Meng Jia

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EDUCATION

- **Colorado School of Mines, Golden, CO** **May 2025**
  Doctor of Philosophy in Applied Mathematics and Statistics GPA: 4.00/4.00
- **Colorado School of Mines, Golden, CO** **Dec 2020**
  Masters of Science in Data Science GPA: 4.00/4.00
- **University of Florida, Gainesville, FL** **Aug 2018**
  Masters of Science in Geological Sciences GPA: 3.87/4.00
- **Peking University, Beijing, China** **Jul 2015**
  Bachelor and Masters of Science in Geophysics GPA: 3.88/4.00

RESEARCH EXPERIENCE

- **Research Assistant – Colorado School of Mines, Golden, CO** **May 2023 – Present**
  Methane emission localization and quantification using machine learning
  - Introduce physics-informed neural networks (PINN) in methane emission localization and quantification using continuous monitoring systems (CMS), significantly improving accuracy over traditional methods.
  - Design and implement the entire pipeline from data collection, preprocessing, model development, and evaluation using PyTorch on HPC with PBS for efficient resource management and scalability.
- **Research Assistant – Colorado School of Mines, Golden, CO** **May 2022 – Dec 2023**
  Methane sensor placement optimization using genetic algorithms
  - Developed a data-driven framework for continuous monitoring sensor placement on oil and gas facilities using genetic algorithm under the framework of Pareto optimization, significantly increasing the accuracy and scalability compared to traditional methods.
  - Designed and implemented a fast Gaussian puff model to simulate atmospheric transport of methane, achieving a two-order-of-magnitude speedup over a naive implementation.
- **Research Assistant – University of Florida, Gainesville, FL** **Aug 2015 – Jun 2018**
  Bayesian inversion of Mars interior structure
  - Applied a reversible jump Markov chain Monte Carlo (MCMC) algorithm in the trans-dimensional hierarchical Bayesian framework to invert Mars interior structures from surface seismic observations.
  - Participated as a researcher in the NASA InSight project - the first Mars seismology study in human history.

WORK EXPERIENCE

- **Data Science Intern – Schlumberger, Houston, TX** **May - Aug 2021**
  Well logs interpolation and uncertainty quantification using deep learning
  - Pioneered the application of attentive neural processes for well log interpolation and uncertainty quantification, delivering the first reliable prediction uncertainty quantification in the field.
  - Independently developed and deployed a full project using TensorFlow in a GPU-accelerated Google Cloud Platform environment.
  - Received a return offer for a second internship based on strong performance and contributions in machine learning model development.

SKILLS

- **Programming & Software:** Python, R, Matlab, C/C++, Linux Shell script, SQL, high-performance computing (HPC), Google Cloud Computing, Github, Latex
- **Data Science & Machine Learning:** Deep Learning (Tensorflow, PyTorch, Physics-Informed Neural Networks, Transformers, Reinforcement Learning), Data Analytics (Numpy, Scikit-learn, SciPy), Data Management (Pandas, MySQL), Data Visualization (Matplotlib, Seaborn)
- **Professional:** Quick Learning, Multitasking, Creative Problem Solving, Interdisciplinary Collaboration, Oral Presentations, Technical Writing