Roya Akrami

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Golden, Colorado

LANGUAGES

C2 French • C++ • Python • MATLAB • C+ • JupyterHub • MPLab x IDE • Inkscape • Excel • LaTeX • Verilog

PROFESSIONAL EXPERIENCE

Research Assistant   **March 2025 - Present**
NASA Goddard Space Flight Center

- Developing a research paper on extracting and analyzing H-Lyα emissions in Earth's exosphere using data from the Nancy Grace Roman Telescope to advance exospheric mapping methods for the Carruthers Geocorona Observatory.
- Processing H-Lyα intensity data in JupyterHub and MATLAB through a 28-layer residual neural network to model and predict future emission patterns.

Research Assistant   **Oct 2023 - Oct 2025**
Phal Lab

- Designed figures, wrote annotations, and gathered references for paper discussing vibrational circular dichroism detection of Alzheimer's biomarkers, resulting in paper in process of publication.
- Updated design and content of lab website using SCSS, HTML, and Ruby languages to heighten its quality.
- Designed and implemented a 2D LiDAR-based mapping system on a LattePanda computer using Ubuntu and ROS RViz for real-time visualization and spatial mapping.

Undergraduate Research Ambassador   **Aug 2024 - Present**
Colorado School of Mines

- Selected to represent Colorado School of Mines as a student ambassador for undergraduate research in Washington, D.C.; funded by the STR Program to meet with U.S. senators and discuss research funding and policy.
- Presented to students on the value of undergraduate research and provided mentorship through email outreach, and authored articles highlighting student research initiatives.

Society of Women in Research   **Feb 2025 - Present**
Founder and President

- Founded and led the only organization at Colorado School of Mines dedicated to closing the gender gap in research participation.
- Organized weekly meetings, cold-email workshops, and scholarship information sessions to connect female students with research opportunities.

HONORS & AWARDS

Universities Space Research Association   **Spring 2025**

- Awarded a ~$10,000 undergraduate research stipend to conduct NASA-funded research.

Students Transforming Through Research Conference   **Spring 2025**

- Funded to attend a research policymaking conference in Washington D.C to represent Mines as an Undergraduate Research Ambassador.

Summer Undergraduate Research Fellowship   **June - Aug 2024**

- $4000 stipend to work in a research lab over the summer, granted by Colorado School of Mines.

3rd Place at Spring Undergraduate Research Symposium   **April 2024**

- Presented 12-minute presentation as a first-year student of vibrational circular dichroism designs at Mines Research Symposium, won 3rd place out of all presenters.

First-Year Innovation & Research Scholar Training   **Aug 2023 - May 2024**

- $1000 stipend to work in a research lab, granted by Colorado School of Mines.

The Provost Award   **Aug 2023 - May 2027**

- $10,000-per-year scholarship granted by Colorado School of Mines

EDUCATIONAL EXPERIENCE

Colorado School of Mines   **Graduating May 2026**
Third-Year Undergraduate Electrical Engineering Student

- Conduct hardware-integration research using Verilog, C, and MPLAB X IDE, working with custom PCBs, FPGA Lite systems, and oscilloscopes for signal analysis and embedded control.
- Relevant coursework: Embedded Systems, Digital Logic, and Information Systems Science I (signal and Fourier transform processing).