EDITORIAL PREFACE

Issue on Visual Analytics

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Journal of Information Technology Research (JITR) has a long tradition in publishing research papers devoted to develop new automatic and intelligent data analysis, for example this feature is pretty present in the four papers that compose current JITR issue. Artificial intelligent techniques, new algorithms, data mining approaches, agent-based solutions, etc. are usually used to do that. Also, it is very common that the performed analysis techniques are complemented with data visualization for presenting the results to the analyst in order to proceed with the decision-making processes.

Information Visualization tries to provide insight from large and complex data sets using visual representations taking advantage of the human vision broad bandwidth pathway to the mind, allowing experts see, explore, and understand large amounts of information at once (Therón, 2006).

However, there are many problems that require a human-expert experience to improve the automatic analysis performed by the machine for the right decision-making. These cases need the automatic processes will be combined and fed back by the human expert interacting with the data representation to gather new knowledge that is hidden in the complex information structures. This combination between the

automatic analysis capabilities of the current computers and the human reasoning is called Visual Analytics.

Visual Analytics is defined as the science of analytical reasoning facilitated by interactive visual interfaces (Thomas & Cook, 2005). This way Visual Analytics provides insight into the vast amounts of scientific, forensic, academic or business data that are stored in heterogeneous data formats. The Visual Analytics process iteratively collects information, preprocesses data, carries out statistical analysis, performs data mining, and uses machine learning, knowledge representation, user interaction, visual representations, human cognition, perception, exploration and the human abilities for decision-making (Keim, Mansmann, Schneidewind, & Ziegler, 2006).

Visual Analytics techniques have been successfully applied to diverse problems such as avian flu (Proulx et al., 2006), eLearning (Gómez-Aguilar, García-Peñalvo, & Therón, 2014; Gómez-Aguilar, Hernández-García, García-Peñalvo, & Therón, 2015), finances (Ziegler, Jenny, Gruse, & Keim, 2010), ontology engineering (García-Peñalvo, Colomo-Palacios, García, & Therón, 2012), security analysis (Harrison, Dou, Lu, Ribarsky, & Wang, 2011), or software evolution (González-Torres,

García-Peñalvo, & Therón, 2013a, 2013b) among others.

JITR is very interesting in publishing innovative research papers that explore the Visual Analytics possibilities in different areas and domain problems.

This second issue of the eighth volume of JITR includes four research papers very related to the automatic analysis processes that were mentioned above.

Ghoulam et al. (2015) focuses their work, entitled "Information Extraction in the Medical Domain" on information extraction from clinical reports. They use two fundamentals tasks: named entity recognition task and relation extraction task, giving details about the most used rule/pattern-based and machine learning techniques for each task and making comparisons between both techniques.

The paper "An Evolutionary Approach for Balancing Effectiveness and Representation Level in Gene Selection" by Dessì et al. (2015) uses data mining techniques to underline underlines two aspects that seem to categorize the large body of available feature selection algorithms: the effectiveness and the representation level through an evolutionary framework for feature selection that expresses a hybrid method, organized in layers, each of them exploits a specific model of search strategy. This framework has been tested with experiments on gene selection from DNA-microarray datasets.

Bouamama and Ghalem (2015) propose a simulator for trade services in a cloud computing environment.

The last paper by Bachrane et al. (2015) entitled "Economic Intelligence Information and Process in Shipping Companies in Morocco: The Case of Tanger Med Area" presents the results of a survey about practices of economic intelligence within a population of 100 shipping companies in the area of TangerMed. The research objective is to check whether information management strategy and economic intelligence exists in these types of companies. The analysis of the gathered data shows that the need for economic intelligence is an emerging concept in these types of companies.

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