GUEST EDITORIAL: MINING ACTIONABLE INSIGHTS FROM ONLINE USER GENERATED CONTENT

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Foreword to the special issue on mining actionable insights from online user generated content

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1 Introduction

In recent years, the dissemination and use of online social networking platforms have grown significantly. Modern social networks have billions of users that constantly share information with each other. The enormity and high variance of the information that propagates through these social networks influence the public discourse in topics that range from marketing, education, business, and healthcare to politics, technology, and entertainment. Mining user-generated content gathered from online social networks provides an opportunity to discover user characteristics, analyse action patterns qualitatively and quantitatively, and gives the ability to proactively plan for future events. In recent years, decision-makers have become savvy about how to translate user-generated content into actionable insights.

In this special issue, we solicited manuscripts from researchers and practitioners, both from academia and industry, from different disciplines such as computer science, data mining, machine learning, network science, social network analysis and other related areas. We received 13 articles that were carefully reviewed with the highest standards of quality. After three rounds of reviews, 2 articles were accepted for publication, with an acceptance rate of 15%.

The first article by Mokryn et al. (2020) operates under the hypothesis that online reviews for items that evoke feelings in users (such as movies, books, or music) reflect

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the reviewer's emotions while experiencing the item. Particularly, the paper focuses on the movie domain as a testbed to build an emotional signature for each movie, which represents the emotions that the film evokes in its viewers. The authors extract a dataset of reviews from the Internet Movie Database (IMDB) and annotate each review using a word-emotion association lexicon based on Plutchik's eight basic emotions. They then conduct experiments using crowd sourced data from Amazon's Mechanical Turk. From the experiments, interesting conclusions are presented. For instance, the paper reports that emotion vectors can predict movie genres, and success indicators, i.e., rating and box office receipts. The results obtained have important implications in fields such as affective recommender systems and affective multimedia retrieval.

The second article, by Bryson et al. (2020), addresses the problem of robust keyword search for attributed graphs to find strongly-connected answers. The work in this paper is able to function on any graph with attributes attached to its nodes, such as social or biological networks, academic collaborations networks, and relational databases. The authors carefully formulate an underlying optimization problem and prove that it is NP-hard. Then, they propose a solution based on the notion of random walks with restart with Monte Carlo approximation. In order to scale well for large graphs, a distributed version of the approach is presented. Different experiments are reported on real-world graphs to verify the effectiveness of the approach compared to other state of the art approaches. These experiments show that for infrequent keywords, the proposed approach performs comparable to shortest-path-based methods, while for more common keywords, the results for the proposed methods improve the state of the art.

References

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