Roya Akrami

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EDUCATION

Colorado School of Mines, Golden **May 2026**

Bachelor of Science, Electrical Engineering
Relevant course work: Embedded Systems, Digital Logic, Information Systems Science I, Differential Equations

KEY ACCOMPLISHMENTS

Contributed to NASA Exospheric Hydrogen Mapping Research – Processed H-Lyα data with MATLAB and a 28-layer ResNet; developing paper using NASA Roman Telescope data for the Carruthers Geocorona Observatory.

Contributed to Vibrational Circular Dichroism Literature Review - Developed Figures and Collected References and Annotations

Represented Colorado School of Mines in Washington, D.C. – Met with U.S. Senators on Research Policy; Mentored Students and Authored Articles on Undergraduate Researchers

RESEARCH INTERESTS

Pharmaceutical Spectroscopy | Heliophysics & Exospheric Data Analysis | VCD Imaging | Exosphere Mapping

HONORS & AWARDS

NASA and Universities Space Research Association **March 2025**
Awarded a ~$10,000 undergraduate research stipend to conduct NASA-funded research.

Students Transforming Through Research Conference **February 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**
$4,000 stipend to work in a 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 with vibrational circular dichroism designs at Mines Research Symposium, won third place out of all presenters.

First-Year Innovation & Research Scholar Training **Aug '23 – May '24**
Granted $1,000+ to work in a research lab, from Colorado School of Mines.

The Provost Award **Aug '23 – May '27**
$10,000-per-year scholarship granted by Colorado School of Mines.

RESEARCH EXPERIENCE

NASA Goddard Space Flight Center, Maryland **March 2025**

Research Assistant

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.

Phal Lab, Golden **October 2023**

Research Assistant

Conducted spectroscopy research on Alzheimer's biomarkers – Designed figures, compiled annotations, and contributed to publication in progress; Updated lab website using SCSS, HTML, and Ruby; Developed 2D LiDAR mapping system on LattePanda using Ubuntu and ROS for real-time visualization.

Colorado School of Mines, Golden **August 2024**

Undergraduate Research Ambassador

Represented Colorado School of Mines in Washington, D.C. as Undergraduate Research Ambassador – Met with U.S. Senators on research policy, mentored students, and authored articles promoting undergraduate research.

PROJECTS & EXTRACURRICULAR

Society of Women in Research at Colorado School of Mines **February 2025**

Founder and President

Founded and Led Organization Promoting Gender Equity in Research – Hosted Workshops and Info Sessions Connecting Women to Research Opportunities

SKILLS

Programming & Software: C++, C, Python, MATLAB, Verilog, JupyterHub, MPLAB X IDE, Inkscape, Excel, LaTeX, GitHub, SolidWorks, Adobe Photoshop, Microsoft Office

Languages: French (C2 – Fluent), Spanish (Intermediate)