

Joel Maldonado-Ruiz

Portland, OR • 503-701-4761 • jmaldonadoruiz0@gmail.com
joelmr.com • github.com/Joel-Maldonado • linkedin.com/in/joel-maldonado-ruiz

EDUCATION

B.S. Electrical & Computer Engineering, Minor in Computer Science Expected 2028
Oregon State University Honors College, Corvallis, OR GPA 3.85 / 4.00
Coursework: Computer Architecture & Assembly, Operating Systems, Data Structures, Digital Logic Design

EXPERIENCE

SCADA Intern - Part-time, Remote 10/2026 – Present
PCC Structural (Precision Castparts)

- Rehired after the summer internship. Working part-time on SCADA projects while a full-time student.
- Speeding up a slow recipe HMI by fixing its database schema and how its screens load data.

SCADA Intern 06/2026 – 09/2026
PCC Structural, Large Parts Campus, Clackamas, OR

- Built the HMI managers use to review and correct heat-treat furnace records: Ignition 8.1 with Jython, on top of live PLC tags and Oracle. In production since September.
- Before it, operators asked IT to hand-edit database rows. Now every correction needs an authorized reviewer and a reason, goes through PL/SQL procedures, and is logged with who, what, when, and why.
- Wrote the Oracle side as well (PL/SQL package, views, audit table, trigger) and left the plant's maintainers a style guide, change logs, and a Jython test harness.

Engineering Intern 07/2025 – 09/2025
PCC Structural, Wax Center, Portland, OR

- Built live JMP/JSL dashboards for scrap and process-variation notices, pulling from plant PLCs through Oracle, so engineers stopped redrawing the same charts by hand.
- Wrote a Python script (TF-IDF + clustering) that sorts operators' free-text defect notes into cause categories, so scrap can be ranked by part and cause.

CS Research Intern, Programming for Social Good 06/2022 – 09/2022
Portland State University via ASE / Saturday Academy, Portland, OR

- Trained a TensorFlow CNN to detect physical altercations in security-camera video under Dr. Christof Teuscher, cutting false positives about 6% against published baselines.
- When the CPU couldn't preprocess live frames fast enough, helped write small CUDA kernels to resize and normalize them on the GPU. Presented at the 2022 ASE Symposium.

CLUB WORK

Rover Team, OSU DAM Robotics Club 09/2024 – Present
Software, then electrical. Team won the 2025 Canadian International Rover Challenge.

- Wrote ROS 2 nodes in C++ and an extended Kalman filter fusing stereo depth-camera and IMU data for localization and obstacle avoidance during autonomous driving.

SKILLS

Languages: C, C++, Python, SQL and PL/SQL, x86 and ARM64 assembly, SystemVerilog

Embedded & hardware: ESP32, STM32, Arduino, Raspberry Pi, PLCs, KiCad, soldering, Fusion 360

Software & tools: ROS 2, Ignition 8.1, Oracle, Git, Linux, MATLAB, JMP, TensorFlow, PyTorch

Spoken: English (native), Spanish (fluent)