

## Ulaş Uçrak

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### Summary

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With a background in computer engineering, specializing in software development and artificial intelligence, focused on building reliable and efficient systems that integrate intelligent solutions with strong programming practices.

### Education

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**Cankaya University, Computer Engineering (4<sup>th</sup> Grade 2<sup>nd</sup> Semester Student)** **2022-2026**

CGPA: 3.90

**TED Ankara College (Middle School & High School)**

**2014-2022**

### Projects

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#### **CanBEE - CANSAT Model Satellite - 1st Place (foundation universities) and 4<sup>th</sup> Place (worldwide) at CANSAT 2025**

- As the Software Team Lead of the CanBEE team, I developed the embedded software and designed the ground control interface for our model satellite in the CANSAT Competition 2025, organized by the American Astronautical Society and sponsored by NASA. Beyond leading software architecture and ensuring real-time system integration, I directly contributed to coding, testing, and implementing mission-critical functionalities. During the two week on site field testing campaign in the United States, I supervised integration while refining the software for optimal performance. Our team ranked first among foundation universities and fourth worldwide.

#### **FitStake - Cursor Ankara Hackathon: Blockchain Edition - 1st Place**

- A Web3 "Stake-to-Fit" platform built in 5 hours. Users stake SOL and earn rewards by completing verified workouts. Real time exercise detection is handled by MediaPipe AI, while smart contracts written in Rust with the Anchor framework manage on chain reward distribution on Solana. The frontend is built with React and communicates with the blockchain via Web3.

#### **Helma AI - HealthMate AI Powered Elderly Care Assistant**

- Contributed to the development of a multimodal elderly care system and took primary responsibility for the LLM reasoning component, designing Turkish conversational prompts and structured JSON outputs for daily routine and health inference.

#### **Understanding Bitcoin Sentiments: Insights from Tweets and Users**

- Developed a machine learning-based system to analyze Bitcoin-related tweet sentiments and their correlation with price trends. Preprocessed datasets, trained predictive models, and created a real-time sentiment analysis application. Also assessed user influence on market predictions, offering insights into the link between social sentiment and financial markets.

#### **BEHSAT - TEKNOFEST**

- As part of a multidisciplinary team at the university, I contribute to the development of a model satellite. My role involves GUI design and embedded code implementation. We are actively preparing for participation in the TEKNOFEST competitions, where our focus lies in crafting a competitive satellite model.

## ReadLens

- This program utilizes Tesseract, Visual Studio, and Espeak technologies to enhance accessibility for visually impaired individuals. By leveraging image recognition capabilities of Tesseract, it extracts text from selected photographs. Espeak then converts this text into audio, providing an audible representation of the material. Developed in C++, the program aims to empower visually impaired individuals by enabling them to access and comprehend information from images through audio.

## Experience

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### SDT Uzay & Savunma Teknolojileri | Candidate Engineer (Part-time)

22.09.2025-Present

- Working on embedded systems and C++ development, focusing on Qt-based desktop applications. Contributing to the design, implementation, and maintenance of software components used in defense and space technologies. Gaining hands on experience in developing reliable, high performance applications within an engineering environment.

### ASELSAN | Intern

25.08.2025-19.09.2025

- In the REHIS Department, focusing on embedded software development and testing. Contributed to hardware software integration using STM32 microcontrollers and developed a custom I2C based communication protocol between STM boards. Gained hands on experience in embedded C programming and debugging.

### Leonardo Türkiye | Intern

24.06.2024-22.07.2024

- Developed and maintained the complete firmware for an ESP32-based IoT device, integrating sensor data collection, wireless communication, and OTA updates. Implemented a Node.js server interface for HTTP-based firmware updates, including version comparison through JSON parsing. Optimized asynchronous HTTP requests for reliable device-server communication, ensuring seamless operation and updates.

### Cankaya University | Undergraduate Assistant (Part-time)

2023-2025

- Assisted students with difficulties in C programming labs, providing guidance and grading assignments.

### Bilkent Cyberpark | Intern

22.01.2024-16.02.2024

- Developed a personal CV website using React during my web development internship, enhancing front-end skills and gaining project management experience.

### Cankaya University | Chairman of the Computer Engineering Society (Volunteer)

2024-2025

- Responsible for organizing and managing events and seminars, coordinating with companies and sponsors, and facilitating communication for task delegation and team coordination as the Chairman of the Board for the Computer Engineering Society.

## Skills & abilities

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- Programming: C, C++, C#, Python, Swift, HTML, CSS, Javascript
- Frameworks: QT, React, .NET, Electron
- Databases: ChromaDB, MySQL, Firebase, Supabase
- Operating Systems and Tools: Windows, Linux, Ubuntu
- Languages: German(A2), English(C1), Turkish(Native)