

# ETHAN SORENSEN

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## Education

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**Brigham Young University, Provo UT**

**Expected April 2026**

*BS in electrical engineering*

*GPA: 3.98*

**Coursework: FPGAs, Computer Architecture, IoT systems**

## Technical Skills

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**Languages:** C/C++, Python, VHDL, SystemVerilog, VBA

**Software & Tools:** Linux/Windows systems, PADS Designer & Library Tools, Microsoft Office, Vivado

**Skills:** English / Spanish, adept communication and documentation skills

## Experience

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**TA for Intro to Computer Systems**

**September 2023 – Present**

*Teaching Assistant*

*Provo, UT*

- Currently instructing students on intro-level C Programming and x84 Assembly programming; worked in labs with students doing hands-on hardware and software in a linux environment.
- Taught several class periods of a variety of topics including memory management and hierarchy, use of tools such as Github and linux, and efficient development of C programs.

**The Aerospace Corporation**

**May 2023 – August 2023**

*DCID Technical Intern*

*El Segundo, CA*

- Created a method of detecting individual Starlink satellites from collected data using RANSAC regression as a part of the development of a non-cooperative PNT solution.
- Created a pipeline for GPS-SBF receivers that allows for certain messages and observations to be filtered and repacked into modules, assisting in the construction of a resilient PNT solution alternative to GPS.

**The Aerospace Corporation**

**May 2022 – May 2023**

*xLab Technical Intern*

*El Segundo, CA*

- Worked with engineers to redesign and improve the xLab PADS library database; managed and created workflows for the import and creation of PADS Designer parts, as well as performing critical library repairs to enhance project development across xLab.
- Assisted in the schematic development and VHDL implementation of standardized GSE equipment to be used in future projects.
- Worked with engineers to repair, inspect, and assemble various engineering boards as a solder technician.

## Projects & Accolades

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**Remote Access Terrarium Manager** | *Personal Project using Python and Raspberry Pi*

**July - August 2023**

- Designed and built a remote controlled payload that manages the temperature, humidity, and light levels of two terrariums hosting frogs.
- Created a user interface using Python's Tkinter that allows for command and configurations to be sent remotely to a server hosted on Raspberry Pi.

**Raspberry Pi 'Ring' Doorbell** | *Computer Systems Project*

**January - April 2023**

- Created a product similar to Amazon's 'Ring' doorbell, capable of taking pictures when triggered and sending them to a storage server.
- Implemented using C code on a Raspberry Pi Zero in a custom 3D printed casing.

**Prototype 1U CubeSat** | *Aerospace's Robert H Herndon Science Comp.*

**May 2018 - May 2019**

- Team won 1st place in competition for our design of a prototype 1U CubeSat bus with telemetry, power, attitude control, and payload hosting.
- Designed and implemented from scratch using Arduinos and C++ code, custom PCBs, and hand crafted aluminum framing.

## Publications

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**Position and Navigation Using Starlink** | [Publication link](#)

**Month 2024**

- E. Grayver, R. Nelson, E. McDonald, **E. Sorensen**, S. Romano. *IEEE Aerospace Conference 2024*

## Certifications

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**IPC JSTD-001:** Soldering and Inspection, received July 2022

**IPC 620D:** Wires and Harnessing, received July 2023