Maia Zhang

maiaz@unr.edu

Education

PhD in Geophysics – Nevada Seismological Lab, University of Nevada, Reno **Expected 2028**

Bachelor of Arts – Cornell University **May 2021**

- Mathematics (Concentration in Applied Mathematics)
- French Literature

Research & Work Experience

Graduate Research Assistant | University of Nevada, Reno **July 2023 – Present**

Advisor: Daniel Trugman

- Analyze large datasets with scientific machine learning and statistical methods to better understand earthquake rupture processes and triggering

Graduate Science Intern | Mission Support and Test Services **June 2024 – Present**

Supervisors: Cleat Zealer, Michelle Scalise, & Eric Eckhert

- Mission Support and Test Services (MSTS) operates the Nevada National Security Site (NNSS) for the U.S. National Nuclear Security Administration (NNSA)
- Develop a machine learning workflow to automate seismic phase arrival detection and event location for nearfield waveform data of the Monte Cristo Range Earthquake Sequence
- Identify shallow seismicity and refine spatiotemporal patterns for further near-source study

Seismic Analyst | The Nevada Seismological Laboratory **July 2023 – Present**

- Analyze seismic waveforms to determine the characteristics of seismic events (i.e. magnitude, hypocenter) within the state of Nevada.

Research Assistant | University of Guelph **June 2022 – July 2023**

Mentors: Maria Corradini & Maleeka Singh

- Analyzed fluorescent excitation-emission matrices (EEMs) of adulterated maple syrups to identify fluorophores and relevant peaks using PARAFAC
- Developed machine learning classification models and workflows with possible application to future food solutions

Research Assistant | Cornell University **September 2020 – June 2021**

- Analyzed seismic data and inferred trends about Ithaca, New York's seismicity for Cornell's Earth Source Heat initiative in preparation for the installation of geothermal heating solution.
- Co-authored published report on research implementation and results

Mickey Leland Energy Fellow | U.S. Department of Energy **June 2020 – August 2020**

Mentor: Dustin Crandall

- Explored machine learning techniques to model pore to core scale properties in the context of carbon sequestration and fluid flow
- Created a random forest model to predict porosity and identify sandstone types
- Presented research and paper at a virtual consortium

Academic Outreach

Academic Tutor | Bell Curves Test Preparation **October 2021 – June 2023**

- Tutored classes and individuals in the NYC high school entrance exam (SHSAT) and SAT
- Led general homework help sessions for high schoolers in mathematics and language arts
- Guided students through supplementary problems and workshops based on individual need

Counselor | Ross Mathematics Program **Summer 2021**

- Ross Mathematics Program is a selective, nationwide number theory summer program for high schoolers.
- Led students in daily number theory exercises
- Provided daily student feedback on problem sets and weekly progress evaluations
- Attended weekly staff meetings to discuss improvements and goals

Curriculum Development Assistant | Cornell Lab of Ornithology **September 2019 – May 2020**

- Worked with K-12 educators to develop, pitch, and write full-length articles featuring the accomplishments and achievements of teachers and classrooms using the K-12 program
- Developed media and scientific, educational content

Residential College Advisor | Cornell University Summer College **June 2019 – August 2019**

- Served as a live-in community advisor for high school students in Cornell's Summer College Program
- Provided "on-call" crisis support
- Organized weekly group activities and one-on-one residential meetings

Honors and Fellowships

Seismological Society of America, Student Presentation Award **2025**

Distinguished Senior **2021**

Mickey Leland Energy Fellow **2020**

Cornell University Dean's List **Fall 2019, Spring 2021**

Publications

- Suhey J., Katz Z., **Zhang M**., Ferris A., Pritchard M., Salerno J., Hubbard P., Gustafson O., 2021. Analysis of Cornell University's Seismic Networks for the Earth Source Heat Initiative. https://ecommons.cornell.edu/handle/1813/103518

Presentations

- **Zhang, M.**, Trugman, D., Scalise, M., Eckert, E., Zeiler, C., (2025, September 7-10). *An Enhanced Earthquake Catalog for the 2020 Monte Cristo Range Sequence Derived from Machine Learning Processing of a Dense Aftershock Deployment* [Conference poster]. Statewide California Earthquake Center 2025, Palm Springs, CA. https://central.scec.org/meetings/2025/am/poster/042
- **Zhang, M.**, Trugman, D., Scalise, M., Eckert, E., Zeiler, C., (2025, April 14-18). *Insights Into the 2020 Monte Cristo Range Earthquake Sequence From a Near-source Aftershock Deployment* [Conference presentation]. Seismological Society of America 2025 Conference, Baltimore, Maryland. https://seismosoc.secure-platform.com/a/gallery/rounds/43/details/13089
- **Zhang, M.**, Trugman, D., (2024, December 9-13), *Connecting Earthquake Cluster Properties to Geophysical Context in Japan* [Conference presentation] American Geophysical Union 2024 Conference, Washington D.C. https://agu.confex.com/agu/agu24/meetingapp.cgi/Paper/1748162
- Katz, Z., **Zhang, M.**, 2021, Analysis of Background Seismicity in Tompkins County for the Earth Source Heat Initiative, Cornell Earth and Atmospheric Sciences Research Symposium.
- Zhang, Maia, 2020, Linking Pore to Core Scale with Machine Learning, MLEF Summer Colloquium.