EKREM TURAN FIRAT

Power Electronics Design Engineer Candidate

Ankara / Sivas | + (90) 532 059 5002 | ekremturanfirat@hotmail.com |
www.linkedin.com/in/ekremturanfirat | www.github.com/ekremturanfirat

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Education

Bachelor's Degree in Electrical and Electronics Engineering | Sivas Cumhuriyet Üniversitesi
2024 – Ongoing

- Entered the university as the top student in the department based on points, Grade point average: 3.27
- IEEE Student Branch PELS/PES Comittee Chairman

Electrical-Electronics Technology Technical Degree | Cezeri Green Technology Vocational and Technical High School
2020 – 2024

- Grade point average: 87/100

Experience

Undergraduate Researcher | METU Power Lab | Ankara/Sivas(Hybrid)
February 2025 – Ongoing

- I am involved in academic and commercial product studies within the laboratory on the design of TI C2000 based low phase induction motor drivers, design and driving of PCB motors and cycloid motors with Assoc. Prof. Dr. Ozan Keysan and his team.

Avionic Design Team Lead | Alpina Roket | Sivas
October 2024 – Ongoing

- Flight Control Computer and Payload Control Computer designs were made.

Committee Chairman | IEEE SCÜ Student Branch | Sivas
November 2024 – Ongoing

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

Electronic Design Intern | Robolink Teknoloji | Yenimahalle, Ankara
March 2022 – August 2022 | June 2023 – August 2023

- PCB designs for sale on topics such as Laser CNC controllers, Stepper Motor Drivers, Pulse Generators, ESP32 were made.
- 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

Projects

Rocket Flight Control Computer| Alpina Roket
December 2024 – February 2025

- The flight control computer based on the STM32F411CEU6 microcontroller on the 6-layer PCB has been designed to manage operations such as transmission and recording of data during the flight of a rocket, as well as recovery operations of the rocket.
- Project Documents

Switched Power Supply Design (SMPS) | Mergen Elektronik
June 2024 – October 2024

- A power supply design with a 150Watt AC-DC 0-30V output range was made on a 4-layer PCB.
- Project Documents

ESP32 Based Laser CNC Motherboard | Robolink Teknoloji
June 2023 – August 2023

- PCB design for ESP32 based Laser CNCs compatible with GRBL software was made on a 4-layer PCB.

Stepper Motor Driver | Robolink Teknoloji
March 2022 – July 2022

- A PCB design was made 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
Ağustos 2022

- 2 An ESP32 development board has been designed for testing ESP32 based applications within the company on a 2-Layer PCB.
- Project Documents

Organizations

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.

Memberships

Institute of Electrical and Electronics Engineers(IEEE)

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

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

Digital Skills

- Altium
- Autodesk EAGLE
- AutoCAD
- Fusion360
- Proteus
- LTspice