

Karsten Sierra

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EDUCATION

B.Sc. Mechanical Engineering | University of Alaska Fairbanks

GPA: 3.08

2020 – 2025
Fairbanks, AK

SKILLS

TECHNICAL

Solidworks, Python, Fusion 360, Javascript, MatLab, Google Suite, AI Training, C++, Jupyter Notebook, Linux Admin, QGIS, Google Earth Engine

OTHER

3D printing, Photography, Video/Picture Editing, Leadership, General Machining, Written and Spoken Communication, Rock Climbing, Juggling

EXPERIENCE

Institute of Northern Engineering – *Student Employee*

2024 – 2025

Fairbanks, AK

- Developed an optimized model to produce 3D printed maps of Alaskan coastal communities using topobathymetric data, simplifying total programs used.
- Utilized Google Earth engine data sets to generate images for Satellite Derived Bathymetry.
- Created an Artificial Intelligence tool in Gemini (AI) to extract metadata from Alaskan Hazard Mitigation Plans, to improve and expedite the understanding of coastal community concerns.

Alaska Center for Energy and Power – *Intern*

Summer 2023

Fairbanks, AK

- Applied knowledge on microgrids gained from visiting remote Alaska communities to fabricate a microgrid powered by renewable energy.
- Processed topobathymetric LiDAR data and implemented a documentation system to ensure consistent practices.

Geophysical Institute – *Communications Assistant*

2021 – 2023

Fairbanks, AK

- Streamlined the recurring GI in the News reporting process by building spreadsheet tools to reduce turnaround time.
- Programmed and operated the mobile planetarium for schools and community events, supporting outreach. Edited photos and videos for institute projects and contributed to early podcast development.

PROJECTS

Northern Exposure

2025

- Designed a machine to digitize historic film of the aurora borealis captured on 35mm film in the 1960s as part of B.Sc. Mechanical Engineering senior design project. [[Video](#)]

HONORS & AWARDS

Alaska Native Science and Engineering Program (ANSEP) Scholarship

2020 – 2025

AISES Sequoyah Fellowship

2024