

Lucas Velyvis

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(650) 619-1354

EDUCATION

• University of Colorado, Boulder

Boulder, Colorado

- Pursuing a B.S. in Electrical and Computer Engineering; GPA: 3.854
 - Deans List

Aug 2023 - May 2027

- Minors: Computer Science, Applied Mathematics, Engineering Management
- Relevant Courses: C Programming, Data Structures, Engineering Projects, Circuits I and II, Embedded Systems, Digital Logic, Electronics Design Lab, Discrete Math, Microelectronics, Embedded Software, Programming Digital Systems, Real Time Operating Systems, Computer Organization, Software Development Methods and Tools

SKILLS SUMMARY

- **Software:** C, C++, Verilog, Vivado, MATLAB, Python, Micropython, CAD Design, Altium Designer, LTSpice, SIMetrix, LaTeX, GDB, Git/Github, Microsoft Suite, Jira

- **Hardware:** Laser Cutting, Soldering, Construction and Manufacturing, Digital and Analog Circuit Design, Electrical Test Design, PCB Design and Assembly, Harness Design and Assembly, Spectrum Analyzer, Oscilloscope

- **Interpersonal Skills:** Collaboration, Eager Learner, Research Skills, Critical Thinking, Communication, Spanish

EXPERIENCE

• Laboratory for Atmospheric and Space Physics

Boulder, Colorado

Electrical Engineering Intern

Feb 2025 - Present

- **PCB Design:** Create circuit schematics, component models and footprints, and design board structure and functionality in coordination with mechanical team for aerospace applications.
- **Circuit Simulation:** Model circuits in LTSpice and simulate outputs with different components and setups to determine optimal circuit design properties for later use.
- **Harness Design:** Design electrical harnesses for connectors for use with PCBs in larger embedded systems.
- **Electrical Assembly:** Assemble PCBs and harnesses by soldering components and creating twisted pair wires.
- **Documentation:** Produced FAIs, system-level diagrams, stackups, technical drawings, and test procedures to support engineers and fabrication vendors.

ACADEMIC PROJECTS

• RF & IR Robot

Boulder, Colorado

Lead Electrical Engineer

Aug 2024 - Dec 2024

- **PCB Development:** Designed schematic updates and PCB layouts to integrate Arduino functionality.
- **Control Programming:** Programmed Arduino to support both RF and IR control modes.
- **Testing:** Validated IR and RF modules independently prior to integration; iterated code for reliable performance.
- **Integration:** Managed system-level integration of embedded subsystems to deliver a fully functional robot.

• Physical Braille Reader Device

Boulder, Colorado

Electrical Design Engineer & Presentation Designer

Aug 2023 - Dec 2023

- **Mechanical and Electrical Component Integration:** Integrated mechanical switches, a rotary encoder, and custom 3D-printed housing to create a presentable and ergonomic product.
- **Arduino-Based Sensory Detection and Translation:** Used distance detection, mechanical switch reading, and timing to detect physical braille and convert it to English to be read aloud to the user.
- **Soldering and Manufacturing Expertise:** Gained hands-on experience in soldering and manufacturing through the design and development of our integrated system.
- **Testing and Revision:** Tested parts individually and after integration through many revision cycles to gather data and improve on each aspect of the device.
- **Proposal and Design Presentation:** Developed idea elaboration skills, presented to industry leaders and iteratively refined our product and presentation ability.

SERVICE AND LEADERSHIP

• Scouts of America

Half Moon Bay, California

Eagle Scout

Aug 2022 - Present

- **Eagle Scout Leadership & Service Project:** Designed and led a computer building workshop for local youth. Planned from concept to implementation, including fundraising for computer parts, presenting to multiple non-profit organizations, analyzing functionality of available parts, drafting written instructions on how to build a computer, and preparing recruiting and advertising materials to identify workshop participants.
- **Senior Patrol Leader:** Organized and led troop meetings and events, acted as a mentor to younger scouts, assisted adult leaders and fostered community.