

Visual Text Analytics Technologies for Real-Time Big Data: Chronological Evolution and Issues

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Abstract : New approaches to analyze and visualize data stream in real-time basis is important in making a prompt decision by the decision maker. Financial market trading and surveillance, large-scale emergency response and crowd control are some example scenarios that require real-time analytic and data visualization. This situation has led to the development of techniques and tools that support humans in analyzing the source data. With the emergence of Big Data and social media, new techniques and tools are required in order to process the streaming data. Today, ranges of tools which implement some of these functionalities are available. In this paper, we present chronological evolution evaluation of technologies for supporting of real-time analytic and visualization of the data stream. Based on the past research papers published from 2002 to 2014, we gathered the general information, main techniques, challenges and open issues. The techniques for streaming text visualization are identified based on Text Visualization Browser in chronological order. This paper aims to review the evolution of streaming text visualization techniques and tools, as well as to discuss the problems and challenges for each of identified tools.

Keywords : information visualization, visual analytics, text mining, visual text analytics tools, big data visualization

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