COMPARATIVE STUDY OF PREDICTING BOOK REVIEW USING MACHINE LEARNING ALGORITHMS

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Abstract

Reviews and Comments on the products and services customers post on mass online shopping websites like Amazon will help many customers make their purchasing decisions. People use Amazon every day for online shopping since it is one of the electronic commerce giants that allows them to browse hundreds of evaluations left by other consumers about the goods, they are interested in. This is helpful not just to customers but also to merchants who manufacture their own goods since it allows them to better understand consumers and their requirements. Therefore, customers and merchants need an efficient prediction method to take timely decisions. But there is yet to be a clear model that has been shown to be the most effective algorithm in predicting customer reviews. Most models were primarily concerned with predicting consumer reviews of ordinary goods, and only a few machine learning algorithms were evaluated in a significant number of research studies. The main objective of this research is to find out which machine learning algorithm is the most effective at predicting Amazon book reviews. Researchers applied Logistic Regression (LR), Decision Tree (DT), Decision Forest (DF) Support Vector Machine (SVM), Neural Network (NN), Bayes Point (BT), Averaged Perception (AP) and Decision Jungle (DJ) algorithms in this research. Dataset of Book Review was retrieved from Microsoft datasets which are publicly available with 10,000 reviews. Microsoft Azure Machine Learning studio was used to analyze the performance of selected algorithms. With the highest accuracy (81.3%), recall (42.9%), ROC, AUC (79.1%), and F1 score (48.6 %), the DT algorithm is the most efficient one among the selected eight algorithms. Researchers want to expand on their work with ensemble models, which combine numerous algorithms to achieve higher prediction performance than any of the individual learning algorithms could. Multi-class classification can be considered.

Keywords: Machine Learning, Algorithms, Prediction, Amazon, Book Review, and comparative study

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