

Ethan Baker

ethanworkapplications04@gmail.com | linkedin.com/in/ethanbbaker | github.com/ReadHeadRedemption

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 teach 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