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Mining and categorizing interesting topics in Twitter communities

Issue title: Collective intelligent information and database systems

Guest editors: Ngoc-Thanh Nguyen, Manuel Núñez and Bogdan Trawiński

Article type: Research Article

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Abstract: In recent years, the popularity of social networks has grown dramatically. Understanding and revealing the underlying community structure of these complex networks is an area of great interest, with a plethora of applications. In this paper, we present a methodology for identifying user communities on Twitter. Initially, Twitter features such as the shared content, the users' interactions and the following relationships between the users are utilized to define a number of similarity metrics. These metrics are then used to compute the similarity between each pair in a set of Twitter users and by extension to group these users into communities. Subsequently, we propose a novel method based on latent Dirichlet

allocation to extract the topics discussed in each community and eliminate those which consist of everyday words. Additionally, we introduce a method for automatically generating labels for the non-trivial topics. The methodology is evaluated with a real-world dataset created using the Twitter Searching API.

Keywords: Community detection, topic modeling, Twitter

DOI: 10.3233/JIFS-169125

Journal: [Journal of Intelligent & Fuzzy Systems](#), vol. 32, no. 2, pp. 1265-1275, 2017

Published: 30 January 2017

Price: EUR 27.50

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