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**Discrepancy Detector - Novel approach for detecting discrepancy
between a review comment and the review star rating**

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Abstract

Ecommerce domain is basically a huge network of communication between buyers and sellers, where various products and services are being sold by vendors and then consumed by customers. Amazon has been the most dominant Ecommerce platform when compared with its competitors such as Walmart and eBay. A vital aspect of the products being sold within such platforms is a review, in which a customer review is a form of expression from customers, expressing their thoughts and experiences with the products and the services. It helps sellers as well as customers to gather information regarding the product since customer reviews express customer satisfaction. But in the world of customer reviews, there could be consistent and inconsistent reviews, and inconsistent reviews cause a lot of trouble, where customers can be misguided, and sellers could go downhill with their businesses. One of the main review inconsistencies is the discrepancy between the review comment and the review star rating, and this research focuses on identifying such discrepancy occurring reviews of Amazon using a novel technique.

Past research has made use of various techniques to identify such inconsistent reviews. Like Machine Learning models, Comparison techniques, Conditional Techniques and Correlation techniques. This research contributes with the evaluation of Deep Learning Techniques, in other words a novel solution is introduced to the problem by making use of a Deep Learning model to directly predict (binary prediction) if there is a discrepancy between a review comment and the review star rating.

The author evaluated DNN, CNN and LSTM, and choose the best performing model, and after optimization, the LSTM model was chosen, which performed with an accuracy of 99% and it was integrated to a web application, introducing the prototype ‘Discrepancy Detector’ to detect inconsistent reviews. As a result, the prototype could be used by Ecommerce platforms to detect such inconsistent reviews, which would help them prevent review inconsistencies in the future.

Subject Descriptors:

Natural Language Processing, Review Inconsistency

Keywords:

Ecommerce, Amazon Reviews, Deep Learning Models