عنوان مقاله:

Introducing an innovative framework for Mineral Exploration through the integration of Advanced Machine Learning Methodologies within the domain of Geophysics

نویسندگان:

Sara Momenipour – Master in Science Economic Geology

Nima Dolatabadi – Master in Science Geophyics

خلاصه مقاله:

This study focuses on the challenges faced by mineral exploration in Iran and proposes the integration of Python programming and machine learning to overcome these challenges. It explores the complexities of geological and topographical mapping, remote sensing applications, geophysics, and core drilling. Python libraries like GDAL, GeoPandas, Spectral Python, OpenCV, ObsPy, and GeoMagPy are highlighted for their ability to automate and enhance various aspects of mineral exploration. The study emphasizes the importance of accurate geological mapping and the potential of deep learning methods in analyzing remote sensing data. It also discusses the application of joint inversion techniques for interpreting exploration data and improving the understanding of magnetotelluric data. Despite challenges related to insufficient data and a shortage of specialists, the adoption of Python programming and machine learning techniques can lead to significant advancements in mineral exploration in Iran, fostering economic development and job creation in the mining sector.

کلمات کلیدی:

PYTHON, MINERAL, EXPLORATION, ML

لینک ثابت مقاله در پایگاه سیویلیکا:

https://civilica.com/doc/1992187