» Engineering   » Computational Intelligence and Complexity

Studies in Big Data

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Machine Learning for Adaptive Many-Core Machines - A Practical Approach

Authors: Lopes, Noel, Ribeiro, Bernardete

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Recent research in machine learning for adaptive many-core machines

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About this book

The overwhelming data produced everyday and the increasing performance and cost requirements of applications are transversal to a wide range of activities in society, from science to industry. In particular, the magnitude and complexity of the tasks that Machine Learning (ML) algorithms have to solve are driving the need to devise adaptive many-core machines that scale well with the volume of data, or in other words, can handle Big Data.

This book gives a concise view on how to extend the applicability of well-known ML algorithms in Graphics Processing Unit (GPU) with data scalability in mind. It presents a series of new techniques to enhance, scale and distribute data in a Big Learning framework. It is not intended to be a comprehensive survey of the state of the art of the whole field of machine learning for Big Data. Its purpose is less ambitious and more practical: to explain and illustrate existing and novel GPU-based ML algorithms, not viewed as a universal solution for the Big Data challenges but rather as part of the answer, which may require the use of different strategies coupled together.

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