INFORMATICS
INSTITUTE OF
TECHNOLOGY

UNIVERSITY OF
WESTMINSTER⁜

REVIEWIT: SENTIMENT ANALYZER FOR RECOMMENDING PRODUCTS GENUITY BASED ON ONLINE CUSTOMER REVIEWS.

Warnakulasuriya Ishani Rayanthi Croos

Supervised by: Ms. Theja Perera

A dissertation submitted in partial fulfilment of the requirement for
Bachelor of Engineering (Honours) degree in Software Engineering

INFORMATICS INSTITUTE OF TECHNOLOGY, SRI LANKA

In Collaboration with
UNIVERSITY OF WESTMINSTER (UOW), UK

2020

Abstract

In recent years, most e-commerce platforms offer the ability to purchase products online. In addition to that, customers share their opinions about products on e-commerce websites and with their social circles. Customer reviews are frequently utilized to monitor and to enhance customer satisfaction about services, which can be useful for both factors, which are sellers and future customers. E-commerce websites provide information on products to future customers, such as overall rating and previous customer reviews. Recent studies show that the majority of online shoppers use product reviews to determine the decision of purchasing. Even the reviews and ratings are provided, customers tend to face issues with their decisions towards the purchasing process. As for this project, the aim is to solve one of the issues customer's facing, that can be described as when a customer is having concerns towards specific characteristics of the product, it is not yet addressed to detect the product reviews that are only allocated to that particular attribute which the customer is seeking for.

Considering the real-world scenario, to discuss the mentioned issues and limitations, the author suggests a customizable online review analyzer which detects the positive and negative reviews according to the specific characteristic that user is searching for, as well as providing accuracy rating to detect the product's genuineness to decide on purchasing much more straightforward for the customer. Based on Recurrent Neural Network, it is used to allow real-world knowledge, how a person views a textual context, and recognize the sentiment using Natural language processing. The RNN based system is a sub-category of Neural networks that have been proven to classify texts in an extremely efficient way. The proposed solution was capable of achieving 95% of higher accuracy in the text classification process. The main application is built using the Flask framework, and the functionalities of the system are implemented using python language. The completed system was tested and evaluated in both qualitative and quantitative methods. The overall system was completed efficiently and effectively.

Key words: Recurrent Neural Network, Natural Language Processing, Text Classification