

HPC4BD 2016 Foreword

Processing large datasets for extracting information and knowledge has always been a fundamental problem. Today this problem is further exacerbated, as the data a researcher or a company needs to cope with can be immense in terms of volume, distributed in terms of location, and unstructured in terms of format. Recent advances in computer hardware and storage technologies have allowed us to gather, store, and analyze such large-scale data. However, without scalable and cost-effective algorithms that utilize the resources in an efficient way, neither the resources nor the data itself can serve science and society to its full potential.

Analyzing Big Data requires a vast amount of storage and computing resources. We need to untangle the big, puzzling information we have and while doing this, we need to be fast and robust: the information we need may be crucial for a life-or-death situation. We need to be accurate: a single misleading piece of information extracted from the data can cause an avalanche effect. Each problem has its own characteristics and priorities. Hence, the best algorithm and architecture combination is different for different applications.

This workshop aims to bring people who work on data-intensive projects and HPC in industry, research labs, and academia together to share problems posed by the use of Big Data in various application domains and the knowledge required to solve them.

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