Ernestina Menasalvas – IJCRS'16 Keynote Speaker

Universidad Politecnica de Madrid, Spain

http://www.upm.es/observatorio/vi/index.jsp?pageac=investigador.jsp&idInvestigador=6990

Title of the talk: Challenges of Data Analytics in the Medical Domain

Abstract: Big data applications in the Healthcare Sector indicate a high potential for improving the overall efficiency and quality of care delivery.

Unstructured data represents a powerful untapped resource—one that has the potential to provide deeper insights into data and ultimately help drive competitive advantage. This unstructured data now makes up a very significant portion of the data, and all kind of companies care rapidly exploring technologies for analyzing this kind of data to gain competitive advantage. Solutions to analyze these kinds of data can be applied in other domains using similar nature data sources.

In the health care sector, big data analytics has still to address several technical requirements such as: i) use of Electronic Health Records (EHR) and its implications; ii) preprocessing of natural text; iii) annotation of images; iv) dealing with data silos and building of solutions avoiding them.

In the talk some of the most common challenges of preparing such data for analysis will be analyzed. In particular we will deal with the following challenges:

- Natural language processing: Lost of information (clinical notes, papers, social networks input) is free text and contains valuable knowledge. However techniques for language processing are required. These techniques should take into account acronyms and abbreviations of the medical field, negation finding and multilingual issues.
- Standardized Medical Annotation Framework: A standardized medical text processing and understanding framework supports technical integration of annotation technologies; this incorporates the definition of data formats (output and exchange formats) and information delivered from semantic annotation systems.

Biography: Ernestina Menasalvas holds the position of Professor at the Universidad Politecnica de Madrid (UPM), in Computer Science School. She is also the leader of the MIDAS "Data Mining and Data Simulation Group" at the Center of Biotechnology in UPM. Her research activities are on various aspects of data mining project development. In the last years, her research has been focused on data mining in the medical domain. She has also participated in research and development projects related to data integration and mining on mobile devices, in marketing and aviation. She has published three international books on web mining (edited by Springer in 2003, 2004 and 2009) and a number of articles in journals such as Data and Knowledge Engineering Journal, Information Sciences, Expert Systems with applications, Journal of Medical Systems and International Journal of Intelligent Data Analysis.