SHENYAO JIN

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EDUCATION

Colorado School of Mines, Reservoir Characterization Project Golden, Colorado
Ph.D. Geophysics *Aug 2023 – May 2027*
- Advisor: Dr. Ge Jin, Committee Chair: Dr. Hossein Kazemi
- **Focus**: *Distributed fiber-optic sensing (DFOS), reservoir stimulation, hydraulic fracture characterization, inversion problems*
- **Minor:** *Computer Science*

Zhejiang University Hangzhou, China
B.S. Geoscience *Sept 2019 – Aug 2023*
- **Thesis**: "Clustering-Based Joint Inversion for Imaging Shallow Subsurface Geological Targets"
- Thesis Advisor: Dr. Zhanjie Shi

TECHNICAL SKILLS

- **Programming:** Python, MATLAB, C/C++, LaTeX, Bash
- **Software and Packages**: Seismic Un*x, MOOSE (Multiphysics Object-Oriented Simulation Environment), DASCore (Python Package for Distributed Acoustic Sensing), Devito
- **Geophysical Methods:** DFOS/DAS data processing and modeling, strain-pressure analysis, hydraulic fracture interpretation, signal denoising
- **Related Coursework:** Inversion Theory, Advanced Machine Learning, Reservoir Simulation, Advanced Geophysical Computing, Advanced Data Science
- **Software Development:** Author of fibeRIS, an open-source Python package for history matching and interpretation of DAS data (github.com/shenyaojin/fibeRIS).

EXPERIENCE

Graduate Research Assistant Golden, Colorado
Reservoir Characterization Project, Colorado School of Mines *Aug 2023 – Present*
- **Project Mariner, ExxonMobil**
  - Developed a low-frequency DAS (LF-DAS) data processing workflow to monitor cement quality in horizontal wells.
  - Implemented a coupled pressure-strain numerical model using MOOSE to simulate LF-DAS responses under various cementing conditions.
  - Conducted history matching of field LF-DAS data, demonstrating the method's effectiveness in identifying cement channeling.
- **EGS Data Interpretation, Fervo Energy**
  - Collaborating with Rice University and Fervo Energy to interpret multiple types of geophysical data (e.g., DAS, sonic logs).
  - Developing a novel interpretation tool for LF-DAS data to analyze pressure-strain coupling for fracture characterization.

Graduate Research Intern Idaho Springs, Colorado
Reservoir Characterization Project, Colorado School of Mines *May 2025 – Aug 2025*
- Conducted a DOE project on monitoring high-voltage induced rock fracture using LF-DAS.
- Designed and successfully deployed a novel U-shaped DAS fiber optic cable in two monitoring wells, while also installing separate DTS and DSS fibers for both wells.

Undergraduate Research Intern Golden, Colorado
Reservoir Characterization Project, Colorado School of Mines *July 2022 – September 2022*
- Contributed to the development of data processing workflows for LF-DAS data collected in Lake Hattie, Wyoming.
- Implemented a velocity scanning algorithm for improved data interpretation.

Undergraduate Research Assistant Hangzhou, China
School of Geosciences, Zhejiang University *Sept 2021 – June 2023*
- Conducted research on joint inversion methods for seismic and electromagnetic data.
- Developed a joint inversion algorithm in *C++* and validated it against well log data using field datasets.

Abstracts and Presentations

Shenyao J., Ge J. *Low-Frequency DAS for Cement Quality Monitoring in Horizontal Wells*

- URTeC 2026, Houaron, Texas. Oral Presentation (Abstract Accepted).
- SEG-AAPG IMAGE 2025, Houston, Texas. Oral Presentation.
- American Geophysical Union Fall Meeting 2025, New Orleans, Louisiana. Oral Presentation.
- RCP Sponsor Meeting 2025, Golden, Colorado. Oral Presentation.

Shenyao J., Ge J. *Conductive Fracture Monitoring Using Distributed Strain Sensing: From Stimulation to Production*

- SEG-AAPG IMAGE 2024, Houston, Texas. Poster Presentation.
- RCP Sponsor Meeting 2024, Golden, Colorado. Oral Presentation.

Publications

Jin, S., and Jin, G. (2026). Low-Frequency DAS for Cement Quality Monitoring in Horizontal Wells. *SPE Journal* (finished, submission target Q4 2026); abstract will be submitted to URTeC 2026.

Mao, F., Yang, B., & **Jin, S.** (2025). Recovering missing regions of earth magnetic anomaly grid data (EMAG2) using RePaint based on diffusion model. *Big Data and Earth System*, 1(1), 100004.

Honors and Awards

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

First-Year Fellowship for Graduate Students Mar 2024
- Awarded by the Colorado School of Mines to recognize incoming students for integrating computational geophysics to advance sustainable energy systems.

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