# Edward A. Silva

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## Education

**Colorado School of Mines** – GPA 3.435 December 2026
**Bachelor of Science, Electrical Engineering** – GPA: 3.6
**Minor, Computer Science**, Software and Algorithm Design – GPA: 3.7
**Honors:** Dean's List (2 semesters), Honor Roll (2 semesters)
**Scholarships:** Provost Scholarship ($9,000/year), C-MAPP Scholar (2023–2024, 2024–2025; $1,000/year), American Bureau of Shipping Scholar ($4,000)

## Skills & Certifications

**Programming Languages:** Java, Python, Verilog, C, C++, C#, RISC-V Assembly, Bash, MATLAB, VBA
**Technology:** SolidWorks, Virtualization Software, VS Code, SSH, Linux OS (Ubuntu), Raspberry Pi, Arduino, HTML, CSS, JavaScript, Revit
**Other:** Git, GitHub, GitHub Pages, Codespaces
**Certifications:** Microsoft Technical Associate – Java Programming, Microsoft Technical Associate – Python Programming

## Professional Experience

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

- Assisting in electrical design projects using Revit, ensuring compliance with local ordinance codes.
- Collaborating with engineering teams to develop efficient electrical systems for commercial and residential builds.
- Gaining experience in power distribution design and drafting while optimizing layouts for safety and performance.

**Office Assistant**
*Fairfax County Public Schools, Fairfax, VA* June – August 2024

- Streamlined office operations by efficiently responding to 600+ information requests, maintaining and updating records of 300+ students, and preparing essential documents.
- Coordinated site and program setup and close-out, managing supply distribution, collection, and event inventory for 15 classrooms, 100+ participants, and 50+ staff.
- Improved overall productivity through meticulous data tracking and reporting.

## Research Experience

**Undergraduate Researcher (MURF Scholar)**
*ePower Hubs Research Lab, Colorado School of Mines, Golden, CO* June 2024 – Present

- Conducted literature reviews on sensor systems, wind farm controllers, and grid integration.
- Analyzed offshore and onshore wind energy systems, focusing on variable voltage, power, and frequency.
- Explored cost-effective approaches to reduce maintenance and design complexity in wind farm grids.

**Undergraduate Research Assistant (FIRST Scholar)**
*Explosives Research Lab, Colorado School of Mines, Golden, CO* August 2022 – January 2023

- Modified 3D printer settings to enhance precision in printing explosive casings.
- Gained experience operating specialized lab tools such as shock tubes, gyroscopes, and vacuum chambers.
- Assisted in multiple explosive tests (lab-based, above ground, and below ground) while adhering to strict safety protocols.
- Analyzed academic research papers to contextualize complex experiments and tools used in the lab.

## Teaching Experience

**Peer Mentor**
*Colorado School of Mines, Golden, CO* August 2023 – December 2023

- Co-taught a 1-credit course covering strategies for academic success, mental health, and well-being.
- Mentored new students on time management, exam preparation, and leveraging campus resources.
- Organized group events (Oredigger Camp, Fall Kickoff) to foster community among first-year students, coordinating activities and team-building exercises.
- Assisted in developing lesson plans, delivered presentations on academic skills, and facilitated peer discussions to enhance collaboration.

**Lead Counselor & Coding Instructor**
*Code Ninjas, Fairfax, VA* March 2022 – August 2022, May 2023 – August 2023

- Awarded Instructor of the Month (June 2022 & July 2023) for exceptional teaching methods.
- Tutored 50+ students in JavaScript and C#, enhancing their coding skills.
- Led STEM camps for 100+ students, covering 3D Modeling, 3D Printing, Robotics, and C# development.
- Assembled and maintained multiple Ender 3 model 3D printers, reducing downtime through regular upkeep.
- Deployed and managed a remote 3D printing server via OctoPi, streamlining operations.

## Projects

**eeprep.com** December 2023 – Present

- Developed a comprehensive website summarizing key Electrical Engineering concepts.
- Utilized HTML, CSS, and JavaScript to create tutorials, practice problems, and interactive demos.
- Integrated analytics to track user engagement and refine site content.

**Solar Panel Optimization Robot** August – October 2024

- Designed and implemented an Arduino-based circuit and light sensors to optimize solar energy intake.
- Developed a prototype with a servo motor for pitch adjustment and a stepper motor for yaw adjustment, enhancing solar panel alignment and energy capture.
- Integrated an advanced tracking algorithm into the Arduino microcontroller, enabling real-time positioning based on sensor data.
- Conducted rigorous testing and calibration of the system under various weather and light conditions to ensure optimal performance.

**Hydraulic Ram Pump** August – December 2022

- Recognized as Subject Matter Expert (Top 4 of 40 teams) for presenting an innovative design solution and most accurate project data.
- Collaborated with a team of six to design a cost-effective solution for managing acid mine drainage and reducing environmental impact at legacy mining sites.
- Engineered a working prototype under $100 using PVC piping and a pH filtration system.
- Contributed to a 90-page detailed documentation, synthesizing academic and professional research to support the project's design and implementation.