

A sentiment-aware topic model for extracting failures from product reviews

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Abstract

© Springer International Publishing Switzerland 2016. This paper describes a probabilistic model that aims to extract different kinds of product difficulties conditioned on users' dissatisfaction through the use of sentiment information. The proposed model learns a distribution over words, associated with topics, sentiment and problem labels. The results were evaluated on reviews of products, randomly sampled from several domains (automobiles, home tools, electronics, and baby products), and user comments about mobile applications, in English and Russian. The model obtains a better performance than several state-of-the-art models in terms of the likelihood of a held-out test and outperforms these models in a classification task.

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