

KADİR YOLDAŞ

AI ENGINEER & COMPUTER VISION | EMBEDDED SYSTEMS & AUTONOMOUS SYSTEMS

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Türkiye | Open to full-time Embedded Systems, Autonomous Systems and AI Engineering roles

PROFESSIONAL SUMMARY

Final-year Computer Engineering student with hands-on experience across embedded IoT, autonomous vehicle ADAS, robotics, computer vision and AI-enabled software. Built an ESP32-based multi-sensor monitoring and alert system, developed real-time YOLO/OpenCV pipelines on NVIDIA Jetson, and contributed to a TÜBİTAK 2209-A supported mobile fall-detection project. Strong in Python and C/C++, with a practical focus on reliable, non-blocking, modular systems that integrate hardware, AI and software.

EDUCATION

B.Sc. in Computer Engineering | Erciyes University, Kayseri, Türkiye

2021 - Sep 2026

- GPA: 3.24 / 4.00 | English Preparatory Program completed (2021-2022)

- Relevant coursework: Computer Vision, Machine Learning, Robotics, Data Structures & Algorithms, Embedded Systems, Operating Systems

TECHNICAL SKILLS

AI & Computer Vision: OpenCV, YOLOv8/v11, PyTorch, TensorFlow, machine learning, deep learning, model training/inference, CUDA, TensorRT

Software Development: Python, C/C++, Dart/Flutter, Java, C#, JavaScript/TypeScript, React, Next.js, REST APIs, FastAPI/Flask, MySQL, Firebase, Git, Linux

Embedded Systems & IoT: ESP32, Arduino IDE, NVIDIA Jetson, Raspberry Pi, DHT22, DS18B20, PWM fan control, hardware interrupts, UART, SPI, I2C, 1-Wire, Wi-Fi

Robotics & Autonomous Systems: ROS/ROS2, Gazebo, RVIZ, LIDAR, SLAM, RRT*, ADAS, lane tracking, obstacle detection, path planning

Languages: Turkish (Native), English (Intermediate)

PROFESSIONAL EXPERIENCE

Hardware Engineering Intern | Malatya Yeşilyurt Municipality - IT Department | Malatya, Türkiye

Jul 2026 - Present

- Designed an ESP32 DevKit V1 monitoring system integrating DHT22 ambient sensing, two DS18B20 temperature sensors, a door switch and a 4-pin PWM fan.
- Implemented non-blocking millis()-based scheduling, software debounce and interrupt-driven tachometer counting for reliable real-time RPM measurement.
- Developed temperature-threshold fan control and Wi-Fi/serial alert outputs for cabinet overheating, door-open duration and fan-status monitoring.

ADAS & Computer Vision Engineer | Teknofest International Efficiency Challenge Team |

2025 - 2026

Kayseri, Türkiye

- Developed ADAS functions for Hydromobile and Electromobile vehicle categories using YOLO, OpenCV, Python/C++ and ROS.
- Built lane-tracking, object/obstacle detection and driving-decision pipelines for NVIDIA Jetson embedded hardware.
- Applied TensorRT FP16 optimization to achieve sub-25 ms inference latency and more than 45 FPS in the project architecture.

DENEYAP Instructor & T3 Foundation Scholar | DENEYAP Türkiye / T3 Foundation | Kayseri, Türkiye

2025 - Present

- Deliver hands-on coding, robotics and engineering project activities to young learners in technology workshops.
- Contribute to technical and organizational activities aligned with the National Technology Initiative.

PROFESSIONAL EXPERIENCE (CONTINUED)

Volunteer Candidate Engineer - Robotics & Simulation | TUSMEC | Türkiye

2025

- Developed and tested autonomous mobile robot workflows in ROS, Gazebo and RVIZ environments.
- Integrated SLAM mapping, LIDAR-based perception, a custom RRT* path-planning node and YOLO-based target classification.

Software & AI Intern | MEA Software | Türkiye

2024

- Developed an AI-enabled web platform using React, Python REST services and MySQL within the DOHA architecture.
- Connected Python analytics/AI modules to the front end, worked on asynchronous service flows and optimized database queries and schema usage.

SELECTED PROJECTS

SafeStep - AI-Assisted Mobile Fall Detection & Emergency Response | TÜBİTAK 2209-A Supported Project | 2025

- Contributed to AI and sensor-fusion logic that processes smartphone accelerometer and gyroscope data to distinguish falls from routine movements.
- Implemented a 15-second audio/visual emergency countdown and Firebase Cloud Messaging plus GPS location sharing for designated contacts.
- Supported development of the cross-platform Flutter application for Android and iOS.

Technologies: Flutter, Dart, Firebase, FCM, Geolocator, sensor fusion, mobile AI

ESP32-Based Smart Network Cabinet Monitoring & Alert System | Embedded Systems & IoT | 2026

- Integrated ambient temperature/humidity, dual device-temperature sensing, cabinet-door monitoring and 4-pin fan control on an ESP32 DevKit V1.
- Used non-blocking scheduling, debounce filtering, 1-Wire addressing and ISR-based RPM counting to keep simultaneous monitoring functions responsive.
- Generated temperature-based PWM responses and serial/Wi-Fi alerts for abnormal cabinet conditions.

Technologies: ESP32, C/C++, DHT22, 2x DS18B20, 1-Wire, PWM, hardware interrupts, Wi-Fi, Wokwi

Teknofest Autonomous Electric Vehicle ADAS System | Hydromobile & Electromobile | 2025-2026

- Developed real-time lane tracking, object detection and obstacle-awareness functions for two electric vehicle categories.
- Accelerated YOLO inference on NVIDIA Jetson with TensorRT FP16 and connected perception output to ROS-based vehicle decision modules.
- Project architecture reports less than 25 ms inference latency and more than 45 FPS.

Technologies: YOLOv8/v11, OpenCV, ROS/ROS2, NVIDIA Jetson, CUDA, TensorRT, Python, C++

Autonomous Mobile Robot & RRT* Path Planning Simulation | TUSMEC | 2025

- Modelled robot kinematics and LIDAR sensing in Gazebo and visualized navigation behavior in RVIZ.
- Integrated SLAM mapping with a custom C++ RRT* planning node and YOLO-based target classification for autonomous navigation.

Technologies: ROS, Gazebo, RVIZ, SLAM, LIDAR, RRT*, YOLO, C++, Python

AI-Integrated Web Platform (DOHA) | MEA Software Internship | 2024

- Connected Python AI/analytics services to a React front end through RESTful APIs and a MySQL relational database.
- Worked on asynchronous service execution, database indexing/query optimization and modular user-interface components.

Technologies: React, Python, Flask/FastAPI, REST API, MySQL, DOHA Framework

Personal Engineering Portfolio | Full-Stack Web Project | 2026

- Built a responsive portfolio that presents project responsibilities, engineering challenges, solution approaches and supporting evidence as structured case studies.

Technologies: Next.js 16, TypeScript, Tailwind CSS, responsive web design

HONORS & ACTIVITIES

- T3 Foundation Scholarship Holder and active contributor to technology and innovation events.
- TÜBİTAK 2209-A supported undergraduate research project team member (SafeStep).
- Volunteer involvement: T3 Foundation, AKDAV (Aksa Education and Solidarity Foundation), and MGK (Engineering and Entrepreneurship Club).