
Geomechanical Engineer

Expertise Rock Mechanics, Numerical Modeling

Education M.Sc. Civil Engineering (Soil- and Rock Mechanics), 2023
Royal Institute of Technology, Stockholm, Sweden

Professional Experience

2023 – Present ITASCA Sweden
Geomechanical Engineer

Project Experience

Numerical Analysis

Numerical modelling for stability assessment of a jointed rock mass: Developed a numerical model in *FLAC3D* with discrete joint elements for simulation of fractured rock. The purpose was to assess the response of the rock mass adjacent to an existing surface shaft from a nearby dam raise. Modelling of the discrete joint surfaces allowed for identification of possible rock wedges and assessment of their stability.

Numerical modelling for evaluation of rock support in rill mining drifts: Developed a numerical model in *FLAC3D* with structural elements simulating bolts and shotcrete for assessing the suitability of different rock support systems for varying drift levels in Björkdalsgruvan. The work also included validation of rock mass quality through core logging from rock core photos.

Other

Assessment of pillar stability at Björkdalsgruvan using empirical solutions.

Analytical modeling of frost action on sheet pile walls: The study included estimation of frost heave pressure acting on single- and multi-anchored sheet pile walls using 2D linear-elastic beam deformation modelling as well as evaluation of results using data from case studies and scientific references.

Additional experience involves FEM modeling of tunnel deformation and evaluating tunnel support using *PLAXIS 2D*, rock core logging characterization using *RMR*, *RQD*, and *Q*-value, and water ingress analysis and design of grout fan using analytical methods.