Westly Bouchard

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EDUCATION

Bachelor of Science (B.S.) – Design Engineering   Aug 2023 - May 2027 (Expected)

Colorado School of Mines, Golden, CO

GPA: 3.9 - Dean's List, Concentration in Robotics & Automation | Minor in Computer Science

Coursework includes: Mechanical Design (CAD + Prototyping), Electrical Engineering (Verilog, PCB design), Software Development (Embedded C, C++, ROS2, Python), Systems Integration

PROJECTS

Open Holonomics | Robotic Control System Development   May 2025 – Present

- Ongoing effort to create an open-source robotic drivetrain that is accessible to hobbyists and performant / easy to integrate for competitive designs or research projects.
- Developed a cost-effective brushless actuator that provides a custom encoder, FOC control, and a ROS2_Control hardware interface over CAN bus with a total cost under $60.
- Designed modular wheel pods that can be integrated into a chassis of any size. Focus on DFM for 3D printing and gear train packaging for ease of integration.
- Extensive documentation of prototyping process through a series of written reports.

CNC Pen Plotter   Oct 2024 – Nov 2024

- Designed and implemented a CoreXY Kinematic motion controller in C++
- Developed schematics, design documents, and wiring diagrams
- Selected appropriate hardware (Arduino, Motors + Controllers, Limit Switches, PSU)
- Developed companion GUI using C++ and serial communication over USB
- Utilized Git and Github to track project changes and collaborate with peers

EXPERIENCE

Software Engineer Intern   Jun 2025 – Aug 2025

Freewheel | Beeswax App Team - Denver, CO (Remote)

- Contributed to the development of a large, technically complex web application
- Primarily focused rewriting outdated PHP APIs using Python and Django
- Worked to ensure interoperability between current and legacy code with respect to the application front end, working with React.js, Typescript, and database platforms like MySQL, Postgres, and Snowflake
- Extensive use of Git, Github, and Scrum

Computer Science TA   Jan 2024 - Present

Colorado School of Mines, Golden, CO

- Guiding students through their first C++ course at Mines
- Support student learning in topics such as pointers, inheritance, and polymorphism
- Provide guidance on proper code structure and style

OTHER SKILLS

Prototyping for Concept Validation, Team Leadership, Programming Design Patterns, Git / Github, GH Actions, Java, Solidworks (CSWP), Robotics Fundamentals, Verilog, Logic Design