Edward Silva

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Education

Colorado School of Mines, **GPA:** 3.44 Expected May 2026
BS in Electrical Engineering – Controls & Signal Processing
Minor in Computer Science – Software and Algorithm Design
Courses: Information Systems Science I, Embedded Systems, Modern Control Design, Software Engineering
Certifications: Microsoft Technical Associate - Java & Python Programming

Skills

Programming Languages: C++, MATLAB, Java, Python, Verilog, RISC-V Assembly, Bash
Hardware: Arduino, Raspberry Pi, Digital Circuits, Embedded Systems, Microcontrollers, Circuit Design
Software: SolidWorks, VS Code, Git/GitHub, Linux, Virtualization, Autodesk Revit, MEP AutoCAD, SSH, LaTeX

Experience

Software Engineering Intern, Kratos Defense – Colorado Springs, CO June – August 2025

- Achieved 1.6x execution speedup by optimizing legacy DSP algorithms in C++ through code refactoring and performance analysis, reducing computational overhead for real-time signal processing applications.
- Improved system throughput by developing and implementing SIMD-optimized mathematical algorithms using vectorized operations for parallel data processing.
- Researched and demonstrated an improved approach to coding a FIR filter, presenting positive findings and performance gains to the team for adoption in future projects.
- Reduced debugging time and improved system maintainability for development teams by designing and deploying a comprehensive logging framework with configurable severity levels and error tracking.

Co-op Intern, Electrical Design, Jordan and Skala Engineers – Denver, CO January – June 2025

- Contributed to electrical design of 20+ multi-unit residential and specialty building developments, spanning initial takeoffs, layout design, riser diagrams, NEC verification, and QC review.
- Developed proficiency in Autodesk Revit and MEP AutoCAD, strategically placing electrical receptacles, lighting, and circuits to ensure NEC compliance and practical, user-centered functionality.
- Performed circuit loading and voltage drop calculations, balancing panel schedules and selecting appropriate breakers to ensure safety, reliability, and adherence to regulatory standards.
- Utilized existing automation between Revit/CAD layouts and Excel tracking sheets to streamline design documentation processes and reduce manual errors.
- Collaborated closely with supervisors and cross-disciplinary teams (Mechanical, Plumbing), documenting client interactions and team meetings to improve project coordination and team efficiency.

Projects

Dual-Axis Solar Tracker Robot, Arduino, Raspberry Pi, C++, Github August – October 2024

- Designed and built a dual-axis solar tracking prototype using Arduino-controlled servos and photoresistor-based voltage divider circuits to maximize solar exposure.
- Wrote a custom tracking algorithm from scratch to identify the brightest point in the sky through light intensity sampling, enabling precise pitch and yaw adjustments.
- Utilized a Raspberry Pi as the system's central controller, handling logic flow and interfacing with the Arduino to execute real-time motor positioning.
- Conducted iterative indoor testing to calibrate sensitivity and response thresholds under varying lighting conditions, improving tracking accuracy and stability.