Westly Bouchard

westlybouchard.com | Robotics & Systems Portfolio
westly.bouchard@gmail.com | www.linkedin.com/in/wcbouchard | Denver, CO | 720-418-0939

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
Relevant Coursework: Mechanical Design & Prototyping, Embedded Systems (C/C++), Robotics Software (ROS2), Digital Logic & Verilog, PCB Design, Systems Integration

PROJECTS

Open Holonomics | Robotic Control System Development   May 2025 – Present
- Designed and implemented an open-source, modular omnidirectional drivetrain with a focus on low cost, high performance robotic actuation and ROS2 integration.
- 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 with focus on DFM for 3D printing and gear train packaging for ease of integration.
- Developed documentation covering design tradeoffs and prototyping iterations.

CNC Pen Plotter   Oct 2024 – Nov 2024
- Implemented a CoreXY motion control system in C++ with coordinated kinematics and limit-switch homing.
- Designed electrical schematics and system wiring. Selected motors, controllers, and power distribution hardware.
- Developed companion GUI using C++ and serial communication over USB.

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
- Refactored and replaced legacy PHP APIs with Python/Django services, maintaining interoperability with an existing React/TypeScript frontend.
- Worked across MySQL, PostgreSQL, and Snowflake-backed systems in a large production codebase.
- Collaborated in an Agile/Scrum environment using Git and GitHub.

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
- Programming: C++, Python, Embedded C, Java, Linux / UNIX
- Robotics & Controls: ROS2, CAN, FOC, Kinematics, Logic Design, Verilog
- Hardware & CAD: Solidworks (CSWP), OnShape, PCB Design, Prototyping, DFM
- Tools & Workflow: Git, GitHub, GitHub Actions