Multimodal Sentiment Analysis of Instagram using Cross-media Bag-of-Words Model

Mei Silviana Saputri [1]

Abstract

Instagram, one of social media sharing services has increasing growth of use and popularity during recent years. Photos or videos shared by Instagram users are challenging to be mined and analyzed for some purposes. One type of studies can be applied to Instagram data is sentiment analysis, a field of study that learn and analyze people opinion, sentiment, and (or) evaluation about something. Sentiment analysis applied to Instagram can be used as analytics tool for some business purposes such as user behavior, market intelligence and user evaluation. This research aimed to analyze sentiment contained on Instagrams post by considering two modalities: images and English text on its caption. The Cross-media Bag-of-Words Model (CBM) was applied for analyzing the sentiment contained on Instagrams post. CBM treated text and image features as a unit of vector representation. These cross-media features then classified using logistic regression to predict sentiment values which categorized into three classes: positive, negative and neutral. Simulation results showed that the combination of unigram text features and 56-length images features achieves the highest accuracy. The accuracy achieved is 87.2%.

Keywords : Instagram, sentiment analysis, Cross-media Bag-of-Words Model (CBM), logistic regression, classification

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[1]Undergraduate Student of Informatics Study Program, Bakrie University