

AHMET ÇAĞLAR

Software Engineer

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PROFESSIONAL SUMMARY

Software Engineering graduate from Kocaeli University with internship and project experience in C++, Python, ROS 2, gRPC and Linux. Experienced in backend development, real-time systems, system integration and autonomous systems. Interested in software engineering roles involving defense, embedded systems and autonomous systems.

EXPERIENCE

Software Development Intern - HAVELSAN

August 2026 – September 2026

- Worked on a C++ and gRPC-based MSI backend system, developing radar blip-to-track generation, blip-track correlation and IFF processes. Designed the backend structure using a hexagonal architecture approach.
- Created 108 unit tests using GoogleTest; tested multithreaded service flows and implemented and used spdlog-based logging.

Volunteer Software Development Intern - INOSENS

February 2026 – May 2026

- Analyzed the limitations of DBSCAN in a LiDAR-based object tracking system and integrated an Adaptive DBSCAN approach.
- Compared DBSCAN and Adaptive DBSCAN using Python, measured tracking performance and documented the results.

Software Development Intern - Ecolarium

August 2024 – September 2024

- Built 10+ API endpoints for a Django-based web application and handled database, backend and RESTful API integration tasks.
- Performed API testing using Postman and improved frontend-backend communication and logging processes.

TEAM & COMPETITION EXPERIENCE

Meftun-u Derya - Software Developer | TEKNOFEST Unmanned Surface Vehicle Competition

October 2023 – October 2024

- Designed PID-based motion control algorithms and optimized speed and heading parameters; implemented state-machine-based decision mechanisms for autonomous task transitions and emergency scenarios.
- Integrated an OpenCV-based vision pipeline with the onboard camera for autonomous object detection.

Ayaz – Software Developer | TEKNOFEST Unmanned Surface Vehicle Competition

October 2024 – August 2026

- Integrated MAVLink and MAVROS to establish bidirectional communication between the vehicle and the ground control station.
- Built a PyQt-based ground control station with 4 modules for mission tracking, mapping, sensor visualization and logging.
- Fused LiDAR and camera data for object detection and integrated the perception output into autonomous mission logic.
- Received the 2025 TEKNOFEST Best Team Spirit Award.

PROJECTS

Autonomous Vehicle Simulation - Graduation Project | ROS 2, Gazebo, YOLO, Nav2, SLAM, A*

- Built an autonomous vehicle simulation in a 3-person team using camera and LiDAR sensors in Gazebo.
- Integrated YOLO-based traffic sign detection, lane following and LiDAR-based dynamic obstacle avoidance.
- Performed environment mapping using SLAM and configured path planning and autonomous navigation using Nav2 and A*.

EDUCATION

B.Sc. in Software Engineering - Kocaeli University

2023 – 2026

- GPA: 3.56/4.00 | Ranked 3rd in the Department

TECHNICAL SKILLS

Programming Languages: C++, Python, JavaScript

Frameworks / Libraries: ROS 2, Qt / PyQt, OpenCV, gRPC, Django, React, FastAPI

Tools & Platforms: Git, CMake, Docker, Visual Studio, CLion, Postman, Jira, Gazebo, SonarQube, Linux / Ubuntu

Engineering: OOP, Algorithms, Data Structures, Software Architecture, System Integration, Multithreading, Unit Testing, Testing & Verification

CERTIFICATIONS & LANGUAGES

- Autonomous Driving Fundamentals Training - Republic of Türkiye Ministry of Industry and Technology, 2026 Certificate No: 51176812305945
- Certificate of English Proficiency (B2) - OSTİM Technical University, 2022 Certificate No: E-33791099-100-20428
- TEKNOFEST Unmanned Surface Vehicle Competition - TEKNOFEST, 2024 / 2025 / 2026 Certificate No: 157898 / 159913

Languages: Turkish (Native), English (B2 - Upper-Intermediate)

Additional Information: Class B Driving Licence