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**SUPERVISED AND UNSUPERVISED ASPECT CATEGORY DETECTION FOR SENTIMENT ANALYSIS WITH CO-OCCURRENCE DATA**

**ABSTRACT:**

Using online consumer reviews as electronic word of mouth to assist purchase-decision making has become increasingly popular. The Web provides an extensive source of consumer reviews, but one can hardly read all reviews to obtain a fair evaluation of a product or service. A text processing framework that can summarize reviews, would therefore be desirable. A subtask to be performed by such a framework would be to find the general aspect categories addressed in review sentences, for which this paper presents two methods. In contrast to most existing approaches, the first method presented is an unsupervised method that applies association rule mining on co-occurrence frequency data obtained from a corpus to find these aspect categories. While not on par with state-of-the-art supervised methods, the proposed unsupervised method performs better than several simple baselines, a similar but supervised method, and a supervised baseline, with an F1-score of 67%. The second method is a supervised variant that outperforms existing methods with an F1-score of 84%.