

Eray Özcan Kılıç

Electronic Hardware and Embedded Systems Engineer

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I work across electronic hardware, embedded systems, and control. My projects combine STM32-based boards, motor drives, Ethernet/PoE control hardware, and signal processing, with responsibility spanning design, software, and verification.

AREAS OF EXPERTISE

Electronic hardware • Embedded systems • Control and motor drives
Systems engineering • Avionics and flight systems • Signal, image, and RF processing

PROFESSIONAL EXPERIENCE

Enka Technology Communication and Security Systems

Electrical and Electronics Engineer

Istanbul, Türkiye

Jun 2025 - Present

- Designed and developed Ethernet/Wi-Fi access-control electronics supporting 2/4 doors, Wiegand interfaces, relay outputs, and EMC/ESD protection.
- Completed PCB and embedded-software development for a PoE-powered Ethernet IO card with four relays for a turnstile application.

Istanbul Defence Systems

Electrical and Electronics Engineering Intern

Gebze, Kocaeli

Jan - Feb 2026

- Contributed to STM32F107-based sensor and USB-UART motor-driver board design.
- Worked on PWM, FOC/PID, EMI filtering, test flows, and MIL-STD-461 requirements.

Baykar Technologies

Electronic Design Intern

Istanbul, Türkiye

Aug - Sep 2025

- Designed and simulated avionics sensor electronics and air-data-system circuits with KiCad and LTspice.
- Reviewed power quality, EMI/EMC, and test procedures under MIL-STD-704F and MIL-STD-461G.

ASELSAN

Systems Engineering Intern

Ankara, Türkiye

Jul - Aug 2024

- Supported systems engineering, control-mechanism, test, and verification work for air-defense systems.
- Worked on a CAN interface in C# and Visual Studio and on board design and circuit simulation in Altium and Proteus.

Izmir University of Economics

Undergraduate Teaching Assistant

Izmir, Türkiye

Mar 2024 - Jun 2026

- Supported laboratories in circuits, electronics, digital design, signals and systems, embedded systems, and DSP.

EDUCATION

Istanbul Technical University - M.Sc. in Electronics Engineering

2026 - Present

- Thesis program.

Izmir University of Economics - B.Sc. in Electrical and Electronics Engineering

2021 - 2025

- Full scholarship, English-taught; GPA 3.28/4.00; honor student.

Izmir University of Economics - B.Sc. in Mechatronics Engineering

2022 - 2026

- Double major, English-taught; GPA 3.27/4.00.

Izmir University of Economics - Minor in International Trade and Finance

2022 - 2025

- GPA 3.49/4.00.

SELECTED PROJECTS

STM32G431 Based 3-Channel Brushed DC Motor Driver

2025 - 2026

- Tested a single-motor control prototype, then designed a two-layer PCB combining three DRV8874 drivers, encoders, and current feedback.

EEG Study of Sustainable Packaging and Consumer Behavior

2024 - 2026

- Processed 32-channel EEG recordings from 56 participants. The TÜBİTAK 2209-A supported paper was published at IEEE CoDIT 2026; DOI 10.1109/CoDIT70676.2026.11630728.

Multi-Sensor Monitoring System for a Brushed DC Motor Driver

2026

- Verified a speed, current, vibration, and temperature monitoring and protection concept across 600 simulations using LTspice, MATLAB/Simulink, and Python.

HORIZON Rocket Team Flight Computer

2023 - 2024

- Worked on sensor acquisition, LoRa telemetry, data packets, and ground-station communication for a TEKNOFEST medium-altitude rocket.

8-12 GHz Circular Horn Antenna Design and CST Analysis

2024

- Analyzed S-parameters, VSWR, electric fields, and far-field behavior of an X-band horn antenna in CST Studio; the project was simulation-based.

TECHNICAL SKILLS

Hardware: PCB and schematic design, KiCad, Altium, OrCAD, Proteus, LTspice, EMC/ESD, EMI filtering

Embedded and control: STM32, C, C++, UART, I2C, CAN, PWM, motor control, FOC, PID

Analysis and automation: MATLAB/Simulink, Python, signal processing, machine learning, CST Studio, Siemens PLC, SIMATIC HMI

CERTIFICATIONS

- Chip Design Specialization Program Fundamentals - National Technology Academy, 2024
- IPC-A-610 and IPC-A-620 Standards Training - Baykar Technologies, 2025
- Autonomous Driving Technologies Fundamentals - National Technology Academy, 2026
- Data Analysis School Artificial Intelligence and Machine Learning - Council of Higher Education, 2026

LANGUAGES

Turkish: Native

English: Full professional proficiency (C1/C2)

German: Elementary (A2)

REFERENCES

Prof. Dr. Aydın Akan: Izmir University of Economics | akan.aydin@ieu.edu.tr | +90 232 488 9827

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