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Deep Learning: Convergence to Big Data Analytics

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- Offers an introduction to big data and deep learning
- Presents a unification of big data and deep learning techniques
- Provides an introductory level understanding of the new programming languages and tools used to analyze big data in real-time

This book presents deep learning techniques, concepts, and algorithms to classify and analyze big data. Further, it offers an introductory level understanding of the new programming languages and tools used to analyze big data in real-time, such as Hadoop, SPARK, and GRAPHX. Big data analytics using traditional techniques face various challenges, such as fast, accurate and efficient processing of big data in real-time. In addition, the Internet of Things is progressively increasing in various fields, like smart cities, smart homes, and e-health. As the enormous number of connected devices generate huge amounts of data every day, we need sophisticated algorithms to deal, organize, and classify this data in less processing time and space. Similarly, existing techniques and algorithms for deep learning in big data field have several advantages thanks to the two main branches of the deep learning, i.e. convolution and deep belief networks. This book offers insights into these techniques and applications based on these two types of deep learning. Further, it helps students, researchers, and newcomers understand big data analytics based on deep learning approaches. It also discusses various machine learning techniques in concatenation with the deep learning paradigm to support high-end data processing, data classifications, and real-time data processing issues. The classification and presentation are kept quite simple to help the readers and students grasp the basics concepts of various deep learning paradigms and frameworks. It mainly focuses on theory rather than the mathematical background of the deep learning concepts.

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