論 文 の 内 容 の 要 旨

論文題目　　Sentiment Analysis Using Polarity Bias and Correlation
　　　　　　（感情極性の偏りと相関を用いた感情分析）

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Humans have the instinct to express their own feelings and observe others.　We learn to borrow others' sensation into our system and use them when similar situation visits. Sentiment is about the feeling, the sensation and the opinion that have little to relate with absolute fact. The explosively growing of personal media, such as Twitter and Amazon, urges fast processing of sentiment that never would be possible to be done by human resource. Sentiment analysis, as one of the most active research topic in NLP in recent years, automatically process huge amount of human sentiment hidden in text and makes it easier for us to borrow.

Sentiment classification is one of the fundamental tasks in sentiment analysis. It classifies a polarity label, positive or negative, for a given document. Traditional methods assume that all the textual features are enough for this task. However, sentiment, held by a user and normally toward some target, varies drastically according to the user and the target. On the other hand, improving classification accuracy by considering user and target is often infeasible because the properties of users and targets are frequently unknown.

We propose two ways of modeling the user and target for sentiment classification. The key observations are 1). The distribution of review polarities given by each user or given to each product is often skewed, and 2). Users and targets are correlated. We encode these observations into global features that help the classifier understand the user and the target. By introducing the new global features, polarity labels now mutually depend on each other. To resolve dependencies among labels, we explore two approximated decoding algorithms,

``easiest-first decoding'' and ``two-stage decoding.'' Experimental results on real-world datasets confirmed that our methods contributed greatly to the classification accuracy.