

ENES MERCAN

Electrical and Electronics Engineer

Spacecraft Electronics Design Engineer with three years of experience in the space sector, contributing to the successful launch of four satellites into orbit. Proven track record of leading the design, development, and qualification of flight-proven satellite power subsystems and spacecraft sensor electronics across microsatellites, orbital transfer vehicles, and CubeSats. Experienced in cross-functional collaboration, system ownership, and delivering mission-critical hardware from concept through on-orbit operations.

Contact

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Satellites Launched

Navigation Constellation Satellite
FGN-100-D4 (150kg)
Oct, 2026

Orbital Transfer Vehicle
FGN-TUG-S02 (560kg)
Oct, 2026

Navigation Constellation Satellite
FGN-100-D3 (100kg)
March, 2026

Orbital Transfer Vehicle
FGN-TUG-S01 (250kg)
Nov, 2025

Navigation Constellation Satellite
FGN-100-D2 (101kg)
Nov, 2025

Navigation Constellation Satellite
FGN-100-D1 (104kg)
Nov, 2025

Experience

Electrical and Electronics Engineer

Fergani Space Technologies, Oct 2023 - Aug 2026

- Constructed avinocis for 4 microsatellites, 1 CubeSat, and 2 SpaceTugs
- Designed key spacecraft subsystems, including Power Conditioning and Distribution Unit (PCDU), magnetometer sensor unit, Analog Data Handling Unit (ADHU), and Inertial Measurement Unit (IMU)
- Performed spacecraft environmental testing, including thermal vacuum (TVAC) and vibration tests at both equipment and spacecraft system levels
- Owned the complete electronic product development lifecycle, covering literature research and trade studies, requirements definition, schematic and PCB design, manufacturing, electrical and functional testing, environmental qualification (TVAC, vibration, EMI/EMC, SEE, TID), and system-level spacecraft integration
- Developed Software-In-the-Loop (SIL) and Hardware-In-the-Loop (HIL) test benches for spacecraft electrical and functional validation
- Conducted power, thermal, and TVAC testing on the spacecraft PCDU, verifying performance under mission-representative conditions
- Improved spacecraft attitude determination accuracy by designing ultra-low-noise, low-drift precision analog circuits for the ADHU
- Participated in Launch and Early Orbit Phase (LEOP) activities, performing on-orbit power system performance monitoring and troubleshooting
- Prepared Failure Modes and Effects Analysis (FMEA) for electronic equipments in close collaboration with system engineers, supporting system-level risk assessment and mitigation

Engineer Intern

Fergani Space Technologies, Aug 2023 - Sept 2023

- Contributed to R&D hardware development activities across satellite avionics
- Designed 220W synchronous DC-DC buck-boost converter for the satellite
- Conducted electrical load tests on the Power Conditioning and Distrubition Unit of the satellite and documented the test results
- Verified thermal performance of the PCDU boards using lab instruments
- Designed 100W isolated dc-dc converter schematics for COTS converters

Expertise

- Space-Grade Electronic Design
- Embedded C Programming
- Design for Manufacture (DFM)
- Team Working & Communication
- Space Environmental Tests

Technologies

- Altium Designer
- LTSpice
- Proteus
- MATLAB

Awards

- NASA Satellite Design Competition
  3rd Place - 2023
- National Rocket Design Competition
  7th Place - 2023
- Latin American Space Challenge
  2nd Place - 2023
- National Satellite Design Challenge
  4th Place - 2022

Languages Spoken

- **English - Advanced (C1)**
- **Turkish - Native Spoken**

Experience (continued)

Electronics Design Engineer (Scholar)

TÜBİTAK BİLGEM, May 2023 - Aug 2023

- Contributed to R&D hardware development activities across military avionics
- Supported hardware development by preparing detailed technical reports and project documentation in accordance with program requirements.
- Reconstructed and standardized the hardware design library in Altium Designer, enabling efficient reuse across the R&D department.
- Produced harness and interconnection documentation for military electronic boards to support system-level integration and testing.
- Troubleshot and resolved issues on FPGA-based military electronic boards.
- Designed a high-speed data interface board interconnecting IFF and OBC avionics units for a national fighter jet program.

Hardware Design Engineer

DOF Robotics, Oct 2022 - May 2023

- Provided engineering consultancy to R&D team
- Provided idea-to-product hardware solutions to company in industrial applications
- Designed and manufactured robotic control hardware for industrial use
- Prepared technical documentation and user manuals about the hardware I designed
- All the hardware designed in Altium and simulated in LTSpice before manufacturing

Electrical and Electronics Engineering Intern

ASSAN Elektronik İmalat, Aug 2022 - September 2022

- Designed low-noise, precision analogue instrumentation circuitry to acquire external weak analogue signals
- Stable, low temperature-drift constant current generator circuit was designed to perform LED drive test
- Designed hardware-in-the loop simulator board that verifies functions of the electronic products in massive production

Electrical and Electronics Engineering Intern

Digitest Defence & Aerospace, June 2022 - Aug 2022

- Supported engineering team prototyping and soldering electronic boards
- Designed military grade 3-phase 840W motor driver hardware
- Studied and implemented MIL-STD-1275
- Technologies used: IGBT conduction & switching loss calculations, bootstrap circuit design, thermal management and calculations, electronic protection techniques

Education

MSc in Electrical and Electronics Engineering (Resigned)

Istanbul University, 2024 - 2026

- GPA 3.0 out of 4.0
- Focused Courses:
  - Analog Integrated Circuit Design
  - Noise Analysis in Electronic Circuits
  - Digital MOS Integrated Circuit Design
  - Motor Drive Systems

BSc in Electrical and Electronics Engineering

Karadeniz Technical University, 2018-2023

- GPA: 3.1 / 4.0
- Served as team lead in the Space Club, overseeing the design of two sounding rockets and four satellite projects.
- Participated in an 8-month cultural exchange program in the United States, gaining international experience and strong cross-cultural communication skills.
- Selected Coursework:
  - Power Electronic Circuits
  - Electromagnetic Compatibility (EMC)
  - Industrial Electronics
  - Motor Drive Systems