

ABOUT ME

I am a patient person with leadership qualities and a willingness to take risks. My interests are in Robotics and Autonomous Systems. I worked as an Intern Researcher at TUBITAK and Saha Robotik. Currently, I am working at LTC Innovation, where I focus on enhancing the software capabilities of Quadraped and Humanoid robots.



EDUCATION

Computer Engineering BSc (GPA: 3.22/4.0)

Sakarya University

2022-2026

SKILLS

- Robotics Core: ROS2, SLAM, 3D Mapping, Navigation, Simulation, Legged Robotics.
- Artificial Intelligence: Classical techniques, CNN, ANN, Deep Learning.
- Programming: C++, C, Python, MATLAB, SQL.
- Software Tools: Docker, Gazebo Sim, Git, Micro-ROS, PCL.

WORK EXPERIENCE

Robotic Software Engineer — LTC Inovation

Sept' 25 - Current

- Focusing on navigation and autonomy system development for Unitree Go2 quadraped and G1 humanoid robots.
- Implementing and evaluating state-of-the-art mapping and localization algorithms in real-time environments.
- Implemented Visual SLAM algorithms using just D455 depth camera to achieve robust odometry and mapping for Unitree Go2.
- Performing extensive real-time field tests to verify sensor fusion accuracy and algorithm robustness in Legged Robots.

Intern — Saha Robotik

August' 25 - Sept' 25

- Worked with Point-LIO and LIO-SAM algorithms using the Unitree L1 LiDAR sensor.
- Focused on sensor data handling and integration within ROS2-based systems for SLAM evaluation.
- Collected and processed data through ros2bag files and tackled challenges arising from real-world environments.

Long Term Intern Researcher — TUBITAK (Scientific and Technological Research Council of Turkey) Jan' 25 - August' 25

- Conducted research under the supervision of [Prof. Dr. Aysegül Uçar](#) as part of the TUBITAK 1001 project titled "Development of Advanced Autonomous Technologies for Rapid and Stable Disaster Management in GPS-Denied, Unstructured Environments Using Multi-Sensor Dispersed Robots."
- Ensured seamless integration and control of a quadraped robot within a simulation environment using ROS2 and GazeboSim.
- Implemented and evaluated state-of-the-art SLAM algorithms, including LIO-SAM, RTAB-Map, and D-LIO, in complex, custom-designed simulation environments.
- Contributed to the model testing phase for object detection using DETR in a simulation setting.
- Worked on 3D path planning using the D*+ Planner for the quadraped robot within the simulation environment.

Junior Robotic Software Engineer — DyrobX Robotic

Oct' 24 - Dec' 24

- Enhanced autonomous mobility capabilities of robots using ROS2 and Gazebo simulation tools.
- Actively engaged in both hardware and software domains, focusing on sensor data processing, route planning and autonomous navigation.
- Achieved ROS2 integration with microcontrollers via Micro-ROS to streamline communication between systems.
- Developed solutions by improving environmental sensing abilities, enabling robots to perform independent tasks.

LANGUAGE

English - B2

YOKDIL-25/1: 75.00/100

PROJECTS

Ackermann Steering System Simulation (ROS2, GazeboSim, Nav2, SLAM, Autonomous Vehicle, Github)

- Developed a vehicle simulation with Ackermann steering dynamics in GazeboSim Harmonic, integrating ROS2 for real-time sensor data processing. Implemented SLAM, AMCL and Nav2 for localization, mapping and autonomous navigation while exploring various path-planning algorithms. Project received [175+ GitHub stars](#), demonstrating community impact.

Implementation of Multi-Sensor SLAM Techniques in ROS2: Drone and Quadraped Simulation for Dynamic Environments (ROS2, GazeboSim, RTAB-MAP, LIO-SAM, D-LIO, VSLAM)

- Developed and simulated drone and quadraped robots using ROS2, implementing various SLAM techniques such as LIO-SAM, RTAB-Map, DLIO for real-time mapping and localization with 3D LiDAR and IMU. This project enhanced autonomous navigation, sensor fusion and the accuracy of environment mapping in complex robotic simulations.

IoT-Based Smart Water Bottle - TUBITAK 2209-A (IoT, ESP32, Real-Time Data Processing, Mobile App,AI)

- Developing WaterMate, an AI-powered smart hydration system using ESP32, IMU and other sensors. The system features contactless water level sensing for improved hygiene, BLE wireless communication, and offline data storage with cloud synchronization. Implemented AI-based personalized coaching that adapts to user activity patterns. Focused on embedded systems design, low-power optimization, and reliable IoT communication for health monitoring applications.

📄 For my other projects, check my [Github account](#).

ACHIEVEMENTS

2247 - C STAR-Intern Researcher Scholarship Programme - TUBITAK

I have been selected for the 2247-C STAR Intern Researcher Scholarship Program, organized by TUBITAK BIDEB. This program allows undergraduate and graduate students to take part in scientific research projects while receiving financial support. Through this opportunity, I will gain hands-on research experience and strengthen my academic and technical skills.

REFERANCES

Prof. Dr. Aysegul Ucar (she/her), PhD Senior Member of IEEE

Professor of Engineering Faculty, Mechatronics Engineering Department of Firat University

E-mail: agulucar@firat.edu.tr

Expertise: Artificial Intelligence, Autonomous Technologies, Robot Vision, Human-Robot Interaction

Note: Supervisor in the TUBITAK STAR Researcher Support Program