Using Real-Time Data and AI for Thrust Manufacturing

Part of the Advances in Computational Intelligence and Robotics Book Series

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Description:

In the dynamic world of manufacturing, the industry has grappled with ongoing issues such as expensive machine maintenance, operational inefficiencies, and the production of defective products. The need for informed decision-making to maintain quality, meet deadlines, and prevent disruptions is more crucial than ever. Enter **Using Real-Time Data and AI for Thrust Manufacturing**, a groundbreaking book that addresses these challenges head-on. As Industry 4.0 transforms the manufacturing sector through the integration of the Internet of Things (IoT) and artificial intelligence (AI), this book serves as a beacon for academic scholars and industry professionals alike, offering profound insights into the world of AI-driven industry solutions.

The objective of this book is clear—to revolutionize the manufacturing sector by leveraging human expertise and AI-driven data technologies. By delving into the realms of Industry 4.0, IoT, and AI, the book systematically tackles issues such as costly downtime, inefficient processes, and the production of substandard products. With a focus on turning raw data into meaningful insights, the book explores AI applications like machine learning and deep learning, natural language processing, and machine vision. From predictive maintenance to improved demand forecasting, quality assurance, inspection, and warehouse automation, the book positions AI as the linchpin of "Industry 4.0," ensuring not only cost savings but also safety improvements and supply-chain efficiencies.

The target audience for this comprehensive guide includes professionals, policymakers, budding researchers, academicians, and industry experts seeking a deep dive into the transformative power of AI in manufacturing. With a unique thematic focus on AI's societal benefits, resource efficiency, and enhanced quality of life, this book stands out in the global market. The recommended topics within the book cover the spectrum of real-time data and AI applications, intelligent document processing, vendor-manufacturer communication, future trends in AI-enabled manufacturing, and the transformative potential of AI in various manufacturing sub-sectors. **Using Real-Time Data and AI for Thrust Manufacturing** is the definitive solution for those eager to navigate the complexities of Industry 4.0 and harness the true potential of AI in manufacturing.

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Topics Covered:

- AI Technology and Robotics
- AI-Based Document Processing
- AI-Empowered Purchasing and Shipping
- AI-Powered Manufacturing Tools
- Artificial Intelligence
- Benefits for Business Productivity of AI
- Daily Operations with AI
- Industrial Revolution (Industry 5.0)
- Manufacturing Sub-Sectors
- Manufacturing Surveys
- Predictive Analytics with AI
- Real-Time Monitoring with AI
- Transformation of Manufacturing with AI
- Thrust Manufacturing
- Vendor-Manufacturer Communication

Subject: Computer Science & Information Technology

Classification: Edited Reference

Readership Level: Advanced-Academic Level (Research Recommended)

Research Suitable for: Advanced Undergraduate Students; Graduate Students; Researchers; Academicians; Professionals; Practitioners