Mosaad Ali Hussein Ali

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Summary

I am an assistant professor at the Mining Department, Faculty of Engineering, Assiut University, Egypt, where I supervise the development of the environmental, mining, and engineering geophysics program. My current research involves developing electrical resistivity/IP/GPR tomography for mineral exploration and monitoring infiltrations in porous media over time. Additionally, I am working on utilizing geophysical methods for the characterization of eco-systems, such as groundwater pollution, waste storage centers, infiltration areas, and the impacts of climate change. My recent research also focuses on AI/Machine learning, mineral exploration, groundwater contamination, surveying and mapping remote sensing, GIS, and climate change.

Experience

Careers

- Manager of Environmental Impact Assessment Center 1/2024 to Present
- Assistant Professor 11/2021 to Present
- Assistant teacher 2014 to 2021
- Demonstrator 2010 to 2014.

Mining Department, Faculty of Engineering, Assiut University, Assiut, Egypt.

- Survey engineer then project manager 2008 to 2010

Nile Company for Roads and Bridges, Egypt.

Teaching experiences

- Geological Engineering
- Geophysical exploration
- Geological Mining1, Geological Mining2
- GIS, Remote sensing
- Geo-statistics, Data analysis, Data science, Machine learning
- Images and data analysis
- Survey and mapping, Mines Survey Project
- Introduction to Mining Engineering
- Mines Development
- Underground Mining Engineering
- Industrial Pollution, Mines ventilation
- Ore dressing 1, Ore dressing 2

Scientific Research

- Scientific Publishing Skills, I published several peer-reviewed papers since 2013 to date, see the publications listed below.
- Participation and contribution to three research projects during the PhD period.
- I work as a reviewer for several scientific journals affiliated with the publishers Elsevier and Springer Nature.
- Attended conferences to network with professionals and stay updated on the latest developments.

Education

- Doctor of Philosophy Geological Resources and Geological Engineering (Mining, Environment, and Engineering Geophysics) *2016-2021*, Hohai University, Nanjing, China.
- Master of Science in Mining Engineering *2010-2014*, Assiut University, Egypt.
- B.Sc. in Mining & Metallurgical Engineering *2003-2008*, Assiut University, Egypt.

Academic Achievement Award

- B.Sc. Honor Graduation Award, Assiut University, Assiut, Egypt, 2008.
- El-Tahlawi's Award for Mining Engineering and Geology Structural MSc, Assiut University, Egypt, 2014.
- CSC Scholarship for PhD at Hohai University, China, 2016

Skills

- Resistivity, IP, and GPR meters operation and data analysis
- Subsurface imaging, mapping, and 3D visualization
- Python, Matlab programming
- GIS, Remote Sensing
- Res2dinv/mod & Res3dinv/mod software
- Data processing and interpretation
- Technical report writing
- Surfer, RockWorks , AutoCAD, GPR-SLICE, RADAN software
- Ability to learn any software.

Publications list

A. Journal Papers:

1. Umar M. M. K., Zakariya M. A., Baba A. M., Tasiu M., Abdullahi U. M., Ousmane S., Abdoul Fatakhou B., Sani T., Jibril A., **Mosaad Ali**, Aliyu U., Muhammad B. "Improving Short-term Daily Streamflow Forecasting Using an Autoencoder Based CNN-LSTM Model" Water Resources Management, 2024, https://doi.org/10.1007/s11269-024-03937-2 (SCI) Q1
2. A. Shebl, D. Abriha, M. Dawoud, **Mosaad Ali**, and Á. Csámer, "PRISMA vs. Landsat 9 in lithological mapping − a K-fold Cross-Validation implementation with Random Forest," Egyptian Journal of Remote Sensing and Space Science, vol. 27, no. 3. pp. 577–596, 2024, https://doi.org/10.1016/j.ejrs.2024.07.003 (SCI) Q2
3. A. H. A. Ahmed, W. Jin, and **Mosaad Ali**, "Prediction of compressive strength of recycled concrete using gradient boosting models," Ain Shams Eng. J., vol. 15, no. 9, p. 102975, Sep. 2024, https://doi.org/10.1016/j.asej.2024.102975 (SCI) Q1
4. Abdullahi Uwaisu Muhammad, Tasiu Muazu, Haihua Ying, Abdoul Fatakhou Ba, Sani Tijjani, Jibril Muhammad Adam, Aliyu Uthman Bello, Muhammad Muhammad Bala, **Mosaad Ali**, Umar Sani Dabai, Umar Muhammad Mustapha Kumshe & Muhammad Sabo Yahaya, "Enhanced streamflow forecasting using attention-based neural network models: a comparative study in MOPEX basins," Model. Earth Syst. Environ., no. 0123456789, 2024, https://doi.org/10.1007/s40808-024-02088-y (SCI) Q3
5. Ahmed AHA, Jin W, **Mosaad Ali**. Comparative analysis of intelligent models for predicting compressive strength in recycled aggregate concrete. Model Earth Syst Environ, 2024. https://doi.org/10.1007/s40808-024-02063-7 (SCI) Q3
6. **Mosaad Ali**, Mewafy FM, Qian W, Faruwa AR, Shebl A, Dabaa S, et al. Numerical Simulation of Geophysical Models to Detect Mining Tailings' Leachates within Tailing Storage Facilities. Water, 2024, 16(5):753. https://doi.org/10.3390/w16050753 (SCI) Q2
7. **Mosaad Ali**, Mewafy, F. M., Qian, W., Alshehri, F., Almadani, S., Aldawsri, M., Aloufi, M. and Saleem, H. A., (2023). "Mapping Leachate Pathways in Aging Mining Tailings Pond Using Electrical Resistivity Tomography.", Minerals, 13(11), p. 1437, https://doi.org/10.3390/min13111437 (SCI) Q2
8. **Mosaad Ali**, Farag M. Mewafy, Wei Qian, Fahad Alshehri, Mohamed S. Ahmed, and Hussein A. Saleem. "Integration of Electrical Resistivity Tomography and Induced Polarization for Characterization and Mapping of (Pb-Zn-Ag) Sulfide Deposits." Minerals 13, no. 7 (2023): 986. https://doi.org/10.3390/min13070986 (SCI) Q2
9. **Mosaad Ali**, Shulin Sun, Wei Qian, Abdou Dodo Bohari. Electrical resistivity imaging for detection of hydrogeological active zones in karst areas to identify the site of mining waste disposal. Environmental Science and Pollution Research (2020). https://doi.org/10.1007/s11356-020-08738-9 (SCI). (SCI) Q1
10. Bohari, A.D., Harouna, M. and **Mosaad Ali**. (2018) Geochemistry of Sandstone Type Uranium Deposit in Tarat Formation from Tim-Mersoi Basin in Northern Niger (West Africa): Implication on Provenance, Paleo-Redox, and Tectonic Setting. Journal of Geoscience and Environment Protection, 6, 185-225. https://doi.org/10.4236/gep.2018.68014 (Ei).

11. Dusabemariya C, Qian W, Bagaragaza R, Faruwa AR, **Mosaad Ali**. Some Experiences of Resistivity and Induced Polarization Methods on the Exploration of Sulfide: A Review. J Geosci Environ Prot, 2020, 8:68–92. https://doi.org/10.4236/gep.2020.811004 (Ei).
12. Dusabemariya C, Jiang F, Qian W, Faruwa AR, Bagaragaza R, **Mosaad Ali**. Water seepage detection using resistivity method around a pumped storage power station in China. J Appl Geophys, 2021, 188:104320. https://doi.org/10.1016/j.jappgeo.2021.104320 (SCI).
13. Faruwa AR, Qian W, Obafunmilayo OS, Daramola BB, **Mosaad Ali**, Dusabemariya C, et al. Airborne magnetic and radiometric mapping for litho-structural settings and its significance for bitumen mineralization over Agbabu bitumen-belt southwestern Nigeria. Journal of African Earth Sciences, 2021:104222. https://doi.org/10.1016/j.jafrearsci.2021.104222 (SCI)
14. Bohari, Abdou Dodo, Moussa Harouna, **Mosaad Ali**, Wei Qian, and Ibrahim Sarki Laouali. "Petrographic and geochemical implications for ore genesis and mineralogical composition studies of the Tarat formation hosted sandstone uranium deposit in the Tamari Prospect from Arlit, Niger." Journal of African Earth Sciences 185 (2022): 104395. https://doi.org/10.1016/j.jafrearsci.2021.104395 (SCI).
15. Amira Hamdy Ali Ahmed, Wu Jin, **Mosaad Ali**. Artificial Intelligence Models for Predicting Mechanical Properties of Recycled Aggregate Concrete (RAC): Critical Review. Journal of Advanced Concrete Technology, Vol. 20, No. (6), PP 404-429, June 2022 https://doi.org/10.3151/jact.20.404 (SCI).
16. **Mosaad Ali**, Imbaby, S.S. and Ibrahim, A.R. Panel Width Affected by Rock Mass Classifications (Abu-Tartur Phosphate Mines). JES, Vol.41, No. (3), PP1364-1379, May 2013.
17. **Mosaad Ali**, Ibrahim, A.R. and Imbaby, S.S. Load Calculations and Selection of The Powered Supports Based on Rock Mass Classification and Other Formulae for Abu- Tartur Longwall Phosphate Mining Conditions. JES, Vol.41, No. (4), PP1728-1742, Jul 2013.
18. **Mosaad Ali**, Ibrahim, A.R. and Imbaby, S S. Application of the Rock Mass Classification Systems to Pillar Design in Longwall Mining for Abu-Tartur Longwall Phosphate Mining Conditions. JES, Vol.41, No. (5), PP2013-2021, Sep 2013.

B. Conference Papers:

1. Amira Ahmed, W. Jin, and **Mosaad Ali**, "Enhancing Compressive Strength Prediction in Recycled Aggregate Concrete Using XGBoost Optimization," BDAI2024 Conference, IEEE, 2024, (Accepted) Scopus.
2. **Mosaad Ali**, Shulin Sun, Wei Qian, Abdou Dodo Bohari, Dusabemariya Claire, Yan Zhang. Application of Resistivity Method for Mining Tailings Site Selection in Karst Regions. E3S Web Conf. 144, 1002 (2020) DOI: https://doi.org/10.1051/e3sconf/202014401002 (Ei).
3. **Mosaad Ali**, Shulin Sun, Wei Qian, Abdou Dodo Bohari, Dusabemariya Claire, Yan Zhang. Geoelectrical tomography data processing and interpretation for Pb-Zn-Ag mineral exploration in Nash Creek, Canada. 2nd International Conference "Essays of Mining Science and Practice", National Academy of Sciences of Ukraine. https://doi.org/10.1051/e3sconf/202016800003 (Ei).
4. **Mosaad Ali**, Shulin Sun, Wei Qian, Abdou Dodo Bohari, Dusabemariya Claire, Ajibola Richard Faruwa, Yan Zhang. Borehole resistivity and induced polarization tomography at the Canadian Shield for Mineral Exploration in north-western Sudbury. 2nd International Conference "Essays of Mining Science and Practice", National Academy of Sciences of Ukraine. https://doi.org/10.1051/e3sconf/202016800002 (Ei).
5. **Mosaad Ali**, Ibrahim, A.R. and Imbaby, S S. Constructing Nomograms and A Computer Program with Rock Mass Classification Systems to Check Pillar Stability for Abu-Tartur

Longwall Phosphate Mining Conditions. 12th International Conference on Mining, Petroleum and Metallurgical Engineering (MPM12), Suez, Egypt, 20-22, Oct. 2014.

C. Theses

1. Title of PhD Dissertation: "*Machine Learning Inversion of Resistivity and Chargeability Data for Underground Mineral Exploration and Environmental Protection*" Ph.D. Thesis, Hohai University, Nanjing, China, 2021.
2. Title of Master's Thesis: "Application of Rock Mass Classification in Mine Design (Case Study Abu- Tartur Phosphate Mines)" M. Sc. Thesis, Assiut University, Egypt, 2014.

Important Links:

1- My home page

http://www.aun.edu.eg/engineering/mosaad-ali-hosain

2- Web of Science

Mosaad Ali - Web of Science Core Collection

3- Scopus

Ali, Mosaad Ali Hussein - Author details - Scopus

4- Research Gate

https://www.researchgate.net/profile/Mosaad-Ali

5- ORCID

Mosaad Ali (0000-0002-1796-0134) - My ORCID