Synthèses:

AI based Modeling and data-driven evaluation for Smart facturing processes :

Mohammadhossein Ghahramani,Yan Qiao, *Member, IEEE,* MengChu Zhou, *Fellow, IEEE*, Adrian O'Hagan, and James Sweeney

This text provides an in-depth exploration of the application of artificial intelligence (AI)-based modelling and data-driven evaluation in the field of intelligent manufacturing processes. The authors highlight the evolution of manufacturing practices towards more intelligent and automated systems, and highlight the crucial role that AI can play in this transition.

The paper looks in detail at the various ways AI can be integrated into manufacturing processes to improve operational efficiency, product quality and resource management. This includes the use of techniques such as machine learning for maintenance prediction, process optimisation and anomaly detection. The authors also emphasise the importance of data in this context, highlighting its central role in training AI models and evaluating the performance of manufacturing processes.

In addition, the text discusses the challenges and potential barriers associated with integrating AI into manufacturing processes, including the need for high-quality data, data privacy and ethical implications. The authors offer perspectives on how to overcome these challenges and offer recommendations for the successful implementation of AI in manufacturing. It provides an in-depth analysis of the use of AI in smart manufacturing processes, highlighting its potential benefits, challenges and best practices for its successful integration.

Challenges and opportunities: from Big data to knowledge in AI 2.0

Yue-ting ZHUANG, Fei WU, Chun CHEN, Yun-he PAN

The authors explore the landscape of advanced artificial intelligence. With insightful analysis, they examine the transition from megadata to the creation of actionable knowledge, highlighting the associated challenges and opportunities.

Their discussion of challenges such as massive data management, data quality and privacy concerns offers a deeper insight into the hurdles to overcome in the development of AI 2.0. At the same time, their exploration of opportunities in diverse areas such as healthcare, transport and education highlights the transformational potential of AI in these sectors.

The focus is on interdisciplinary collaboration and ethics. The authors stress the crucial importance of these elements in the future development and application of AI, calling for an integrated and responsible approach to the technology. As such, it is an exploration of the current and future state of AI, prompting reflection on how society can shape its evolution in a responsible and innovative way.

How to Dene and Execute Your Data and AI Strategy

Ulla Kruhse-Lehtonen, Dirk Hofmann

This text offers a detailed analysis of how to define and implement an effective data and artificial intelligence (AI) strategy. Mentioning essential steps needed for companies to take full advantage of their data and successfully integrate AI into their operations.

The authors begin by stressing the importance of defining clear objectives that are aligned with the company's overall mission. This involves a thorough understanding of the organisation's specific needs and where data and AI can add value. They also emphasise that these goals must be defined taking into account the unique opportunities and challenges of each business.

The importance of data governance is highlighted. This includes collecting, storing and managing data securely and in compliance with current regulations. Solid data governance is essential to guarantee the quality, reliability and confidentiality of information.

The authors also address the issue of corporate culture and employee training. They point out that for a data and AI strategy to be effective, it is crucial that everyone in the organisation understands its importance and is ready to embrace it. This often requires awareness-raising and training to develop a By focusing on setting clear objectives, data governance and fostering a supportive corporate culture, the authors offer practical advice for maximising the value of data and AI in the context of contemporary business.

Big Data and AI Revolution in Precision Agriculture: Survey and Challenges
SHOWKAT AHMAD BHAT AND NEN-FU HUANG

This text explores the impact of the big data and artificial intelligence (AI) revolution on precision farming. The authors present an in-depth investigation of how these technologies are transforming traditional farming practices.

They highlight the growing importance of big data in modern agriculture, highlighting how sensors, drones and other monitoring technologies are generating massive volumes of data on crop conditions, soils and climate. The authors then explore how AI can be used to analyse this data and provide valuable information to farmers, such as recommendations on cropping practices, water management and yield prediction.

However, he does more than just highlight the potential benefits of this revolution. It also discusses the major challenges facing the widespread adoption of big data and AI in agriculture. These include issues of data confidentiality, high implementation costs and the need to train farmers to use these technologies effectively.

A detailed overview of the transformation underway in agriculture through big data and AI is observed. The authors present the opportunities offered by these technologies while acknowledging the obstacles to be overcome for wider and successful adoption.