

EKREM TURAN FIRAT

Undergraduate Researcher | Kraków, Poland

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Educations

AGH University of Krakow

Erasmus, Electrical Engineering

October 2025 – March 2026

Krakow, Poland

Cumhuriyet University

Bachelor of Science, Electrical & Electronics Engineering

September 2024 - Ongoing

Sivas, Türkiye

Cezeri Yesil Technical High School

Technical Diploma, Electrical & Electronics

September 2020 – June 2024

Ankara, Türkiye

Experiences

METU Power Lab

Undergraduate Student

February 2025 – Ongoing

ODTU, Ankara, Türkiye

- Working on the design of power electronics systems such as TI C2000-controlled low-inductance motor drivers for TÜBİTAK and industrial institutions.

IEEE SCU Student Branch

Committee Chairman

November 2024 - Ongoing

Sivas, Türkiye

- Chairman of the PELS (Power Electronic Society) Committee.
- Participated in international symposiums.

Robolink Teknoloji

Electronics Design Intern

June 2023 – August 2023

OSTIM, Ankara, Türkiye

- ESP32 Based Laser CNC motherboard design was done during the internship. PCB design made with Altium Circuit Studio is 4-layered and passive power protection circuits, USB to TTL, Stepper motor drivers etc. circuits were worked on.

Robolink Teknoloji

Electronics Design Intern

March 2022 – August 2022

OSTIM, Ankara, Türkiye

- Stepper Motor Independent Control design was made. The PCB design made with EAGLE is based on a 2-layer board. The aim is to independently produce the pulse signal needed by the driver.
- ESP32 Development board was designed to determine the accuracy of the in-house design processes.

Projects

METU Power Lab

PL Driver Cycloid Board Design

ODTU, Ankara, Türkiye

August 2025 - Ongoing

- Embedded Motor Driver Design for a PCB Motor with a Cycloidal Gear Design, As part of the TÜBİTAK 1001 project, I am working on the design of a 250-watt, low-phase induction TI C2000 series DSP-controlled miniature motor driver.

PL Driver Evaluation Board Design

February 2025 – July 2025

- As part of the TÜBİTAK 1001 project, I participated in the design of a 500-watt motor driver with extensive communication protocols and peripheral connectivity.

Robolink Teknoloji

ESP32 Based Laser CNC Motherboard

OSTIM, Ankara, Türkiye

June 2023 – August 2023

- I designed PCBs for ESP32 based Laser CNCs compatible with GRBL software on 4 layer PCBs.

[ESP32 Developing Board](#)

August 2022

- I was involved in the design of the ESP32 development board designed for testing ESP32 based applications on a 2 Layer PCB within the company.

[Stepper Motor Driver](#)

March 2022 – July 2022

- I designed a PCB for stepper motor control and testing on a 2-Layer PCB without requiring software or an external controller.

Scholarships & Awards

TUBITAK

1001 Program Undergraduate Researcher Scholarship

April 2025 – Ongoing

Memberships & Organizations

IEEE PELS

Student Member

December 2024 – Ongoing

Skills

PCB Design *Altium, KiCad, EAGLE, Proteus, Circuit Studio*

3D Design *Fusion 360*

Simulation *LTspice*

Languages

Turkish *Mother Tongue*

English *B2*

Polish *A1 (Beginner)*