PORTFOLIO

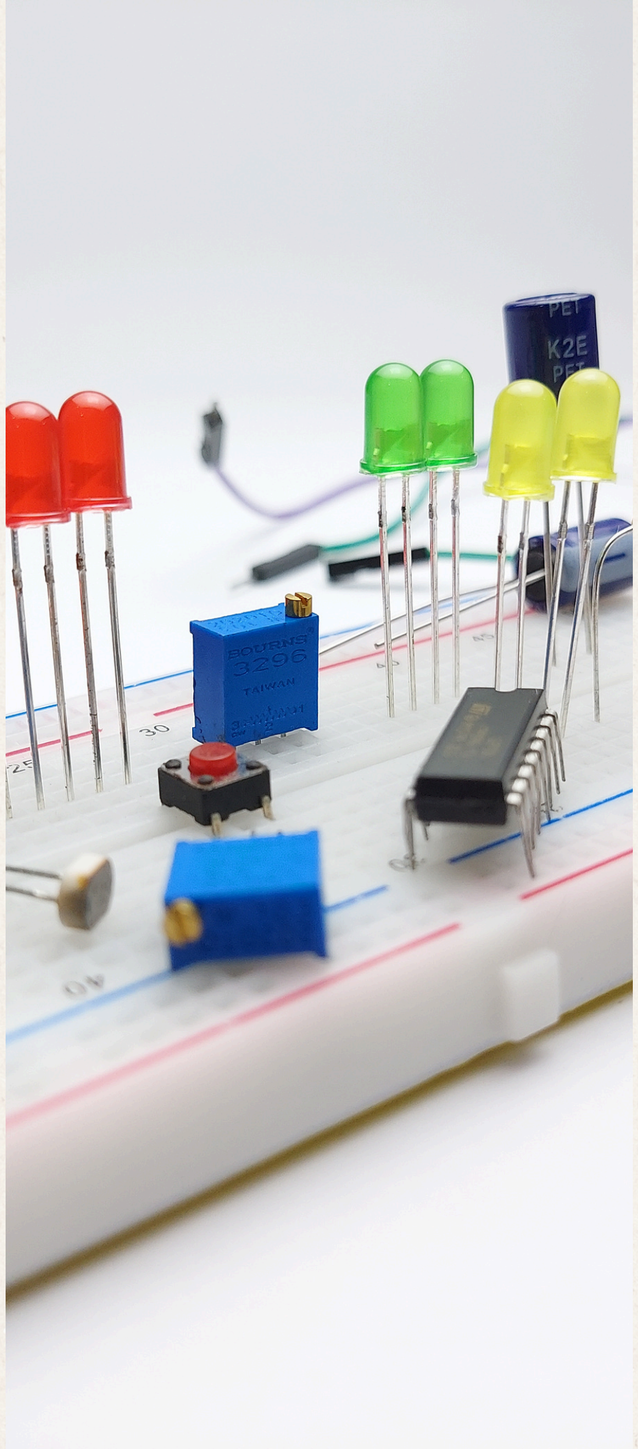
Aslı Kurt

Contents

01 Since my childhood, it has been exciting for me not only to consume technology but also to produce and understand it. The research I have done throughout my education, my knowledge of electronic circuit design and my efforts to install them on breadboards... These have always given me the energy to learn more.

02 I aim to bring together functionality and efficiency in hardware projects, and while paying attention to technical details, I also try to combine with innovation.

03 I have prepared this portfolio with the aim of explaining and presenting the projects I have carried out, as well as reflecting my technical competencies and engineering perspective. At the same time, it serves as a professional reference documenting my continuous learning and development process.



About Me

Hello! I am Aslı Kurt. I graduated from Electrical and Electronics Engineering and I continue to develop myself passionately in the field of hardware design.

Education

Eskişehir Osmangazi University

Bachelor’s Degree in Electrical and Electronics Engineering

Gazi University

Master’s Degree in Electrical and Electronics Engineering

- I focused on **hardware design**, **embedded systems** and **microcontroller-based** projects.
- Throughout my education, I developed many projects where I had the opportunity to combine theoretical background with practice.
- I especially gained experience in circuit design, **PCB design**, **power electronics** and simulation tools (**Proteus**, **LTspice** etc.).
- I developed my teamwork, problem-solving and project management skills with university projects.

Experience

Engineer Intern

1. Hava Bakim Fabrika Mudurlugu | 2022

- Assisted in determining the electrical plan of the facility to optimize factory operations.
- Analyzed various electrical schemes to ensure efficiency and reliability.
- Examined and integrated communication protocols such as **RS-232, RS-485, RS-422,** and **ARINC-429** for efficient data transmission and system interoperability.

Engineer Intern

Anadolu University Construction and Technical Department | 2022

- Conducted research on photovoltaic panel-based projects, exploring renewable energy applications.

Engineer Intern

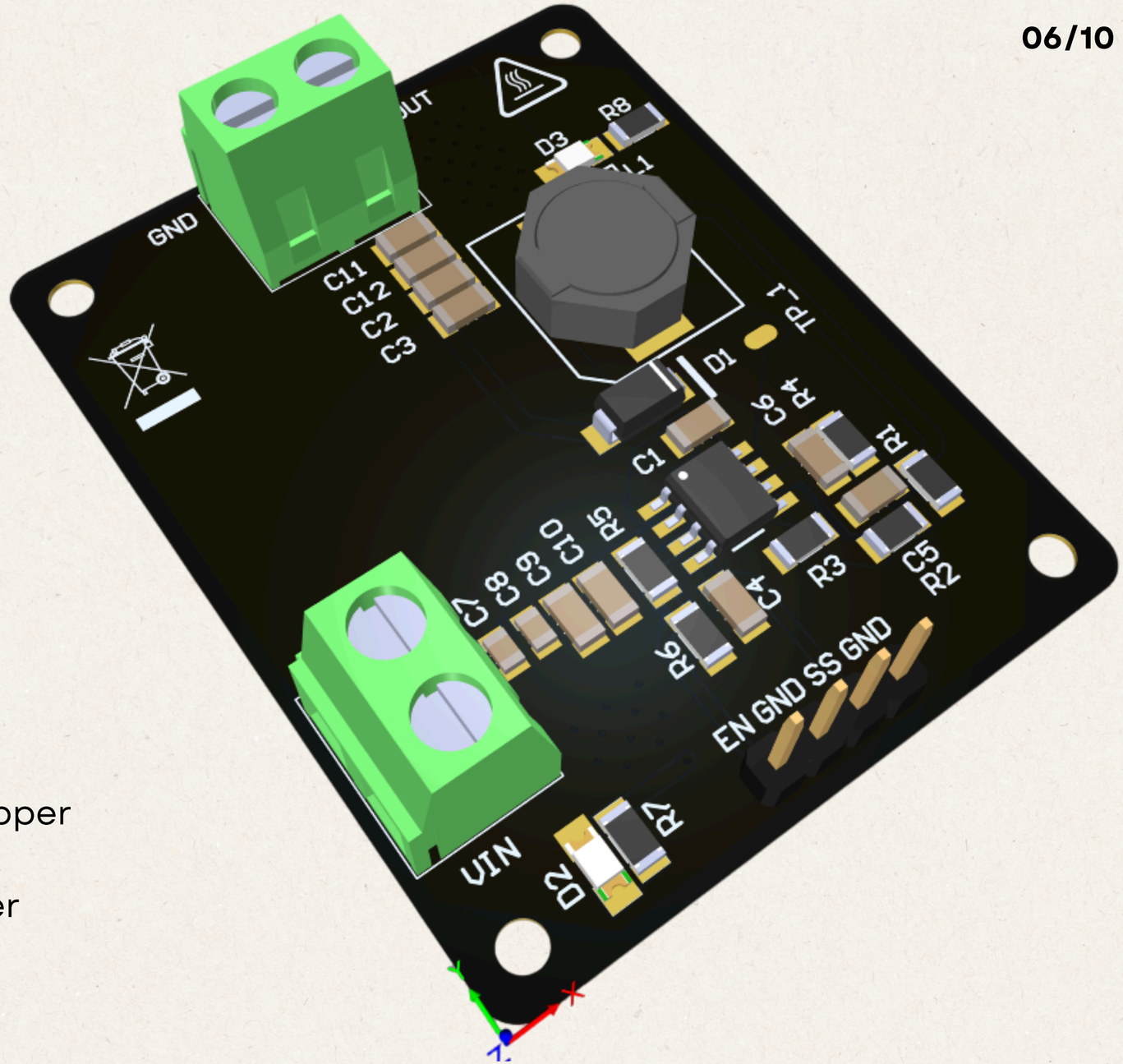
Baykar Technologies | 2023

- Designed and developed an Excel VBA interface to streamline tracking and planning processes for UAV production.
- Improved production efficiency and error reduction by optimizing workflow management.
- Gained knowledge of proper conduct in UAV production areas, with a focus on **EMI, EMC,** and **ESD protocols**, while also acquiring fundamental aviation knowledge.

Project 1

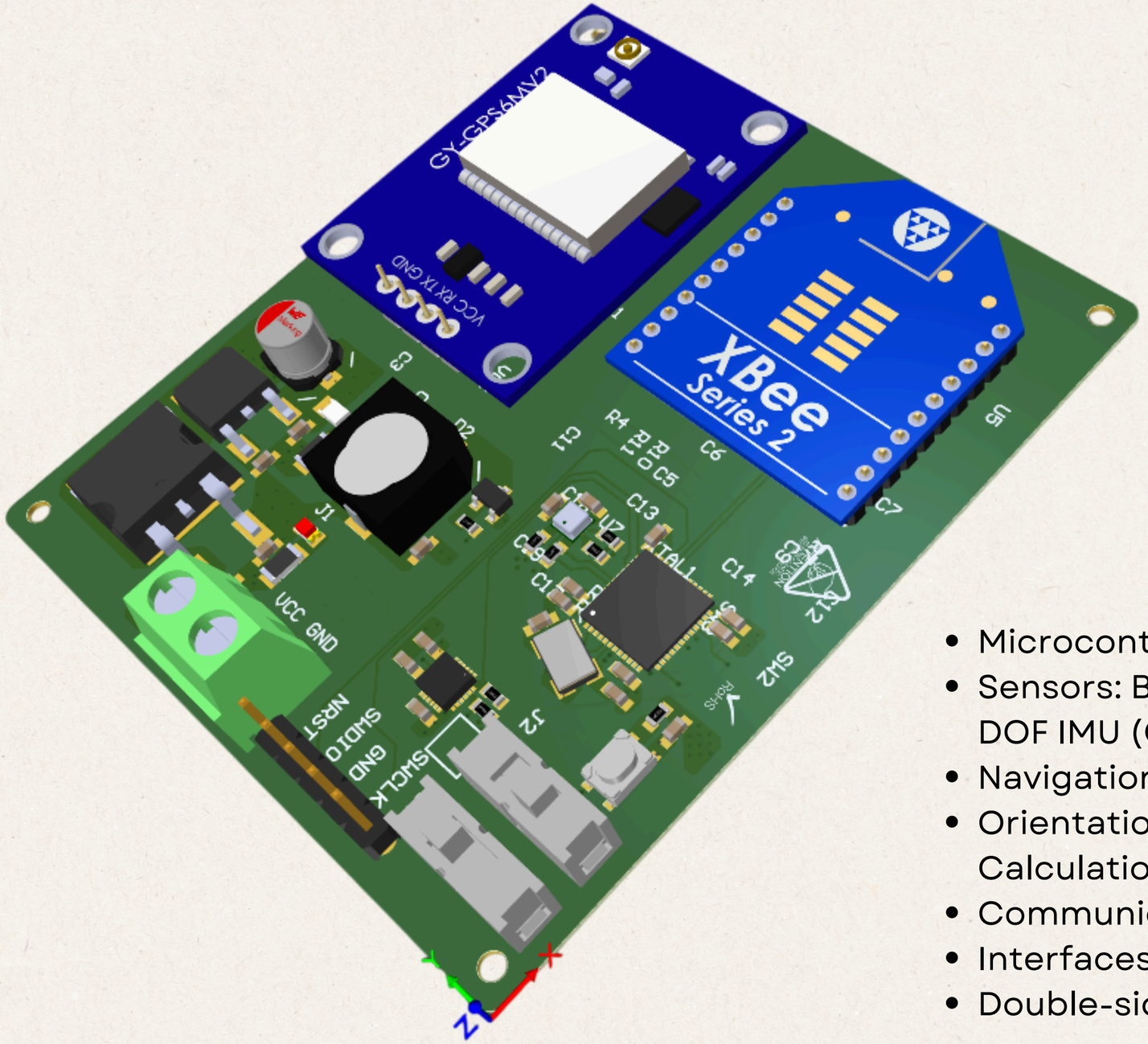
Step-Down DC-DC Buck Converter

- Asynchronous Buck Converter
- High Efficiency (Switching, not heat dissipation)
- Input Voltage: 7V-25V DC
- Output: 3V3, 3A DC
- Thermal Management (Thermal vias, Copper plates), EMI Reduction, Current Sense
- Double-sided PCB with Grounded Copper Plates



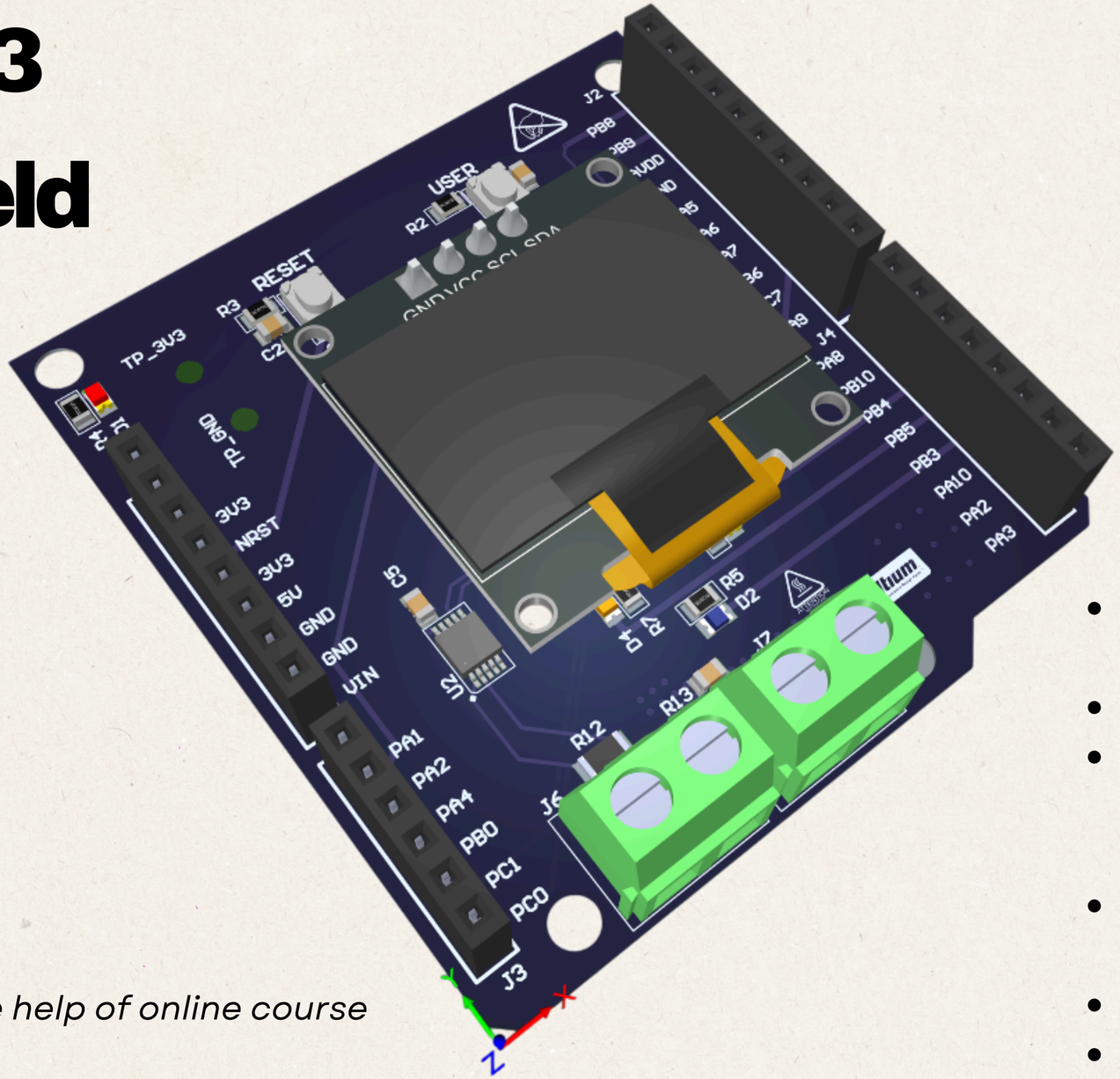
Project 2

Flight Computer for Mid-Altitude Rocket



- Microcontroller: STM32F401CCU6
- Sensors: BME280 (Temperature, Pressure, Humidity), 9-DOF IMU (Gyroscope, Accelerometer, Magnetometer)
- Navigation: GPS Module
- Orientation & Altitude: Yaw, Pitch, Roll, Velocity, Altitude Calculation
- Communication: Telemetry via XBEE S2C Pro (Wireless)
- Interfaces: SPI, I2C, UART, GPIO
- Double-sided PCB with Grounded Copper Plates

Project 3
I2C Shield



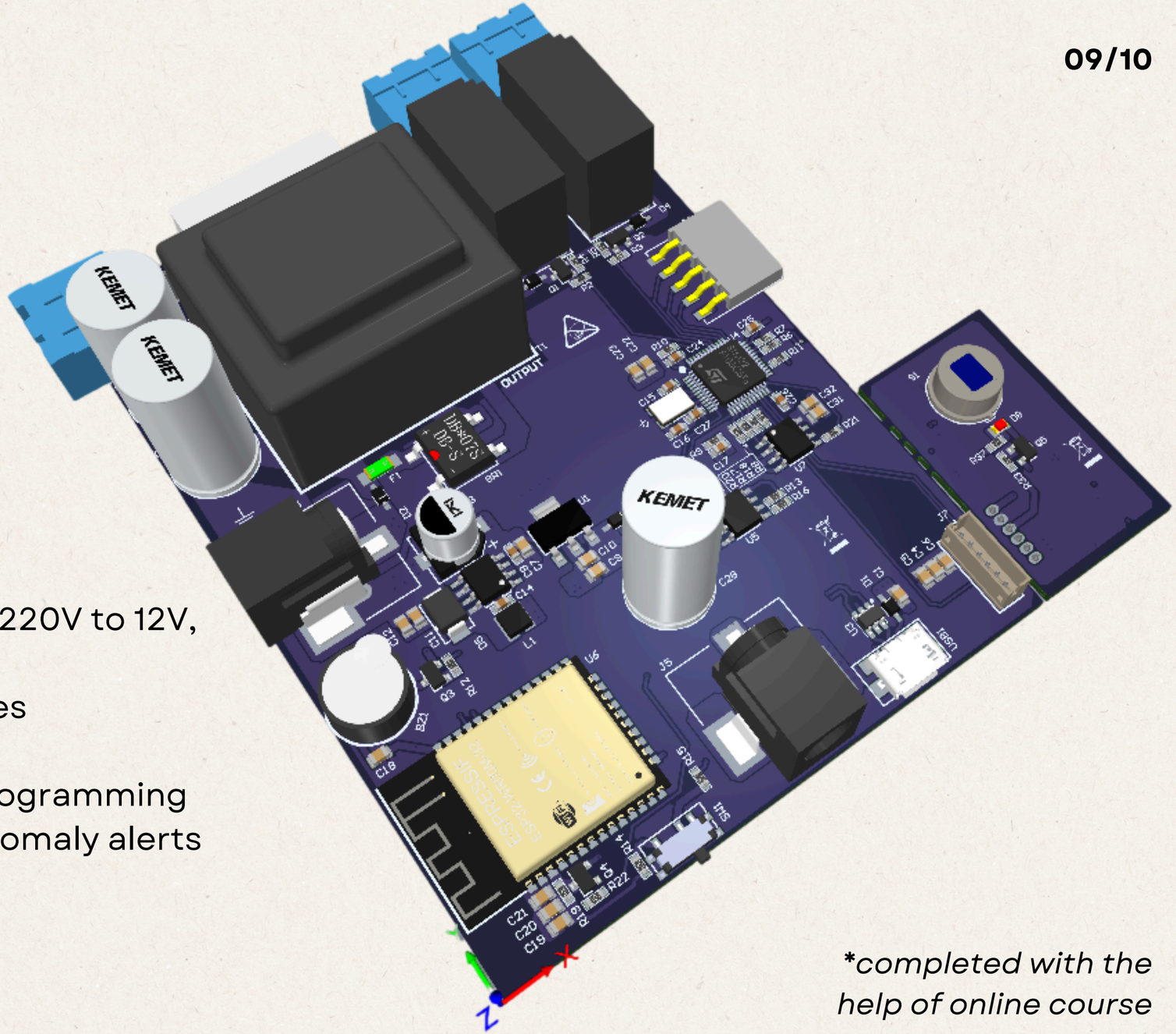
- NUCLEO-F411RE (Arduino UNO Pin Compatible)
- Communication: I2C
- Voltage, Current, Temp Monitoring (14-bit ADC, 4 channels)
- 3-Axis Accelerometer (±2g to ±16g range)
- OLED Display – I2C Interface
- Noise Suppression

**completed with the help of online course*

Project 4

Wireless Security Detector

- Sensors: PIR Motion, Temperature
- Communication: Wi-Fi
- Power Supply: AC-DC Conversion (220V to 12V, 5V, 3.3V)
- Outputs: 12V, 5V for external devices
- Alarm: Buzzer
- Control: Relay for lights, USB for programming
- Security Features: Temperature anomaly alerts



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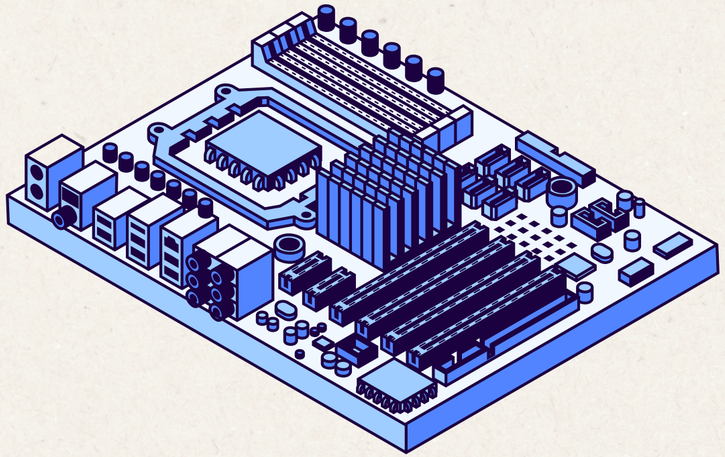
Thank you!



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