Big Data Applications for IoT

Learning Outcomes

· To select the most appropriate architecture and storage for a massive set of heterogeneous data within the scope of IoT
· To apply the most appropriate management and analysis techniques for a massive data set.
· To extract information and knowledge for an organization from a massive data set.

Contents

This course addresses the problem of massive data processing, both in batch and online (streams) techniques, so that it facilitates efficient processing and analysis. For this purpose, fundamental aspects such as architectures, paradigms of parallelization or scalability, together with advanced techniques for data analysis are studied.

1. Introduction to Big-Data: concepts, challenges and architectures
2. Parallelization of the Data Process: Fundamentals, batch and streams parallelization
3. Parallelization of applications using Map-Reduce and Apache-Spark paradigms
4. Data analysis: Business Analytics, statistical techniques, advanced techniques (machine learning, deep learning)