



Application of Machine Learning and AI in Geophysics

26–28 October 2021

CALL FOR ABSTRACTS

Submit Abstract: ns@seg.org with “Application of Machine Learning and AI in Geophysics” in the subject line

Workshop description:

Machine Learning (ML) is a sub-field of Artificial Intelligence (AI) that experienced a rapid growth in the last 10 years across diverse industries, including communications, financial services, security, transportation, etc. Applications of ML have produced dramatic results enabling new opportunities and business models. Driving the adaptation of ML are the large volume and velocity of information, the application of deep learning techniques, and economic computing power. Applied to geosciences, these data-driven approaches are complementary tools for physical-based modeling, simulation, and inversion. ML facilitates an understanding of complex relationships among a large and diverse set of variables, valuable for generating, validating models, and answering scientific questions. In summary, ML can enable higher-quality decisions more efficiently in the environmental and energy sectors. Geoscience datasets are among the largest volumes of data, possessing a wide range of properties with scales varying over many orders of magnitude. This workshop will discuss the challenges, opportunities, and trends related to the adoption of ML in geoscience research and industrial workflows. Professionals from academia, oil and gas, and technology will present applications and case studies, promote discussion, and propose practical solutions to take greater advantage of ML methods.

Workshop Objective:

This workshop will discuss the challenges, opportunities, and trends related to the adoption of ML in geoscience research and industrial workflows. Professionals from academia, environmental, energy, and technology companies will present applications and case studies, promote discussion, and propose practical solutions to take greater advantage of ML and AI methods.

Possible Topics:

- Machine learning theory
- Case studies in geoscience
- Case studies in reservoir engineering
- Applications to seismic processing

- Applications to seismic interpretation
- Applications to reservoir characterization
- Future trends in new energy technology
- Environmental geoscience and climate modeling
- Geospatial big data
- Simulated augmented decision making

Abstracts:

- 2 pages with at least 1 fully captioned image/graph/table.
- Time New Roman, size 12 font
- Single column
- Title should be one or two lines, at the top of the page, in bold font, and size 12 point. Authors should be listed in Roman italic font, size 10 point, and located just below the title. All text must stay one inch clear of the margins of the page. Submissions should be in Adobe Acrobat PDF format.
- Abstracts should include sufficient details for the committee to judge the quality of the submitted work.
- Submissions should be in Adobe Acrobat PDF format.
- Abstracts should be submitted to ns@seg.org

Call for papers opens on 1 July 2021 and closes on 10 September 2021

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