



Big Data Applications in Industry 4.0

Edited By **P. Kaliraj** and **T. Devi**

Industry 4.0 is the latest technological innovation in manufacturing with the goal to increase productivity in a flexible and efficient manner. Changing the way in which manufacturers operate, this revolutionary transformation is powered by various technology advances including Big Data analytics, Internet of Things (IoT), Artificial Intelligence (AI), and cloud computing. Big Data analytics has been identified as one of the significant components of Industry 4.0, as it provides valuable insights for smart factory management. Big Data and Industry 4.0 have the potential to reduce resource consumption and optimize processes, thereby playing a key role in achieving sustainable development.

Big Data Applications in Industry 4.0 covers the recent advancements that have emerged in the field of Big Data and its applications. The book introduces the concepts and advanced tools and technologies for representing and processing Big Data. It also covers applications of Big Data in such domains as financial services, education, healthcare, biomedical research, logistics, and warehouse management. Researchers, students, scientists, engineers, and statisticians can turn to this book to learn about concepts, technologies, and applications that solve real-world problems.

Features

- An introduction to data science and the types of data analytics methods accessible today
- An overview of data integration concepts, methodologies, and solutions
- A general framework of forecasting principles and applications, as well as basic forecasting models including naïve, moving average, and exponential smoothing models
- A detailed roadmap of the Big Data evolution and its related technological transformation in computing, along with a brief description of related terminologies
- The application of Industry 4.0 and Big Data in the field of education
- The features, prospects, and significant role of Big Data in the banking industry, as well as various use cases of Big Data in banking, finance services, and insurance
- Implementing a Data Lake (DL) in the cloud and the significance of a data lake in decision making

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