Şafak YILDIRIM

Electrical-Electronics Engineer

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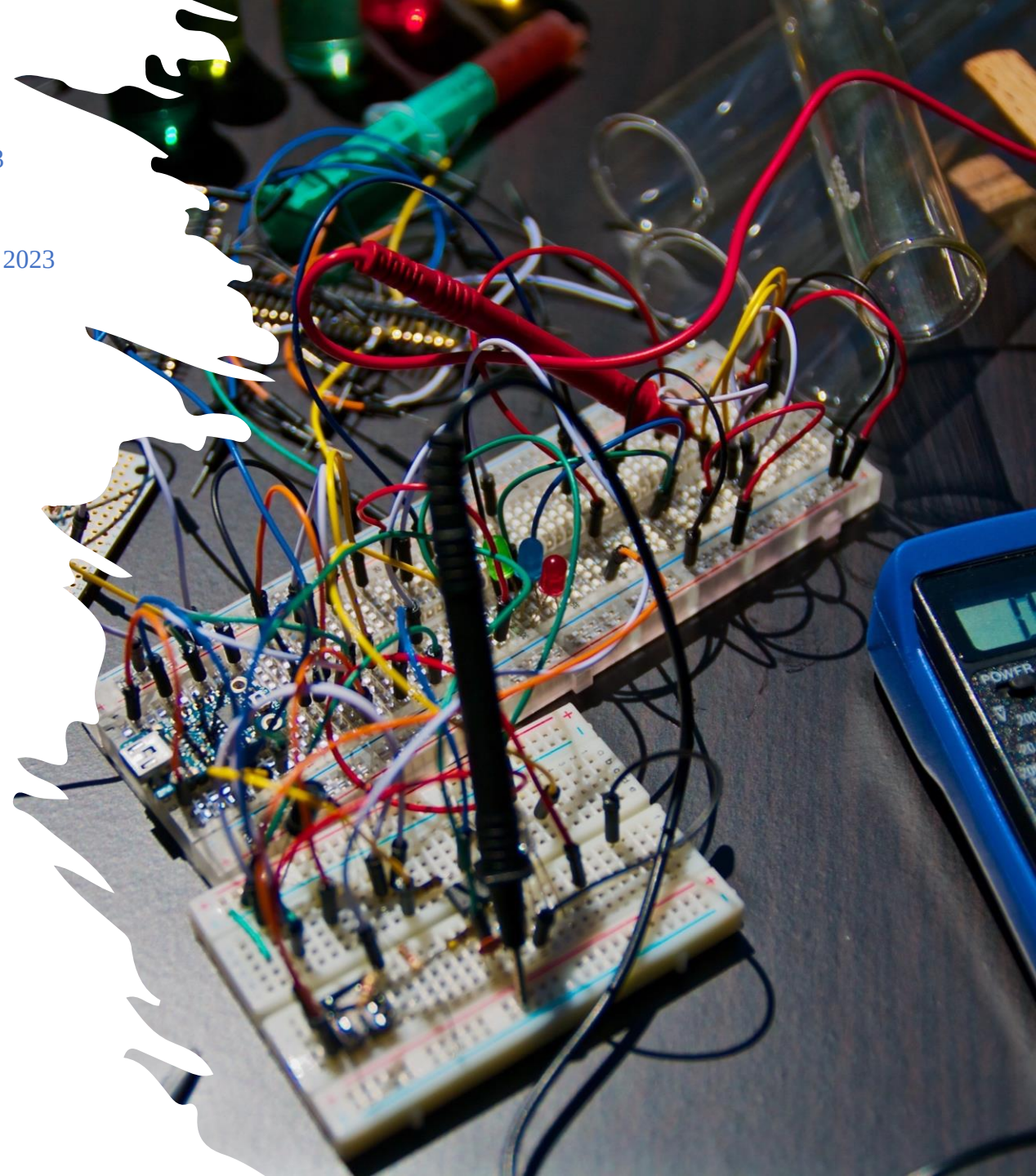
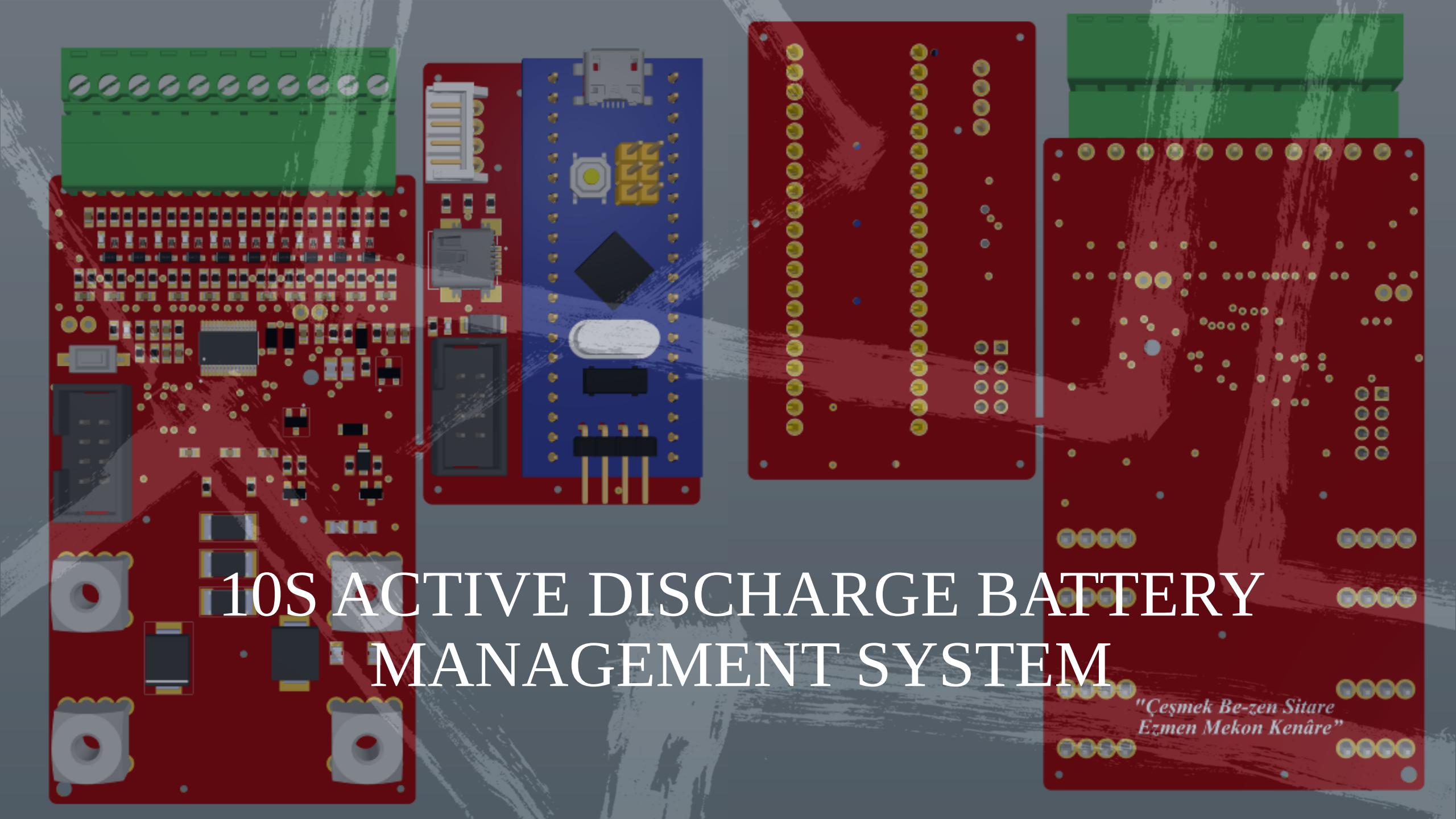
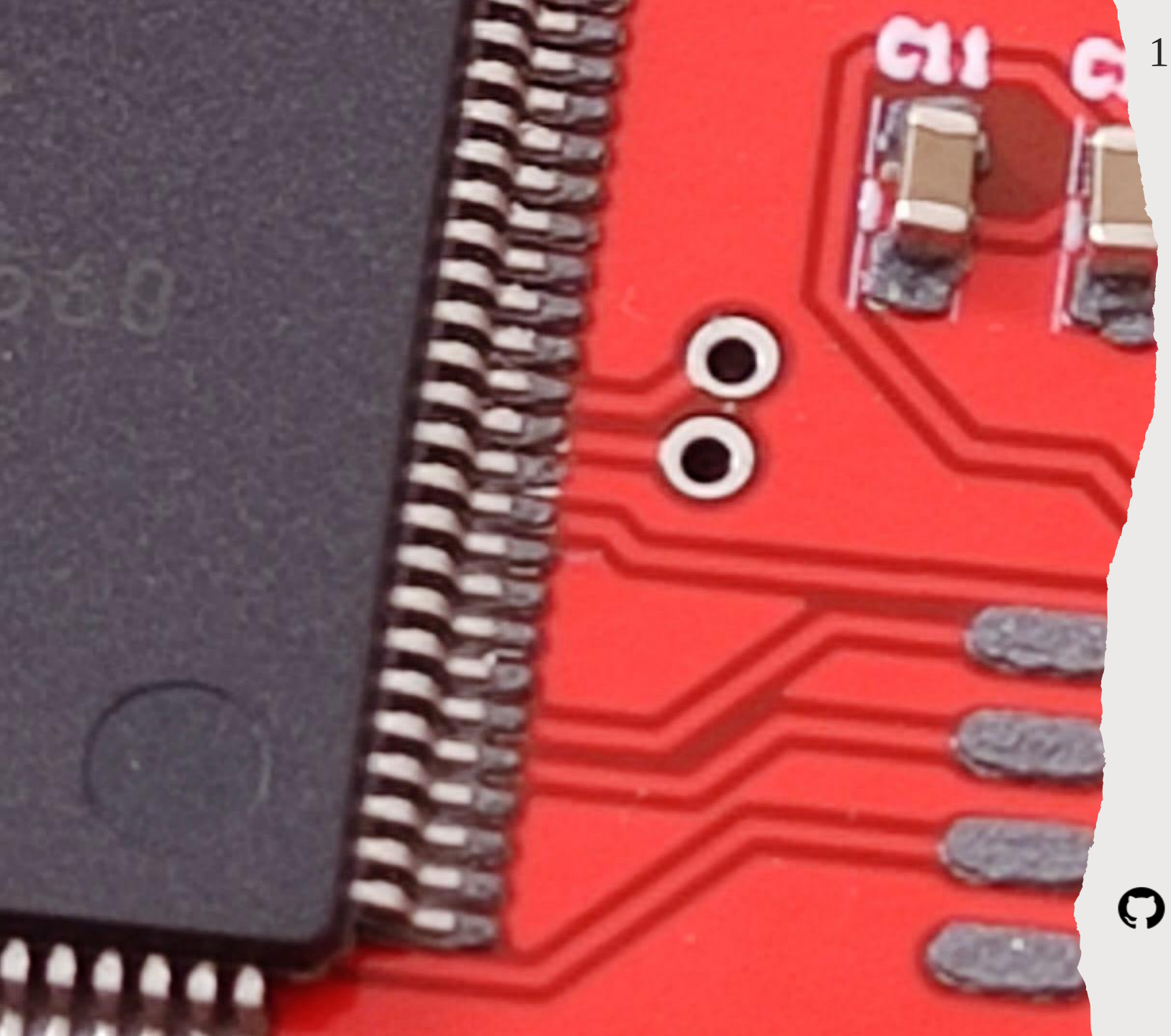
- Selçuk University Faculty of Technology
  Electrical and Electronics Engineering Graduation — November - 2023
- Eti Soda Inc. Instrument Measurement and Control
  Electrical and Electronics Engineer Intern — July 1 month – 2023
- Eti Soda Inc. Instrument Measurement and Control
  Electrical and Electronics Engineer Intern — February 3 month – 2023
- 10S Battery Management System Senior Thesis — December - 2022
- Active Sonar Design Engineering Design and ROV — April - 2022
- Microcontroller Course — April - 2022
- Medium Altitude Rocket - Payload — April - 2022
- Vehicle Control System — July - 2021
- Selçuk University Hybrid Vehicle
  Electrical and Electronics Engineer Intern — July - 2021
- Selçuk University Faculty of Technology
  Electrical-Electronics Engineering Start — September - 2019
- Fatih Vocational and Technical Anatolian High School,
  Electrical and Electronic Technology Field Graduation — November - 2017
- Adularya Inc. High Voltage Direct Current System
  Electrical and Electronics Intern Technician — July - 2017
- Smart Home and Sumo Robot — February - 2017
- PLC and Robotics Application Course — February - 2017
- Adularya Inc. Coil Winding Workshop
  Electrical and Electronics Intern Technician — July - 2016
- Fatih Vocational and Technical Anatolian High School,
  Electrical and Electronic Technology Field Start — July - 2013





10S ACTIVE DISCHARGE BATTERY MANAGEMENT SYSTEM

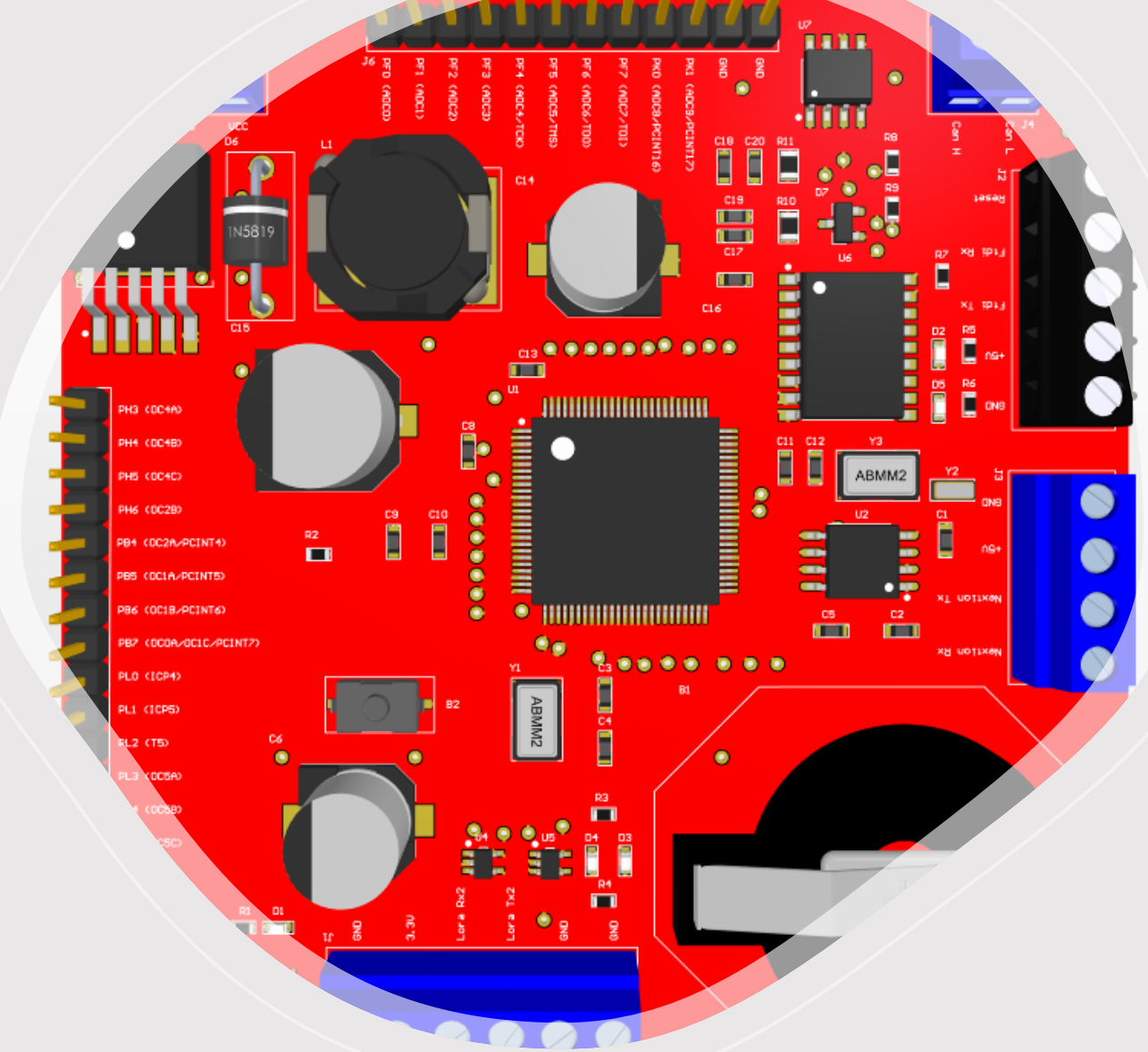


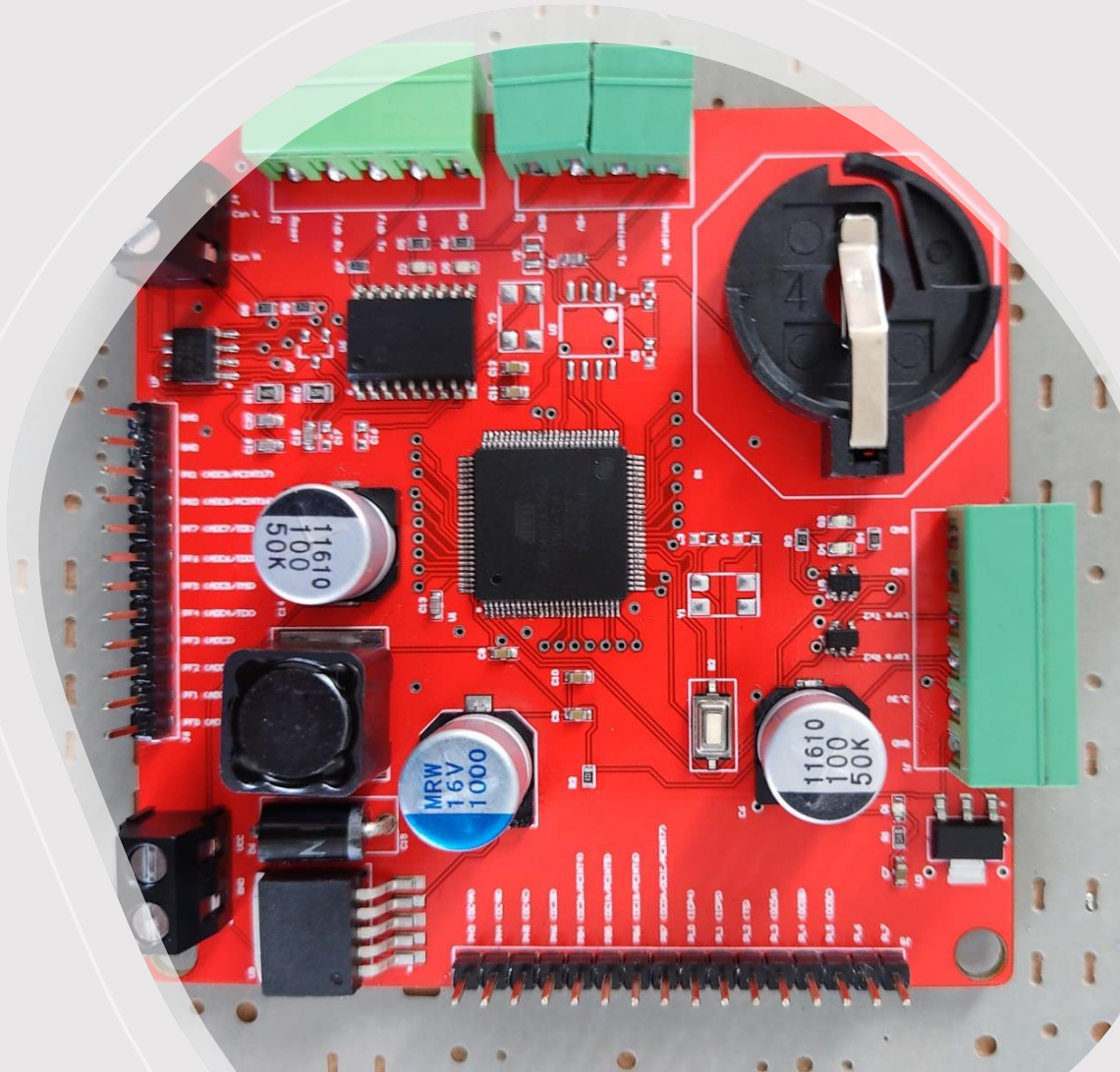
10S ACTIVE DISCHARGE BATTERY MANAGEMENT SYSTEM

Final Project: My graduation project is a Battery Management System with a configuration of 10S 37V. The system incorporates three shunt resistors. It communicates cell current, cell voltage, total current, and total voltage to the user through a TFT screen. The system performs individual cell balancing for each cell. The BQ76930 integrated circuit is employed in the system, with STM32F103C8T6 serving as the MCU. Communication between BQ and MCU is achieved using the I2C protocol.

The visuals and files of the circuit are available on my GitHub profile.

https://github.com/Safakyildirim/Active-Balancing-10S-Battery-Management-System-Drawing-with-Altium





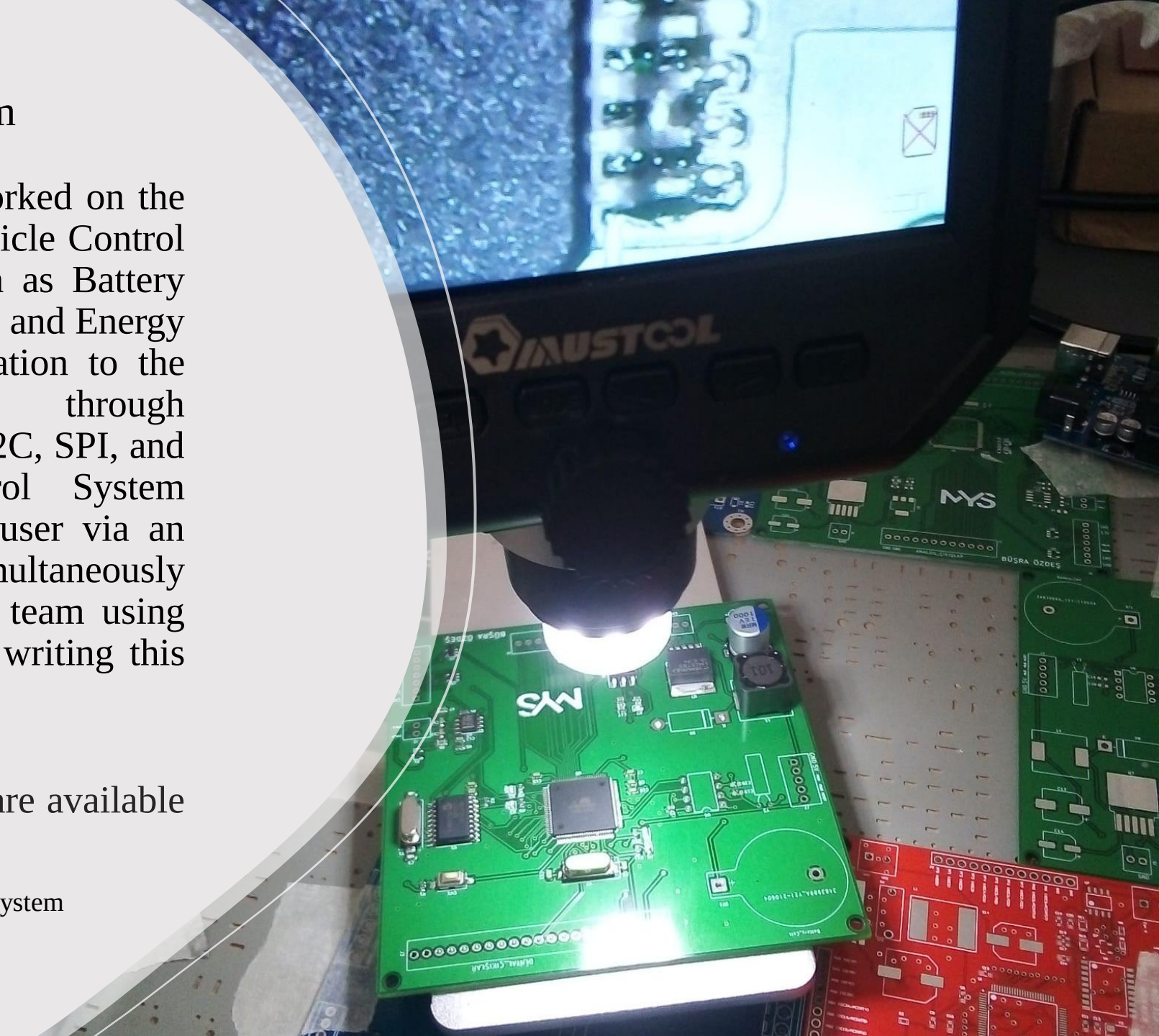
Vehicle Control System

Vehicle Control System

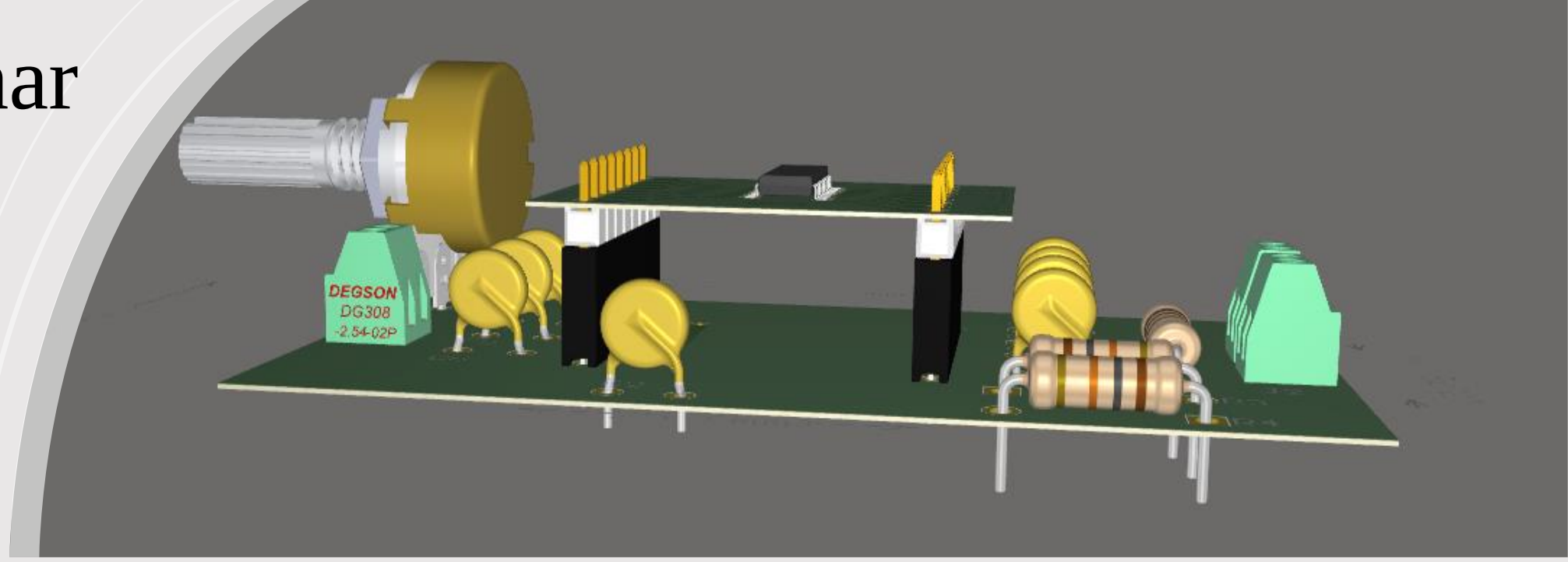
In the Hybrid Vehicle project, I worked on the Vehicle Control System. In the Vehicle Control System, communication units such as Battery Management System, Motor Driver, and Energy Management System send information to the Vehicle Control System through communication interfaces such as I2C, SPI, and Can Bus. The Vehicle Control System communicates information to the user via an SPI-connected TFT screen, and simultaneously transmits wirelessly to the referee team using RF and LoRa for communication, writing this information to an SD card.

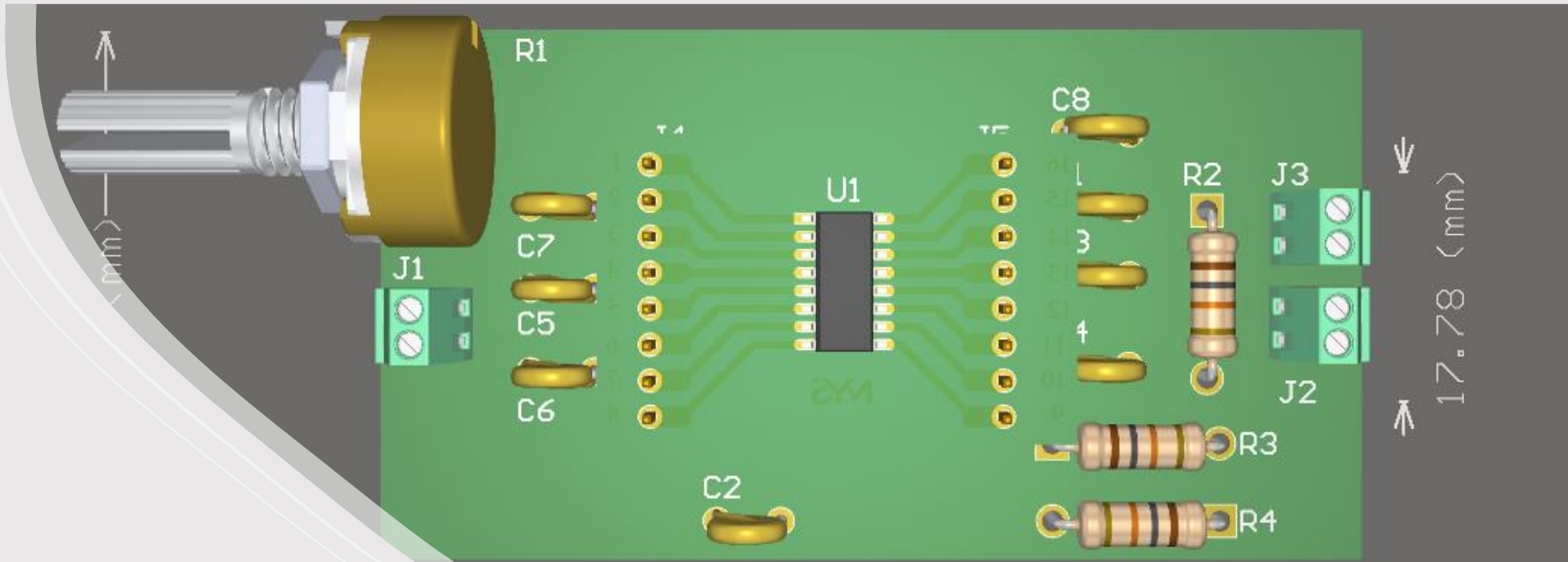
The visuals and files of the circuit are available on my GitHub profile.

https://github.com/Safakyildirim/Vehicle-Control-System



Active Sonar





Active Sonar

My Engineering Design project is an Active Sonar system. The Active Sonar System sends a 40kHz square wave signal to a piezoelectric transducer at 10ms intervals using a logical MOSFET. The transducer converts the piezoelectric signal into sound through vibration. The receiver circuit, utilizing the AD605 amplifier, amplifies the signal from the receiving piezo and performs ADC readings. The MCU used in the project is the PIC 18F4550.

The visuals and files of the circuit are available on my GitHub profile.

https://github.com/Safakyildirim/40-kHz-Active-Sonar-Plot-Software-and-Documentation