

# 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*

Fairbanks, AK

2024 – 2025

- 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*

Fairbanks, AK

Summer 2023

- 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*

Fairbanks, AK

2021 – 2023

- 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.

## 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 Presentation](#)]

## HONORS & AWARDS

Alaska Native Science and Engineering Program (ANSEP) Scholarship

2020 – 2025

AISES Sequoyah Fellowship

2024