Using AI to Generate Mining Algorithms

Hard-rock mining of uranium in Canada's north is challenging due to the high grades of the deposits. Operating risk exposures are heightened when mining in high-grade uranium ore bodies that are exposed to possible flooding from water above the mine. To succeed in this environment, Cameco has successfully mechanized their operations, relying on jet boring technology. This project will advance the visibility and automation systems for jet boring by:

1) creating large volumes of data created by ongoing measurement of the process;
2) collecting, analyzing, and synthesizing that data to form conclusions; and
3) confirming the effectiveness of using those conclusions to inform, control and direct operational decisions and automation of the mechanized jet boring systems.

At this early stage, proof of concept level work will identify further opportunities that can point to or suggest a roadmap for further automation and optimization possibilities within mining.

PROJECT INFORMATION:

Proponent: Cameco Corporation and Saskatchewan Polytechnic

Project Duration: July 2020 to June 2022

Project Cost:	**$106,667**
IMII Contribution:	$ 48,000
Mitacs:	$ 58,667