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Titolo	Advanced Analytics in Mining Engineering : Leverage Advanced Analytics in Mining Industry to Make Better Business Decisions / / edited by Ali Soofastaei
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Soggetti	Operations research Management science Data mining Industrial engineering Production engineering Mathematical models Computer science Operations Research, Management Science Data Mining and Knowledge Discovery Industrial and Production Engineering Mathematical Modeling and Industrial Mathematics Computer Science
Lingua di pubblicazione	Inglese
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Livello bibliografico	Monografia
Nota di contenuto	Advanced analytics for mining industry.-Advanced analytics for modern mining.-Advanced analytics for ethical considerations in mining industry -- Advanced analytics for mining method selection -- Advanced analytics for valuation of mine prospects and mining projects -- Advanced analytics for mine exploration.-Advanced analytics for surface mining -- Advanced analytics for surface extraction --

Advanced analytics for surface mines planning -- Advanced analytics for dynamic programming -- Advanced analytics for drilling and blasting -- Advanced analytics for rock fragmentation -- Advanced analytics for rock blasting and explosives engineering in mining -- Advanced analytics for rock breaking -- Advanced analytics for mineral processing -- Advanced analytics for decreasing greenhouse gas emissions in surface mines -- Advanced analytics for Haul Trucks energy-efficiency improvement in surface mines -- Advanced analytics for mine materials handling -- Advanced analytics for mine materials transportation -- Advanced analytics for energy-efficiency improvement in mine-railway operation -- Advanced analytics for hard rock violent failure in underground excavations -- Advanced analytics for heat stress management in underground mines -- Advanced analytics for autonomous underground mining -- Advanced analytics for spatial variability of rock mass properties in underground mines.

Sommario/riassunto

In this book, Dr. Soofastaei and his colleagues reveal how all mining managers can effectively deploy advanced analytics in their day-to-day operations- one business decision at a time. Most mining companies have a massive amount of data at their disposal. However, they cannot use the stored data in any meaningful way. The powerful new business tool-advanced analytics enables many mining companies to aggressively leverage their data in key business decisions and processes with impressive results. From statistical analysis to machine learning and artificial intelligence, the authors show how many analytical tools can improve decisions about everything in the mine value chain, from exploration to marketing. Combining the science of advanced analytics with the mining industrial business solutions, introduce the “Advanced Analytics in Mining Engineering Book” as a practical road map and tools for unleashing the potential buried in yourcompany’s data. The book is aimed at providing mining executives, managers, and research and development teams with an understanding of the business value and applicability of different analytic approaches and helping data analytics leads by giving them a business framework in which to assess the value, cost, and risk of potential analytical solutions. In addition, the book will provide the next generation of miners – undergraduate and graduate IT and mining engineering students – with an understanding of data analytics applied to the mining industry. By providing a book with chapters structured in line with the mining value chain, we will provide a clear, enterprise-level view of where and how advanced data analytics can best be applied. This book highlights the potential to interconnect activities in the mining enterprise better. Furthermore, the book explores the opportunities for optimization and increased productivity offered by better interoperability along the mining value chain – in line with the emerging vision of creating a digital mine with much-enhanced capabilities for modeling, simulation, and the use of digital twins – in line with leading “digital” industries.