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Toward rumor detection in social networks using multi-layer autoencoder neural network



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 A [Correction](#) to this article was published on 17 January 2024

 This article has been [updated](#)

Abstract


In recent years, the issue of spreading rumors as a big challenge in social networks has attracted a lot of attention. The spread of rumors on social networks is remarkably fast, and using manual methods to detect them is inefficient. Therefore, this paper focuses on the automatic detection of rumors in social networks. Recent automatic rumor detection models have some limitations and do not make sufficient use of available information. Here, we use a wide range of information such as surface features, content of posts, contexts of replies, and relationships between components to automatically detect rumors. Meanwhile, we propose a multi-layer autoencoder neural network to automatically detect rumors in social networks. Here, the autoencoder model is configured with several innovative thresholds for rumor detection to provide better performance than existing models. We carried out extensive experiments on real social networks such as Sina Weibo to prove the rationality of the proposed rumor detection model. Numerical simulations

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