Jackson, R[1]

1.Senior Technical Services Consultant - Technical Lead Geology, Maptek, Arrowtown, South Island, New Zealand; richard.jackson@maptek.com.au

ABSTRACT

How machine learning and cloud computing reinvents the grade control geologist as a decision maker

Grade control is an essential process in mining and impacts many disciplines including geology, engineering, drill & blast and scheduling. Ensuring that the correct grade gets to the correct destination is an important driver in identifying and implementing process improvement.

Machine learning and cloud computing promise to add immense value to mining operations. Increases in the speed and repeatability of modelling are notable and provide solutions to existing daily mine site challenges.

The greatest benefit is derived however, when we ask what new technology can offer that we never before imagined, rather than simply asking how we can improve the current methods with new technology.

The Grade Control geologist is one of the most time poor geologists in the modelling space. Mining pressures typically dictate that they are focussed on producing a single solution to their task.

This paper explores how machine learning and cloud computing can be used to re-invent the Grade Control geologist as a decision maker, providing them with only the information that they need in order to extract the maximum value to the deposit under changing mining constraints.

Richard Jackson, Senior Technical Services Consultant - Technical Lead Geology, Maptek

Richard Jackson is the Technical Lead for researching and developing leading-edge geology functionality to meet the needs of modern mining. With 15 years experience in the mining industry across Australia, New Zealand and Asia, Richard helps identify technical solutions for coal, metals and geotechnical customers. He focuses on improvements to resource modelling and grade control processes, as well as mine planning optimisation and design.