

Image processing and machine learning applications in mining industry: Mine 4.0

Recently, Image processing (IP) and Machine learning (ML) algorithms have been successfully used in a wide variety of industry sectors. In this paper, we first provide mining engineers with the state of the art about IP and ML applications in the mining industry. Furthermore, we propose a real time application for froth image analysis in the context of mineral processing. Finally, we propose some future directions, including suggestions on mining data collection and development of an exploration tool based on IP and ML algorithms by taking advantage of cloud computing technology to analyze geosciences data in order identify target areas with high prospectively potential.