

Edward A. Silva

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Experience

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.

Undergraduate Researcher, ePower Hubs Research Lab – Golden, CO

June – December 2024

- Independently conducted literature reviews on sensor systems and wind farm-level control strategies, focusing on offshore integration with variable voltage, power, and frequency constraints.
- Synthesized findings into multiple internal reports using LaTeX, contributing to cost-reduction strategies in wind farm grid maintenance, design, and power grid integration.
- Provided insights that influenced the direction of ongoing research led by a faculty advisor, shaping the lab's approach to offshore wind system modeling.

Projects

Dual-Axis Solar Tracker, Python, Arduino, 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.

Education

Colorado School of Mines, GPA: 3.44

December 2026

BS, Electrical Engineering – Controls & Signal Processing

Minor, Computer Science – Algorithm Design

Courses: Advanced Control Systems, Signals & Systems, Embedded Systems, Software Engineering

Certifications: Microsoft Technical Associate (MTA): Python & Java Programming, MATLAB Machine Learning

Skills

Programming Languages: Java, Python, Verilog, C, C++, C#, RISC-V Assembly, Bash, MATLAB, JavaScript

Technology: SSH, Linux OS (Ubuntu), Raspberry Pi, Arduino

Software: Autodesk Revit, MEP AutoCAD, VS Code, GitHub