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Product Features Extraction from Opinions According to Time

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Abstract : Nowadays, e-commerce shopping websites have experienced noticeable growth. These websites have gained consumers’ trust. After purchasing a product, many consumers share comments where opinions are usually embedded about the given product. Research on the automatic management of opinions that gives suggestions to potential consumers and portrays an image of the product to manufactures has been growing recently. After launching the product in the market, the reviews generated around it do not usually contain helpful information or generic opinions about this product (e.g. telephone: great phone...); in the sense that the product is still in the launching phase in the market. Within time, the product becomes old. Therefore, consumers perceive the advantages/ disadvantages about each specific product feature. Therefore, they will generate comments that contain their sentiments about these features. In this paper, we present an unsupervised method to extract different product features hidden in the opinions which influence its purchase, and that combines Time Weighting (TW) which depends on the time opinions were expressed with Term Frequency-Inverse Document Frequency (TF-IDF). We conduct several experiments using two different datasets about cell phones and hotels. The results show the effectiveness of our automatic feature extraction, as well as its domain independent characteristic.

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