Record Nr. UNINA9910992774403321 Autore Sarkar Bidyut Titolo Al for Advanced Manufacturing and Industrial Applications / / Bidyut Sarkar and Rudrendu Kumar Paul Cham:,: Springer,, [2025]264 Pubbl/distr/stampa ©2025 **ISBN** 9783031860911 Descrizione fisica 1 online resource (xx, 174 pages): illustrations Disciplina 006.3 Soggetti Artificial intelligence - Industrial applications Manufacturing processes - Automation Industrial engineering Production engineering Big data Artificial Intelligence Industrial and Production Engineering Big Data Intel·ligència artificial Aplicacions industrials Enginyeria industrial Llibres electrònics Lingua di pubblicazione Inglese

Formato Materiale a stampa

Livello bibliografico Monografia

Nota di bibliografia Includes bibliographical references and index.

Nota di contenuto Introduction to AI in Manufacturing -- AI-Driven Manufacturing

> Processes -- Al and Advanced Analytics Applications -- Intelligent Supply Chains -- Implementation Challenges and Solutions -- Al Safety

and Ethical Considerations -- The Road Ahead.

Sommario/riassunto This book provides a deep dive into the applications of Artificial

> Intelligence (AI) in advanced manufacturing and intelligent autonomous systems. Through real-world use cases and cutting-edge insights, it examines how AI, machine learning, IoT, and Industry 5.0 are revolutionizing manufacturing processes from end to end. Discover how integrating AI technologies with data analytics and IoT can unlock

smarter, more efficient, and adaptable manufacturing solutions. Learn how predictive algorithms can foresee equipment failures, optimize inventory in real time, and enable autonomous robots to handle complex tasks, from assembly to logistics. With these innovations, manufacturers can achieve new levels of productivity, drive innovation, and create future-ready business models. Designed for industry practitioners, decision-makers, and aspiring professionals, this comprehensive guide offers actionable strategies and practical insights for implementing AI in advanced manufacturing. Whether you're a leader seeking to modernize operations or a graduate student aiming to enter this dynamic field, this book will empower you to navigate and leverage the next frontier of industrial innovation.