

عنوان مقاله:

Authentic and Fake Reviews Recognition on E-Commerce Websites through Sentiment Analysis and Machine Learning Techniques

محل انتشار:

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خلاصه مقاله:

The proliferation of e-commerce has led to an overwhelming volume of customer reviews, posing challenges for consumers who seek reliable product evaluations and for businesses concerned with the integrity of their online reputation. This study addresses the critical problem of detecting fake reviews by developing a comprehensive framework that integrates Natural Language Processing (NLP) and machine learning techniques. Our methodology centers on sentiment analysis to discern the emotional valence of reviews, coupled with Part-of-Speech (PoS) tagging to analyze linguistic patterns that may signal deception. We meticulously extract a rich set of textual and statistical features, providing a robust basis for our predictive models. To enhance classification performance, we strategically employ both traditional machine learning algorithms and powerful ensemble techniques. Experimental results underscore the efficacy of our approach in detecting fraudulent reviews. We achieved a notable F1-Score of ۸۲.۹% and an accuracy of ۸۲.۶%, demonstrating the potential .to safeguard consumers from misleading information and protect businesses from unfair practices

کلمات کلیدی:

Fake Review, Authentic Review, E-Commerce websites, Sentiment analysis, Machine Learning

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