

# Ethan Baker

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## EDUCATION

### University of Central Florida

*Bachelor of Science in Computer Engineering*

Orlando, FL

Expected Aug 2026

## EXPERIENCE

### Undergraduate Research Assistant

Sep 2025 – Present

*University of Central Florida, Eclipse Lab*

- Designed custom PCBs for Heater Harness circuits using Kicad.
- Manufactured wiring harnesses to connect variable heater amounts to controller circuit

### Undergraduate Teaching Assistant - ECE Design Lab

Aug 2025 – Present

*University of Central Florida*

- Led weekly lab sessions, guiding students in developing voltage regulators and embedded hardware through prototyping and troubleshooting using Fusion360, TI Code Composer and breadboarding.
- Checked and verified designs for 50+ students.

### Undergraduate Teaching Assistant - Linear Circuits 1

Jan 2025 – Aug 2025

*University of Central Florida*

- Provided personalized help and clarified content for 200+ students on topics such as methods of circuit analysis, RL/RC circuits, and phasor circuits.
- Led weekly lab sessions focused on example problems and teaching of hands-on circuit building experience with multimeters and other tools.

### Application and Power Electronics Engineering Intern

Jun 2023 – Sep 2023

*Capacitech*

- Designed schematics for a buck converter with integrated voltage regulation and current limiting using Fusion 360, running behavioral and transient simulations in LTspice to validate performance across operating conditions.
- Created custom PCB footprints and multilayer layouts in Fusion 360 for capacitor modules, passives, and control ICs, preparing Gerber files and documentation for PCB fabrication and assembly.

## LEADERSHIP

### IEEE UCF Student Branch

*SoutheastCon Hardware/Robotics Competition Project Lead*

Sep 2024 – Apr 2025

- Led a 20-member team to design, build, and program a competition robot from scratch, winning 1st in design and 2nd in performance out of 40+ universities at IEEE SoutheastCon.
- Utilized and collaborated with leading CAD software to design full robot chassis assembly with parametric constraints and exploded views for hardware alignment and accessibility.
- Selected sensors and motor drivers, implemented autonomous navigation, and debugged hardware-software integration across all subsystems.

*Workshop Director/Chair*

Jan 2023 – Apr 2024

- Collaborated with industry partners and other organizations to advance student participation and knowledge of electronics design.
- Helped lead the IEEE SoutheastCon 2024 Exemplary Student Branch Award through high workshop engagement and outreach.
- Created hands-on events for pre-college students such as building an Arduino-based miniature piano using piezo buzzers for UCF's Camp Connect outreach program.
- Led an FPGA workshop in partnership with Renesas using their GUI-based development platform to reach basic digital design concepts.

## SKILLS

**Software Platforms:** Onshape, Fusion 360, Autodesk Inventor, Xilinx Vivado, GitHub, Microsoft Office Suite

**Programming Languages:** Python, C, Java, Assembly, Verilog, SystemVerilog

**Electronics & Instrumentation:** Microcontrollers, Breadboarding, Soldering, Oscilloscopes, Multimeters, Logic Analyzers, Power Supplies, Function Generators

**Prototyping & Fabrication:** CNC Machines, 3D Printing, Laser Cutting, Lathes, Table Saws, Hand Tools