Yusuf Türker Albayrak

Software Engineering Student | Full-Stack Development | IoT & Embedded Systems

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EDUCATION

Ostim Technical University — *Ankara, Turkey*

2nd Year Student at Software Engineering | *September 2025 – June 2029 (Expected)*

TECHNICAL SKILLS

Languages & Frameworks

- Python — Django, Flask, FastAPI
- JavaScript / TypeScript — Node.js, Express.js
- SQL — PostgreSQL
- C– Embedded System Development

Frontend & Mobile

- React — SPA, component-based UI
- React Native (Expo) — Cross-platform mobile apps
- Flutter — Cross-platform mobile apps

Backend & Cloud Services

- Supabase — Auth, database, real-time APIs
- Firebase — NoSQL (Firestore), hosting, auth
- PostgreSQL

Embedded Systems & Tools

- Arduino & ESP32 — Sensor integration, IoT firmware
- SMT32
- MQTT — Machine-to-machine messaging
- Git — Version control, collaborative workflows

AWARDS & ACHIEVEMENTS

🥈 **Google Developer Groups (GDG) Hackathon 2026 — 2nd Place**
Competed against developer teams across the region; secured 2nd place in this Google-organized hackathon.

🥈 **HSD OSTİMTECH Hackathon 2026 — 2nd Place, Embedded Systems**
Awarded 2nd place in the Embedded Systems category at the Huawei Student Developers OstimTech Hackathon.

LANGUAGES

- **Turkish – Native**
- **English – B1/B2 (Reading, Listening, Speaking, Writing)**

EXPERIENCE & COMMUNITY

Huawei Student Developers (HSD) — OstimTech

Events & Projects Committee Member *2026 — Present*

- Active member of the Events and Projects Committee, organising technical workshops, hackathons, and developer meetups at Ostim Technical University.
- Collaborated with the wider Huawei Student Developers community on engineering projects and knowledge-sharing initiatives.

PROJECTS

EduManager — *Flutter, Clean Architecture, Supabase*
- Built a full-stack education management platform connecting private tutors and students across web, Android, iOS, and tablet from a single codebase.
- Implemented assignment tracking, lesson scheduling, and student progress monitoring backed by a real-time Supabase cloud database.

STM32 Web Simulator Platform — *Docker, Rust (WebAssembly), Monaco Editor, C*
- Developed a browser-based IDE and simulation platform for ARM Cortex-M (STM32F4) microcontrollers, built entirely from scratch.
- Engineered a custom WebAssembly simulation engine in Rust alongside a Dockerized remote GCC compiler backend for real-time firmware execution.

SensorFlow — *Python, SQLite, PostgreSQL*
- Built a hybrid CLI + Web IoT data pipeline platform for ingesting, normalizing, and analyzing sensor data, similar in concept to Databricks/InfluxDB.
- Implemented modular ETL stages including timestamp normalization, z-score anomaly detection, and gap detection.

Satellite Simulator and Ground Station — *Python, TCP Sockets*
- Simulated satellite telemetry and ground station communication over a custom TCP-based protocol with CRC packet validation.
- Built a command-line ground station interface to send commands and monitor live telemetry.

Patient Tracking and Registration System — *.NET 10, Entity Framework Core, C#, SQL Server, Windows Forms*

- Built a desktop patient management system for clinics and rehabilitation centers, handling patient registration, appointment scheduling, and medical history tracking.

- Implemented role-based access control (Admin, Doctor, Nurse, Receptionist), encrypted authentication, and full audit logging for HIPAA-aligned data security.

IoT-Sim — *Python, MQTT, HTTP, Prometheus, asyncio*

- Developed a production-grade CLI tool that simulates hundreds to thousands of virtual IoT devices for backend load testing and MQTT broker validation.

- Implemented multiple load modes (steady, spike, ramp, burst), realistic sensor data generation, anomaly/failure injection, and Prometheus metrics export for observability.

CodeX HealthCare — *React, Node.js/Express, MySQL, Google Gemini AI* — 🏆 2nd Place, Google Developer Groups Hackathon 2026

- Co-developed a full-stack health assistant web app with a 3-person team, featuring medication/lab report analysis, symptom screening, and nearby healthcare facility mapping.

- Integrated Google Gemini for AI-powered medication and lab report interpretation, plus JWT authentication, SMTP/Expo push reminders, and OpenStreetMap-based location services.