

# EKREM TURAN FIRAT

Power Electronics Design Engineer Candidate

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## Education

**Bachelor's Degree in Electrical and Electronics Engineering | AGH University of Science & Technology**

2025 – 2026

- Within the scope of Erasmus+, the right to receive education in Krakow, Poland through an exchange program in the fall semester of the 2025-2026 academic year has been gained.

**Bachelor's Degree in Electrical and Electronics Engineering | Sivas Cumhuriyet Üniversitesi**

2024 – Ongoing

- I was accepted to the university as the top student of my department, Grade Point: 3.27
- IEEE Student Branch PELS Committee Chairman

**Electrical-Electronics Technology Technical Degree | Cezeri Green Technology Vocational and Technical High School**

2020 – 2024

- Grade point average: 87/100
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## Experience

**Undergraduate Researcher | METU Power Lab | Ankara/Sivas(Hybrid)**

February 2025 – Ongoing

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

**Committee Chairman | IEEE SCÜ Student Branch | Sivas**

November 2024 – Ongoing

- I served as the chairman of the PELS (Power Electronic Society) Committee.
- Participated in international symposiums.

**Avionic Design Team Lead | Alpina Roket | Sivas**

October 2024 – Mart 2025

- I am served in the design of the Flight Control Computer and Payload Control Computer.

**Electronic Design Intern | Robolink Teknoloji | Yenimahalle, Ankara**

March 2022 – August 2022 | June 2023 – August 2023

- I took part in PCB designs for sale on topics such as Laser CNC controllers, Stepper Motor Drivers, Pulse Generators, ESP32.
- Competencies such as SMD Soldering, Oscilloscope Usage, PCB Testing stages were acquired.

## **Founder | Mergen Elektronik | Etimesgut, Ankara**

June 2021 – Ongoing

- Personal project sharing platform | [mergenelk.com](http://mergenelk.com)

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## **Projects**

### **Driver Design for PCB Motor with Internal Cycloid Gearbox | METU Power Lab**

February 2025 – Ongoing

- The TI C2000 series DSP controlled advanced motor driver design has a 500 Watt Half Bridge topology.

### **Rocket Flight Control Computer| Alpina Roket**

December 2024 – February 2025

- I designed a flight control computer based on STM32F411CEU6 microcontroller on a 6-layer PCB to be used for the operational needs of a rocket.
- [Project Documents](#)

### **Switched Power Supply Design (SMPS) | Mergen Elektronik**

June 2024 – October 2024

- I designed a power supply with a 150Watt AC-DC 0-30V output range on a 4-layer PCB.
- [Project Documents](#)

### **ESP32 Based Laser CNC Motherboard | Robolink Teknoloji**

June 2023 – August 2023

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

### **Stepper Motor Driver | Robolink Teknoloji**

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.
- [Project Documents](#)

### **ESP32 Developing Board | Robolink Teknoloji**

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.
- [Project Documents](#)

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## **Memberships & Organizations**

### **Institute of Electrical and Electronics Engineers(IEEE)**

- Student Member
- Power Electronic Society(PELS) Student Member

**3. Uluslararası Enerji Günleri | Emerjide Yapay Zeka Sempozyumu | SCÜ 100. Yıl Kültür Merkezi**  
December 2024

- I worked as a technical team member and stand attendant in the organization.

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## Language Skills

### English

- Listening: B1 | Reading: B2 | Speaking: B1 | Writing: B2
- Sivas Cumhuriyet University Erasmus Language Exam:
  - Written Exam: 86/100
  - Oral Exam: 70/100

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## Digital Skills

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|-------------------|-------------|
| • Altium Designer | • Fusion360 |
| • Autodesk EAGLE  | • AutoCAD   |
| • KiCad           | • LTspice   |
| • Proteus         | •           |