

Data fusion using machine learning: Towards real-time implementation of geometallurgical models for ore tracking

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This study explores the integration of data fusion using machine learning methods for ore tracking from mine to mill, with the goal of developing predictive geometallurgical models. Conducted at Boliden Mineral AB's Garpenberg Zn-Pb-Ag-(Cu-Au) mine in Sweden, the research utilizes extensive geological, operational, and legacy data to create a foundation for a digital twin geometallurgical model for the processing plant. By combining 3D geological data with mining and plant operational data, the project aims to enhance the understanding of ore variability and its impact on processing performance. This approach not only seeks to improve efficiency and reduce variability in production but also provides valuable insights for more accurate prediction and simulation models in geometallurgy. The outcomes of this research could contribute significantly to the future of data-driven mine planning for optimized performance.