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Keynote Title: “Large Scale Data Analytics Technique for Big Data”

Abstract:

Data collections are growing at an unprecedented rate. These collections are generated from various data sources including mobile, internet, sensors, and many other experiments in numerous application domains. These collections are already very large, continue to grow at high velocity by batch and streaming platforms, and they are generated from heterogeneous sources; called Big Data.

Data-intensive (or driven) real-world applications are all behind what we call today ‘big data’. The problem then is how to manage and process all these huge volumes of data. Both the analysis of large datasets and the computing environments created new problems and challenges for efficient execution and optimal system performance. This brought me to look at the challenges of the large scale data analytics in the heterogeneous, complex, and distributed environments. In this talk, I will present advanced data analytics techniques for extracting knowledge from these big data efficiently and within a reasonable response time. I will start by reviewing the key concepts of big data and data analytics, then I will present two large scale approaches of clustering for big data analytics. The first approach focuses on how to exploit the distributed computing features to design efficient data clustering algorithms that are robust, scalable and efficient. The second approach to clustering is to use new concepts of learning to design and develop a clustering approach that not only can be executed on a distributed platform but also create a new technique of learning by negotiation. I will finish by giving some future opportunities and their associated challenges.

Keywords:

Big data analytics, distributed data analytics, distributed clustering techniques, distributed data mining.

Short Bio:

M-Tahar Kechadi is professor in School of Computer Science, University College Dublin (UCD), Ireland. He was awarded MSc and PhD in Computer Science from University of Lille 1, France. He is a principal investigator in the INSIGHT Centre for data analytics at UCD; the biggest research centre in Ireland. He is guest editor of the Journal of Future Generation of Computer Systems. He is a member of the International Knowledge Cloud Consortium (IKCC). He is a visiting professor at Fuzhou University, Fuzhou, Fujian, China. The core and central focus of my research for the last decade is how to manage and analyse data quickly and efficiently. Nowadays we live in digital world, we produce more data than we can analyse and exploit. This "*big data*" will continue to grow at rapid pace, will underpin new waves of innovation in nearly every sector of the world economy, and will reshape the way we build and use computers (hardware and software). Currently, my research interests are primary in :

- Big Data Analytics and its applications to real-world applications.
- Big Data Applications: Digital Healthcare and digital agriculture (Precision Agriculture).
- Distributed Mining techniques and models and their execution environments and applications.

- Cloud/Grid computing and services for supporting data access, management, and mining processes,
- Digital Forensics and cybercrime investigations.