Nested logic

Distinct first person and other subject

We first extract

sentiment-bearing words (including adjectives, verbs, nouns, and adverbs), and use

them to calculate semantic orientation, taking into account valence shifters (intensifiers,

downtoners, negation, and irrealis markers). We show that this lexicon-based method

performs well, and that it is robust across domains and texts. One of the criticisms

raised against lexicon-based methods is that the dictionaries are unreliable, as they

are either built automatically or hand-ranked by humans (Andreevskaia and Bergler

2008).

prior polarity, that is, a semantic orientation that is independent of context;

albeit with some exceptions,

especially more recently, which have also included the use of adverbs (Benamara

et al. 2007); adjectives and verbs (Kim and Hovy 2004); adjective phrases (Whitelaw,

Garg, and Argamon 2005); two-word phrases (Turney 2002; Turney and Littman 2003);

adjectives, verbs, and adverbs (Subrahmanian and Reforgiato 2008); the exclusive use

of verbs (Sokolova and Lapalme 2008); the use of non-affective adjectives and adverbs

(Sokolova and Lapalme 2009a, 2009b); or rationales, words and phrases selected by

human annotators (Zaidan and Eisner 2008). In general, the SO of an entire document

is the combined effect of the adjectives or relevant words found within, based upon a

dictionary of word rankings (scores).

were decided on the basis of the word’s prior polarity, that

is, its meaning in most contexts.

The association is usually calculated following Turney’s

method for computing mutual information

In the following example, adapted from Polanyi and Zaenen (2006), we see that lexical

items other than adjectives can carry important semantic polarity information.

(1) a. The young man strolled+ purposefully+ through his neighborhood+.

b. The teenaged male strutted− cockily− through his turf−.

Although the sentences have comparable literal meanings, the plus-marked nouns,

verbs, and adverbs in Example (1a) indicate the positive orientation of the speaker

towards the situation, whereas the minus-marked words in Example (1b) have the

opposite effect. It is the combination of thesewords in each of the sentences that conveys

the semantic orientation for the entire sentence.5

In order tomake use of this additional information, we created separate noun, verb,

and adverb dictionaries, hand-ranked using the same +5 to −5 scale as our adjective

dictionary.

a 100-text subset of the 2,000 movie reviews in the Polarity

Dataset (Pang, Lee, and Vaithyanathan 2002; Pang and Lee 2004, 2005);7 and positive

and negativewords from the General Inquirer dictionary (Stone et al. 1966; Stone 1997).8

The sources provide a fairly good range in terms of register: The Epinions and movie

reviews represent informal language, with words such as ass-kicking and nifty; at the

other end of the spectrum, the General Inquirer was clearly built from much more

formal texts, and contributed words such as adroit and jubilant, which may be more

useful in the processing of literary reviews

One difﬁculty with nouns and verbs is that they often have both neutral and nonneutral connotations. In the case of inspire (or determination), there is a very positive

meaning (Example (2)) as well as a rather neutral meaning (Example (3)).