language and Unity game development engine

**Project Volunteer**|*Viantex*| March 2022 - April 2022

- I participated as a volunteer in an innovative sports technology project for taekwondo, developed within the scope of TÜBİTAK BİGG (Individual Young Entrepreneurship) program
- I actively contributed to the project's technical research, market analysis, and business model development processes

**Vice President**|*ISUBÜ Inova Green Community*

- I took an active role in planning and conducting the community's sustainability and green technology-focused projects and events

**Elite Member**|*SDU Air and Space Community & ISUBÜ Caving Community*

- I actively participated in technical projects and events of both communities

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# CERTIFICATIONS

- **Deep Learning A-Z 2025:** Neural Networks, AI & Data Science (SuperDataScience)

- **Artificial Intelligence A-Z 2025:**Agentic AI, Gen AI, and RL (SuperDataScience)
- **Artificial Intelligence for Business**(SuperDataScience)
- **Microsoft Open Academy:**C# and Unity Coding Training
- **Udemy Certifications (15+ courses):**The Complete JavaScript Course, Complete Data Science & Machine Learning Bootcamp, Unity C# 2D&3D Game Development, SQL-Based Commercial Automation with Dev Express, and other programming and data science courses

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# CORE COMPETENCIES

**Project Leadership:**I lead cross-functional engineering teams and manage project budgets and timelines

**Problem Solving:**I apply ML/AI solutions to real-world engineering challenges

**Technical Development:**I build end-to-end systems from prototypes to production deployment

**Stakeholder Management:**I present technical concepts to international clients and academic reviewers