Bilal Antaki

Mechatronics/Electronics Engineer

(+971) 505 39 21 45
bilal.antaki.1@gmail.com
Sharjah, UAE

CAREER OBJECTIVE

Recent Mechatronics and Electronics Engineering graduate seeking an entry-level embedded engineer position. Interested in embedded systems for unmanned platforms, with academic and project experience in control, custom PCB design, and embedded programming. Seeking to apply low-level real-time system programming while developing as an engineer within a professional team.

WORK EXPERIENCE

TEACHING ASSISTANT - Işık University / Istanbul, Türkiye - **Oct 2023 – Sep 2025**

- Assisting in managing Logic Design, Electronics, and Electrical Circuits laboratories.
- Facilitated weekly meetings with the laboratories' lecturers aiming to optimize student engagement and comprehension in future iterations of the course material.

SYSTEM DESIGN INTERN - Arçelik / Istanbul, Türkiye - **Aug 2022 – Sep 2022**

- Worked on SolidWorks to design an apparatus prototype for testing washing machines pumps and inlet valves.
- Worked on EasyEDA and Arduino IDE to design the test circuits according to available components using an Arduino Nano board and a Triac, optocoupler, or a Mechanical relay.

MECHANICAL PRODUCTION INTERN - Arçelik / Istanbul, Türkiye - **July 2022 – Aug 2022**

- Was assigned to list all the malfunctions in the fully-automated Drum production line 5.
- Worked on MATLAB to estimate the 11% welding speed of the welding station.
- Worked on AniX to determine a standard cycle time of assembling a spin button, which was found to be 26.4 seconds non-added value with a loss of 0.7 seconds.

EDUCATION

IŞIK UNIVERSITY - Istanbul, Türkiye - **Sep 2023 – Sep 2025**

- Masters of Electronics and Electrical Engineering. GPA: 3.86/4.00

IŞIK UNIVERSITY - Istanbul, Türkiye - **Sep 2019 – Jun 2023**

- Bachelors of Mechatronics Engineering. Ranked as the second student in the faculty of engineering. GPA: 3.86/4.00

AL SHOLA PRIVATE SCHOOL - Sharjah, UAE - **Oct 2015 – Jul 2018**

- High school Diploma. GPA: 96.23%

SKILLS

Programming
C++, Python, MATLAB.

MECHANICAL
SOLIDOWORKS, XFLR5, FluidSIM, OpenVSP.

ELECTRONICS
EasyEDA, Proteus, KiCAD.

MISCELLANEOUS
MS Office, Inkscape, LaTeX.

LANGUAGES
Native in Arabic, Fluent in English, Intermediate in Turkish.

INTERPERSONAL
Problem Solving, Critical Thinking, Communication, Team collaboration, Leadership.

RECENT PROJECTS

MULTI-SPECTRAL MECHANICAL FILTERING MODULE - Egyptian Engineers Association / Istanbul, Türkiye – **Feb 2025 – Aug 2025**

- Managed 3 teams to compete for TeknoFest 2025 CanSat Satellite Competition.
- Designed the Avionics Schematic diagram by proposing an STMF04 for high frequency sensors data collection and a Raspberry Pi Zero for high-level low frequency decision making for OBC to improve system stability and reliability.
- Programmed the STM controller in C++ for the operation as intended.
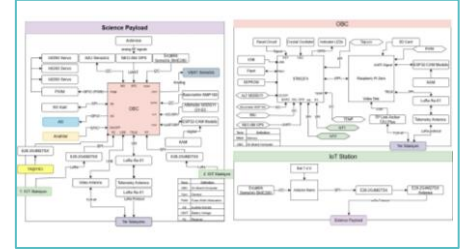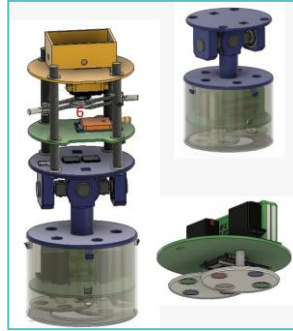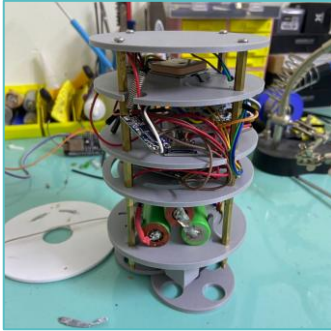
DESIGN OF A UAV FOR MEDICAL SUPPLY DELIVERY- Department of Mechanical Engineering, Işık University / Istanbul, Türkiye – **Mar 2023 – June 2023**

- Designed a secondary Flight Controller using KiCAD software responsible for running high level algorithms, namely Kalman filters and Flight Dynamics Control.
- Replaced the material of the fuselage skin originally made of Aluminum 6061-T6 with Nylon 12 50% Glass Fiber-Filled, which resulted in 7% decrease of the UAV's maximum takeoff weight.
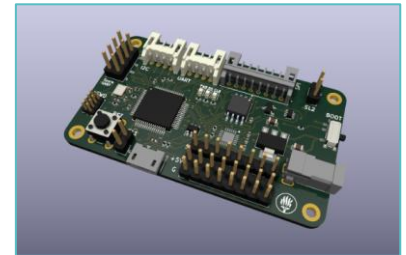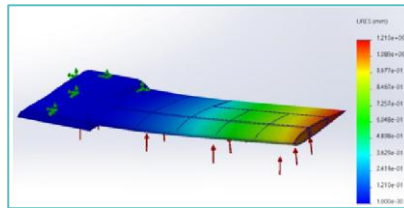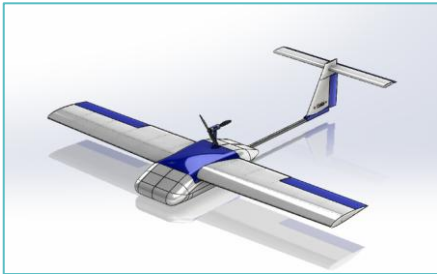
ARDUINO-BASED FLIGHT CONTROLLER FOR QUADCOPTERS - Department of Mechanical Engineering, Işık University / Istanbul, Türkiye - **Nov 2022 – Jan 2023**

- Designed a complementary filter to estimate the current angle of the drone using the accelerometer and the gyroscope to prevent the shift effect caused by the gyroscope, and vibration susceptibility of the accelerometer.
- Mapped the desired rates, from -50°/s to 50°/s, versus transmitter signals, from 1000 μs to 2000 μs.

3-SPEED TRANSMISSION AUTOMOTIVE MANUAL GEARBOX - Department of Mechanical Engineering, Işık University / Istanbul, Türkiye - **Sep 2022 – Oct 2022**

- Worked on ANSYS to verify the maximum teeth stress on the gear transmitting the highest load to be 108 MPa.
- Computed MATLAB code to find the Reaction Forces on the Bearings under the highest loads, 6.19 kN tangential and 2.65 kN radial.

PUBLICATIONS

ANTAKI, B., Dalloul, A. H., & Miramirkhani, F. **(2025)**. Intelligent Health Monitoring in 6G Networks: Machine Learning-Enhanced VLC-Based Medical Body Sensor Networks. *Sensors*, 25(11), 3280. https://doi.org/10.3390/s25113280