Shenyao Jin

shenyaojin@mines.edu | (310) 256-7875

PhD student in geophysics focused on fiber-optic sensing and seismo-acoustic modeling

Education

Colorado School of Mines, Reservoir Characterization Project (RCP) — Golden, CO, USA
PhD Student in Geophysics (2nd Year) — *Aug 2023 – Present*
- Advisor: Ge Jin
- GPA: 4.0/4.0
- Focus: Distributed fiber-optic sensing (DFOS) and pressure-strain modeling in hydraulic fracturing analysis.

Colorado School of Mines, Reservoir Characterization Project (RCP) — Golden, CO, USA
Visiting Student — *Jul 2022 – Sept 2022*
- Processed DAS data from Lake Hattie to extract fish activity signals and perform velocity scanning.
- Advisor: Ge Jin

Zhejiang University — Hangzhou, China
Bachelor of Geological Science — *Sept 2019 – Aug 2023*
- **Overall GPA:** 3.86/4; **Major GPA:** 3.92/4

Projects

Distributed Fiber-Optic Sensing in the Bakken (Project Mariner, ExxonMobil) — Aug 2023 – Present
- Characterized conductive hydraulic fractures using DFOS strain rate data and pressure gauges during both stimulation and production.
- Integrated low-frequency DAS interpretation with pressure gradient analysis and fracture network modeling.
- Advisor: Ge Jin

Clustering Joint Inversion of Subsurface Targets | *C++* — Jan 2023 – May 2023
- Implemented kernelized Fuzzy C-Means algorithm for clustering joint inversion of geophysical datasets from Liangzhu archaeological site.
- Advisor: Zhanjie Shi

Ambient Noise Imaging of DAS Data from Lake Hattie | *Python* — Jul 2022 – Sept 2022
- Used ambient DAS data to obtain subsurface imaging of Lake Hattie and assess environmental dynamics.
- Advisor: Ge Jin

Skills

Programming: Python, MATLAB, C/C++, LaTeX, Bash

Geophysical Methods: DFOS/DAS data processing and modeling, strain-pressure analysis, hydraulic fracture interpretation, signal denoising

Technical Competencies: Time-series signal processing, exploratory data analysis, seismic inversion, numerical modeling, Linux workflows

Public Presentations

Conductive Fracture Monitoring Using DAS: From Stimulation to Production — Aug 2024
- Presented at IMAGE'24. Demonstrated the use of LF-DAS and pressure data to track fracture connectivity and annular strain evolution in horizontal wells.

Manuscripts in Preparation

Low-Frequency DAS for Cement Quality Monitoring in Horizontal Wells — In preparation, April 2025
- First-author manuscript to be submitted to *SPE Journal*. Proposes a method for monitoring cement integrity using low-frequency DAS and pressure–strain coupling. Validated through history matching and field data.

Awards

Meritorious Winner, Mathematical Contest in Modeling (MCM) — Feb 2022
- Top 8% of international undergraduate teams. Contributed as lead programmer and data analyst.

First-Year Fellowship for Graduate Students — Mar 2024
- Recognized for integrating computational geophysics to advance sustainable energy systems.

George R. Pickett Memorial Scholarship — Oct 2024
- Awarded for excellence in borehole geophysics with applied focus on oil and gas workflows.