

RYAN J. ERICKSON

<https://github.com/Ryan-Erickson911> ◇ [linkedin.com/in/ryan-ericksons-profile](https://www.linkedin.com/in/ryan-ericksons-profile)

ryan-erickson911.github.io/personal_website/ ◇ Seattle, WA, 98144

ORCID: 0009-0002-0562-5336 ◇ Phone: 909-835-3952 ◇ Email: ryanerickson407@gmail.com

EDUCATION

University of Colorado, Boulder Aug. 2021 - Dec. 12th, 2025
Geography, MA

University of California, Santa Barbara Sep. 2018 - May 2020
Geography - GIS Emphasis, BA

University of California, Santa Barbara Sep. 2017 - May 2020
Physics, BA

Chaffey Community College Aug. 2015 - Jun. 2017
International General Educational Transfer Curriculum (IGETC), AA

RESEARCH INTERESTS

Geographic Informational Science (GIS) Jan. 2019 - current
Spatial-temporal analysis, mapping software, data science

Remote Sensing of the Environment Jan. 2019 - current
Satellite data acquisition, Big Data queries, lattice structures

Quantitative Geography Jan. 2019 - current
Atmospheric Chemistry, Meteorology, Hydrology, Geomorphology

Computer Science and Technology Aug. 2021 - current
Programming and engineering of computational systems.

Qualitative Geography Mar. 2022 - current
Public health, community risk/exposure, DAGs, survey composition/analysis

Physics Sep. 2018 - May 2020
Thermodynamics, Quantum Mechanics, Astrophysics, Biophysics

RESEARCH EXPERIENCE

Spatiotemporal Pattern Analysis and Research Laboratory Aug. 2021 - Oct. 2025
Masters Student *Dr. Guofeng Cao*

- Created a 300m resolution surface ozone Python CLI for urban areas.
- Authored a 150+ page thesis depicting five ML/AI models trained via EPA and satellite.
- Designed spatio-temporal datasets for training models via EPA monitor data, satellite imagery, and census data for Arizona.
- Awarded 6 research assistant positions during the course of study.
- Focused on integrating spatial information into statistical learning methods for natural, social, and technical geographic systems.

North Central Climate Adaptation Science Center May 2025 - Aug. 2025
Graduate Research Assistant *Dr. Heather Yocum*

- Presented a thermodynamic-based hypothesis, potential data sources, and methodology for revisiting the existence of a topographic signature of life.
- Provided Google Earth Engine documentation and syntax to convey potential research avenues.

- Composed a blog for the NC CASC website summarizing research goals, available technology, and future directions.
- Met with future graduate students to present university research efforts in geography, multi-disciplinary advice, and insights into graduate student life.

Natural Hazards Center

Jan. 2025 - May 2025

Graduate Research Assistant

Dr. Lori Peek

- Gathered 2,000+ documents for further analysis, sorting, and inclusion into the Third Assessment of Natural Hazards by Lori Peek.
- Used SQL to search EBSCOHost, Web of Science, CU Scholar, and Google Scholar.
- Developed a Python script to access the above APIs (requests, rispy, pandas, numpy).
- Attempted advanced API aggregation methods and LLM based SQL querying.

Earth Lab at CIRES

Aug. 2024 - Dec. 2024

Graduate Research Assistant

Dr. Cibeale Amaral

- Debugged and optimized FiredPy, a Python CLI publicly available on GitHub.
- Aided in solving spatial-temporal edge case scenarios for classifying fire events with MODIS.
- Gathered 1TB+ of imagery for burned areas to display.

Institute of Behavioral Science

Jan. 2022 - Dec. 2024, Jan. 2023 - May 2023

Graduate Research Assistant

Dr. Stefan Leyk, Dr. Colleen Reid

- Organized meetings to learn from external departments and university institutions for future public health analyses.
- Translated code between Python and R to enhance interdisciplinary collaboration.
- Converted tabular information into a spatial-temporal activity space.
- Assigned air pollution exposures for CO and NO₂ with EPA monitor measurements.
- Developed a random forest model for surface O₃ exposures with respect to EPA monitors.
- Drafted methodology for literature associated with the elevated risks to fire hazards.

MOVE Research Group

Mar. 2020 - Aug. 2020

Student Research Assistant

Dr. Somayeh Dodge

- Collected data from SafeGraph and Cuebiq using AWS for a statistical analysis using maps, graphs, and other visual aids.
- Created a contact index to represent potential locations of high foot traffic.
- Aided in the development of a proposed ArcGIS-based cloud platform dedicated to monitoring pandemic outcomes in Santa Barbara County.

TEACHING EXPERIENCE

GIS: Mapping

Jan. 2024 - May 2024

Teaching Assistant

Dr. Sarah Kelly

- Relayed topics such as proper spatial database management, best practices for processing geographic data, and basic visual analytics.
- Modernized old lab assignments from ArcGIS Desktop to ArcGIS Pro for use in future classes.
- Proctored bi-weekly quizzes, midterm, and final exam for 150+ students across 4 lectures.

Statistics and Geographic Data

Aug. 2021 - Dec. 2021, Jan. 2023 - May 2023

Teaching Assistant

Dr. Guofeng Cao, Dr. Morteza Karimzadeh

- Collaborated with university personnel to create material that combines basic statistical concepts, methods, and tools to characterize and explain geographic data.
- Provided assistance for 100-120 students across 2 lab sections for each instructor.

- Moderated, amended, and reorganized class materials for future classes and instructors.

GIS: Mapping (Summer)

May 2022 - Jun. 2022

Teaching Assistant

Dr. Sarah Kelly

- Scheduled 30+ office hours a week for 250+ students across 4 lectures.
- Summarized lab instructions used for full quarters into smaller assignments.
- Provided new class material relevant to world events (food insecurity, voter analysis, SARS COVID-19, etc.).

Introduction to Statistics and Geographic Data

Jan. 2022 - May 2022

Teaching Assistant

Dr. Kylen Solvik

- Provided insights, course material, and summaries of prior instructor methods to GPTI.
- Organized office hours, classroom times, and lab sections to provide 12/7 assistance.
- Gave lectures as the official instructor for over 120 students across 2 classes.

Independent Tutor

Jan. 2019 - Jan. 2025

- Organized additional study groups, presentations, and individual instruction throughout academic career.
- Restructured course material and personal experiences into computer science workflows.
- Developed interactive sample scripts in Python and R.

PUBLICATIONS

Erickson, R., Cao, G., Isaacs, R., & Leyk, S. (2026, January). *Integrating Machine Learning and Geostatistics for High-Resolution Surface Ozone Mapping: A Case Study in Arizona* [Master's thesis, University of Colorado].

SKILLS

Software	Atom, Docker, ENVI, ESRI Suite, Github, Google Cloud, MS Suite, QGIS, Visual Studio, Zotero
Syntax	AWS, Dart, DOS, Flutter, GCP, HTTP, Javascript, LaTeX, MATLAB, Python, R, SQL, Wolfram, XML/GML
Python Packages	GeoPandas, geemap, Matplotlib, PyTorch, Rasterio, Scikit-learn, TensorFlow
R Libraries	devtools, ggplot, httr, leaflet, raster, sf, shiny, tidyverse, zoo
Operating Systems	Android, Linux, macOS, Windows

GRANTS & FELLOWSHIPS

STAR Lab Masters Graduate Student	Aug. 2021 - Oct. 2025
CIRES Early Career Assembly Member	May 2022 - May 2025
Climate Adaptation Scientists of Tomorrow Fellow	May 2025 - Aug. 2025
CU Population Center (CUPC) Research Fellow	Aug. 2022 - Dec. 2022

CERTIFICATIONS

FAA CFR Part-107 Remote Pilot	May 2024 - May 2026
SCUBA Certification	Aug. 2017 - current
Red Cross EMS First Responder	Jan. 2016 - Jan. 2024