Information Systems Frontiers

Special Issue on "Behavioral-Data Mining in Information Systems and the Big Data Era"

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Call for papers

An information system collects and processes data with the aim to extract information and to support decision-making tasks. Since the advent of the so-called *Social Web* (also known as Web 2.0), users are allowed to create content and upload it on the Web, so huge amounts of data are continuously generated, leading to the widely known *big data* problem. In order to handle these new challenges and accomplish their objectives, information systems need efficient and effective ways to process these data. On the one hand, the algorithms that process these large amounts of data should have low computational costs, in order to keep up with the rapid evolution of the Web and guarantee efficiency, while on the other hand they should be able to filter out the useless sources of data and process only those that lead to an effective decision making.

Behavioral-data mining is the process of extracting information by analyzing the huge amounts of data that describe the behavior of the users in a system. This particular kind of mining has proven to be useful in various information systems areas [1], such as the detection of tag clusters [2], the creation of web personalization services [3], the improvement of web search ranking [4], and the generation of friend recommendations in social media systems [5].

A new frontier in Information Systems is to produce behavioral-data mining approaches able to deal with the big data problem. This special issue solicits novel papers on a broad range of topics, including, but not limited to:

- Behavioral-data mining algorithms employed in information systems that deal with the big data problem;
- Analysis of behavioral social web data in order to explore its effectiveness for information systems;
- Algorithms to extract and select features from behavioral data, in order to employ these data in information systems and decision making processes;
- Real-world information systems that employ behavioral-data mining and deal with the big data;
- Data mining theories, methods, and applications on behavioral big data, to be applied in information systems.

References for behavioral data mining in Information Systems

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[2] L. Boratto, S. Carta, and E. Vargiu, "RATC: A robust automated tag clustering technique," in E-Commerce and Web Technologies, 10th International Conference, EC-Web 2009, Proceedings, ser. Lecture Notes in Computer Science, vol. 5692. Springer, pp. 324–335 (2009)

[3] B. Mobasher, R. Cooley, J. Srivastava, "Automatic personalization based on web usage mining". Commun. ACM 43(8), pp. 142–151 (Aug 2000)

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[5] M. Manca, L. Boratto, S. Carta, "Behavioral Data Mining to Produce Novel and Serendipitous Friend Recommendations in a Social Bookmarking System". Information Systems Frontiers (2015)