

Peer Review

Review of: "Uncertainty-Driven Modeling of Microporosity and Permeability in Clastic Reservoirs Using Random Forest"

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The manuscript is well-structured and sounds good to me; however, it needs some modifications before being considered for possible publication in the journal. Major revision is recommended.

Comments:

- The novelty and necessity of this research should be emphasised more in the Abstract and Introduction sections.
- The Methodology section should be extended more mathematically.
- In the literature review, a brief mention of the research that used different machine learning techniques for porosity and permeability prediction is recommended, such as:

- <https://link.springer.com/article/10.1007/S11600-021-00700-8>
- <https://link.springer.com/article/10.1007/s13146-019-00493-4>
- <https://link.springer.com/article/10.1007/s11600-022-00944-y>
- <https://link.springer.com/article/10.1007/s12145-024-01419-y>
- https://bgo.ogs.it/sites/default/files/pdf/bgo00454_Moosavi.pdf
- https://www.ijgeophysics.ir/article_203728.html?lang=en
- https://journals.ut.ac.ir/article_100681_ab974c8fe4ae4c997ff48af8bdf160e9.pdf

- A quantitative analysis needs to be added to show the reliability of the results.
- Why didn't you consider other powerful machines for evaluating your results better? I suggest adding another well-known method.

Regards

Declarations

Potential competing interests: No potential competing interests to declare.