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Machine Learning and Computer Vision Techniques in Geosciences: Laboratory and Field Applications

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Deadline for manuscript submissions:
closed (13 May 2022)

Message from the Guest Editors

Dear Colleagues,

We kindly invite you to contribute to a new Special Issue for *Minerals*, focusing applications of machine learning and computer vision in geosciences in the fields of mineralogy and petrology.

Recognising structures and patterns at different scales is fundamental for a correct identification of minerals and rocks and for determining parameters that influence the exploitation of natural resources, like porosity or granulometry.

Although the role of experts may never be replaced, there are techniques that have helped and optimized manual processes in geosciences, like mineral identification through thin-section microscopy or rock-mass structure recognition. These advances can be backboned by machine learning and computer vision techniques. By combining computer vision techniques with virtual reality, it is possible to obtain 3D virtual replicas of spaces and materials, potentially interesting for educational purposes.

In this Special Issue, we invite researchers to contribute with developments related to the application of machine learning and computer vision techniques in the field of geosciences, focused on mineralogy and petrology.

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Message from the Editor-in-Chief

Minerals welcomes submissions that report basic and applied research in mineralogy. Research areas of traditional interest are mineral deposits, mining, mineral processing and environmental mineralogy. The journal footprint also includes novel uses of elemental and isotopic analyses of minerals for petrology, geochronology and thermochronology, thermobarometry, ore genesis and sedimentary provenance. Contributions are encouraged in emerging research areas such as applications of quantitative mineralogy to the oil and gas, manufacturing, forensic science, climate change, geohazard and health sectors.

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