

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* *Aug 2023 - May 2027*
 - Deans List
 - 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.