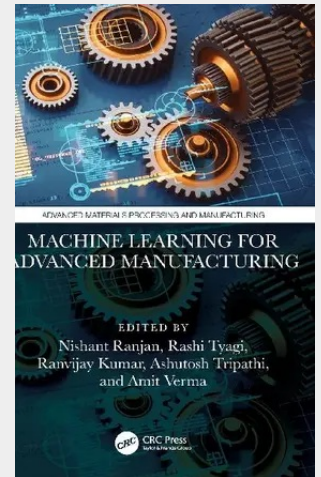


Machine Learning for Advanced Manufacturing

This book presents the use of machine learning (ML) and artificial intelligence in advanced and new manufacturing processes, including core concepts and techniques of machine learning. It covers recent developments and research breakthroughs of tribological properties of polymer-, metal-, and ceramic-based additive manufactured components. It details the various technologies available to fortify the machine learning aspects in the advanced manufacturing processes, focusing on multidisciplinary domains of science and technology. Features: - Establishes a relationship between ML and advanced manufacturing (AM) technology. - Helps understand the challenges and opportunities of using ML in materials processing, selection, and manufacturing for different areas. - Reviews the hybridization of techniques under ML for prediction and optimization for quality, productivity, and sustainability in manufacturing. - Provides a comprehensive overview of the state-of-the-art, future directions, latest developments, and recent developments in ML for AM. - Covers the basics of ML with implementation procedure and effectiveness details to provide a roadmap. This book is aimed at researchers and graduate students in mechanical, manufacturing, and industrial engineering.

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