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Sentiment analysis for Feature extraction using Dependency tree and Named Entities

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***Abstract*— There has recently been growing interest in valence and emotion sensing using a variety of signals. Text, as a communication channel, gathers a substantial amount of interest for recognizing its underlying sentiment (valence or polarity), affect or emotion (e.g. happy, sadness).We consider recognizing the valence of a sentence as a prior task to emotion sensing. In this paper, we discuss our approach to classify sentences in terms of emotional valence. Our supervised Algorithm performs syntactic and semantic analysis for feature extraction. Our Algorithm processes the interactions between words in sentences using dependency parse trees, and it can identify the current polarity of named-entities based on the- fly topic modeling. We compared the performance of three rule-based approaches and two supervised approaches (i.e. Naive Bayes and Maximum Entropy).We trained our Algorithm using the NLTK and Python 3.5.2 for affective text dataset, which contains news headlines extracted from news websites.**

***Index Terms*— Sentiment Analysis, Dependency tree, Named Entities.**