

# RAUF EMRE ERKILETLIOGLU

## PERMANENT ADDRESS

150S Chauncey Ave.  
Apt: 646  
West Lafayette, IN 47906

(765)-772-8215

[www.rerkilet.com](http://www.rerkilet.com)  
[rerkilet@purdue.edu](mailto:rerkilet@purdue.edu)

## ONLINE PRESENCE

LinkedIn/[rerkilet](#)  
GitHub/[Rerkiletli](#)  
YouTube/[@rerkiletli](#)

## OBJECTIVE

Electrical Engineering graduate from Purdue University with Economics minor and hands-on experience in hardware design, RF systems, and embedded electronics. Proven track record with home lab management, software-defined radios, radioastronomy, automotive electronics, custom FPV drones, and PCB design. Seeking entry-level hardware engineering roles to contribute technical skills and creative problem-solving abilities.

## EDUCATION

**Purdue University**, West Lafayette, IN  
Bachelor of Science in Computer and Electrical Engineering  
Concentration: Microelectronics and Semiconductors  
Minor: Economics  
GPA: 3.10 / 4.00

August 2021

**Relevant Coursework:** Digital Design, Circuit Analysis, Electromagnetics, Microcontrollers, Semiconductors.

**Technical Skills:** C, C++, MATLAB, 3D Design, Python, LTspice, KiCAD, Ansys, BenchVue, PCB Design, Embedded Systems.

## RELEVANT EXPERIENCE

### ECE Labs, Purdue University

May 2023 – Present

#### Hardware Team Lead

- Led and administered the ECE Labs Hardware Team, coordinated lab operations, architected containerized server infrastructure, and managed a network of 60+ Raspberry Pi devices for FPGA development.
- Supervised technical team members and VIP students while prioritizing and delegating critical tasks.
- Designed and implemented complex multi-layer PCBs including iCE40 FPGA dev. boards, RP2040 microcontroller systems, high-frequency streaming platforms, and multi-peripheral interfaces (VGA, I2S2, PS2) to support student learning objectives.
- Engineered embedded C/C++ libraries including an iCE40 CRAM configurator with RP2040 PIOs for bitstream management, MCP23017 interface, high-frequency IO expansion systems, and custom WebUSB for RP2040 platforms.

### Purdue System-on-Chip Extension Technologies (SoCET), Purdue University

September 2022 – February 2025

#### Hardware Team Lead

- Headed the design, engineered development, directed manufacturing, coordinated assembly, and supervised testing processes for evaluation PCBs supporting AFTX0ns and other SoCET SoCs, ensuring reliable hardware interfaces for critical verification tasks.
- Managed and mentored the PCB team comprising VIP/SCALE students; established task assignments, evaluated deliverables, and created a learning environment that encourages students to explore personal interests through independent PCB design projects.
- Developed comprehensive technical documentation for AFT-X04 and AFT-X05 PCBs, incorporating detailed testing methodologies; created intro to PCB design materials to accelerate onboarding for the Intro to SoCET team.
- Executed and completed full design-to-manufacture cycles for AFT-X04 and AFT-X05 testing PCBs, delivered functional validation platforms achieving all technical specifications and meeting timeline requirements.

## DESIGN PROJECTS

### Car Black Box, Purdue University

January 2025 – May 2025

- Architected and constructed comprehensive vehicle data logging system integrating accelerometers, gyroscopes, GPS, and CAN transceivers for real-time automotive telemetry capture and archival to SD card storage for accident analysis.
- Formulated and fabricated companion simulation and emulation platform leveraging Unity engine and Google Earth API to accurately render recorded incidents and produce synthetic crash scenarios for testing without requiring physical accidents

### Post Earthquake Response System, Self-Administered

May 2023 – July 2023

- Engineered and developed mesh-IoT-based structural health monitoring system utilizing ultra-high-resolution accelerometer and LoRa transceiver equipped PCBs to detect and report post-earthquake building integrity issues.
- Designed and deployed dual-purpose emergency communication infrastructure enabling trapped survivors to transmit text messages to authorities over the LoRa network, notably enhancing disaster response capabilities.

## LEADERSHIP

### Purdue Turkish Student Association (PTSA), Purdue University

March 2023 – March 2024

- Served as Social Event Director for Turkish Student Association at Purdue, facilitated diverse cultural celebrations, organized community service projects, and collaborated networking events while collaborating with team members to build engaging experiences fostering community connection and showcasing Turkish traditions.