

Barkın SARIKARTAL

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Education

Çankaya University

Sep 2021 – June 2026

B.Sc. in Computer Engineering (100% Scholarship)

CGPA: 3.04

Experience

Çankaya University

Mar 2024 – June 2026

IT Department – Part-Time Student

- Worked as a part-time developer in the IT Department, contributed to university-level system development.
- Collaborated with a teammate to design and implement real-world embedded and software systems.
 - Fleet Tracking System:** Developed a live tracking system for the Çankaya University's bus fleet. The system is built using an ESP32 microcontroller and a SIM7600 4G module for communication, and interacts with the university's servers via a REST API; assigned by the Board of Trustees of the university.
 - Handheld RFID Card Reader:** Developed a Wi-Fi-enabled handheld RFID validator terminal for security guards at the university's main gate. In operation since January 2025; assigned by the Board of Trustees of the university.

ASELSAN

Jun 2025 – Jul 2025

Intern

- Worked on wireless communication protocols such as Wi-Fi, Bluetooth Classic and ESP-NOW with the ESP32 microcontroller and created fundamental test applications.
- Test applications: <https://github.com/barkinsarikartal/ESP-IDF-Projects>

Deneyap Türkiye

Sep 2023 – Dec 2023

Instructor of Electronic Programming and IoT

- Following a 14-week training program for middle and high school students, a project exhibition was held showcasing projects where students applied what they had learned.

Projects

Helma AI – AI-Powered Elderly Care Assistant (helma-ai.com)

Oct 2025 – June 2026

Developed a multimodal AI-powered mobile application for elderly care that implements emotion recognition using video, audio, and text inputs. The system was built with Flutter, FastAPI, and MongoDB, and includes real-time monitoring, reminders, and caregiver-family interaction workflows.

TinyVoice – Keyword Spotting System (github/ackgz0/tinyVoiceKWS)

Nov 2025 – Jan 2026

Developed an edge AI-based keyword spotting system optimized for microcontrollers by training and comparing deep learning models on the Google Speech Commands dataset, and preparing a DS-CNN model for ESP32 deployment.

ESP32 Based Retro Camera (github/barkinsarikartal/XIAO-ESP32S3-Sense_Retro_Camera)

Feb 2026 – May 2026

A compact digital camera implementation using the Seeed Studio XIAO ESP32-S3 Sense development board and a 2.0" TFT LCD display (ST7789VW). Features high-resolution photo capture, AVI video recording with audio, and a live viewfinder with FreeRTOS multitasking for robust operation. YouTube demo video can be found from GitHub repository.

Push Or Perish (github/29ardayildiz/Push_Or_Perish)

Oct 2024 – Jan 2025

Developed a reflex-based game on the MSP430G2553 using a 7-segment display, two buttons, and two LEDs. Implemented countdown control, input-based winner logic, LED indication, and automatic game restart in an embedded systems environment.

Skills

Programming: C, C++, Assembly, Java, Python, C#, JavaScript, SQL

Embedded Systems: ESP32, ESP-IDF, FreeRTOS, PlatformIO, Arduino, Embedded C

Communication Protocols: UART, SPI, I2C, I2S, TCP/IP, UDP, HTTP/REST, Wi-Fi, Bluetooth, ESP-NOW

Technologies: IoT Systems, Edge AI, TinyML, Flutter

Tools & Platforms: Git, Linux/Bash, EasyEDA, VS Code

Additional

Languages: Turkish (native), English (C1)

Exam Results: ALES - 89 (May 2026), YDS - 75 (November 2025), YKS - Ranking: 22.138/1.627.539 (June 2021)

Personal Traits: Compatible with teamwork, likes to follow technological developments, analytical thinker, fast learner