



# ÖMER FARUK ORUÇ

**Work permit:** Turkish | **Date of birth:** 18/10/2000 | **Place of birth:** Balıkesir/ Bandırma, Türkiye |

**Nationality:** Turkish | **Gender:** Male | **Phone number:** (+90) 5445434556 (Mobile) | **Email address:**

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**Address:** Yenimahalle, Ankara, Türkiye, 06000, Ankara, Türkiye (Home)

## ABOUT ME

I hold a degree in Electrical and Electronics Engineering and have gained experience in projects related to avionics hardware, communication systems, data security, and renewable energy. I have a strong interest in artificial intelligence, signal processing, and embedded systems, and I focus on developing innovative solutions that integrate hardware and software.

## WORK EXPERIENCE

**MTK SPACE AND DEFENSE TECHNOLOGIES INC. – SAKARYA, TÜRKİYE**

**MEMBER OF THE BOARD – 02/2024 – 03/2025**

- Contributed to R&D activities within a TUBITAK and KOSGEB supported startup ecosystem.
- Took part in the development of a Hybrid BMS capable of managing multiple battery chemistries under a unified system.
- Participated in design reviews, technical meetings, and representation at events and field activities.
- Tools & Technologies:** C/C++, MATLAB/Simulink, Altium Designer, STM32, Git, PSpice, Driver circuits.

**TURKISH TECHNIC – ISTANBUL, TÜRKİYE**

**AVIONICS INTERN – 06/2023 – 08/2023**

- Supported aircraft maintenance and avionics system testing; troubleshooting and reporting.
- Assisted in the integration of navigation and communication modules.
- Coordinated with international teams and contributed to documentation.
- Tools & Technologies:** Avionics testing setups, multimeter/oscilloscope, basic ERP/CMMS, MS Office.

**MEV AVIATION TECHNOLOGIES – SAKARYA, TÜRKİYE**

**AVIONICS TEAM LEADER – 08/2021 – 09/2022**

- Designed avionics hardware and performed system integration for UAVs.
- Developed stabilization infrastructure using IMU, barometer, and GPS modules.
- Tools & Technologies:** STM32, Altium Designer, Git, sensor integration.

**SASTEC – SAKARYA AEROSPACE TEAM – SAKARYA, TÜRKİYE**

**ELECTRONICS TEAM LEADER – 04/2020 – 08/2021**

- Designed BLDC ESC (Electronic Speed Controller) boards and implemented PWM control.
- Tools & Technologies:** STM32, PSpice, Altium Designer, MOSFET drivers, PWM, system integration.

## EDUCATION AND TRAINING

08/2025 – 01/2027 Sakarya, Türkiye

**M.SC. IN ELECTRICAL AND ELECTRONICS ENGINEERING** Sakarya University

**Website** <https://www.sakarya.edu.tr/> | **Level in EQF** EQF level 7

09/2020 – 07/2025 Sakarya, Türkiye

**B.SC. IN ELECTRICAL AND ELECTRONICS ENGINEERING** Sakarya University

**Website** <https://www.sakarya.edu.tr/> | **Level in EQF** EQF level 6

09/2019 – 06/2020 Sakarya, Türkiye

**ENGLISH PREPARATORY PROGRAM** Sakarya University

**Website** <https://www.sakarya.edu.tr/> | **Level in EQF** EQF level 4

## LANGUAGE SKILLS

Mother tongue(s): **TURKISH**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
<b>ENGLISH</b>	B2	B2	B2	B2	B1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

## CONFERENCES AND SEMINARS

16/10/2024 – 18/10/2024 Ankara, Türkiye

### ASYU 2024 – International Artificial Intelligence Applications Conference

Presented a paper on obesity prediction using machine learning at ASYU 2024. Published in IEEE Xplore.

Link <https://doi.org/10.1109/ASYU62119.2024.10757124>

## PROJECTS

02/2023 – 06/2025

### Secure Data Communication in 5G Networks Using Watermarking

- Data security and user authentication at the physical layer using watermarking.
- 16-QAM modulation in an OFDM carrier structure, AWGN channel, BER/SER analysis.
- **Tools & Languages:** MATLAB (5G Toolbox, Signal Processing Toolbox, Communications Toolbox, DSP System Toolbox), Python (NumPy, SciPy, Matplotlib), OFDM/16-QAM, SHA-1, BER/SER.

Link <https://www.omerfarukoruc.com/projects.html>

02/2024 – 04/2025

### Smart Battery Management System and Hybrid Battery Pack Design

- Embedded system managing three different battery chemistries under a single BMS; algorithm-based charging/balancing.
- **Tools & Languages:** C/C++, MATLAB/Simulink, Altium Designer, STM32. (Under confidentiality agreement)

Link <https://www.omerfarukoruc.com/projects.html>

06/2021 – 06/2022

### Brushless DC Motor (BLDC) Driver Board Design

- MOSFET-driven BLDC ESC; PWM control, current protection, and board testing.
- **Tools & Languages:** STM32, Altium Designer, PSpice, PWM control.

Link <https://www.omerfarukoruc.com/projects.html>

06/2021 – 06/2022

### Flight Control Board Design

- Control board providing flight stabilization using IMU, barometer, and GPS.
- **Tools & Languages:** STM32, sensor fusion, Altium Designer.

Link <https://www.omerfarukoruc.com/projects.html>

## SKILLS

### Programming Skills

Altium Designer | KiCad | PSpice | MATLAB | C++ | Python | Simulink | HTML | CSS | JavaScript | DIALux | Assembly | Ltspice | MultiSIM | AutoCad