

Informatics Institute of Technology

In Collaboration with

University of Westminster, UK

BrandRepz – Brand Reputation Analyzer

A dissertation by

Mr. Tharaka Hewavitharana

Supervised by

Mr. Guhanathan Poravi

Submitted in partial fulfillment of the requirements for the
BEng (Hons) Software Engineering Degree Department of Computing

August 2020

© The copyright for this project and all its associated products resides with

Informatics Institute of Technology

Abstract

All human beings have their opinion on some particular subject matter. These opinions may be different from one person to another. These different opinions can take the form of voice and text. These opinions may carry different emotions as well. Identifying the emotions conveyed by humans can be used for several domains such as marketing, political perception analysis, identify and predict threats in the society, suicidal thoughts identifications and so on. In the domain of business these emotions and opinions can be used for analyze the opinions on particular subject matter or a topic which is also known as reviews.

These reviews are a vital for an entity or a product as these opinions carries the status of that particular product or subject matter. With the advent of internet and social media these opinions are frequently shared by the stakeholders of these products and entities as it provides a medium for the users to share their opinions in global stage for other people to see. There had been several researches and applications built to conduct these analyses which considers the overall sentiment carried out by the text presented in the opinions shared by the users on social media but the accuracy and finding the true meaning of those opinions is a difficult as languages have different features which enable some phrases to express something totally different or opposite to what the literal meaning gives. Few researches have been conducted in order to find out these features or linguistics which affect the meaning of a text but the accuracy or the reliability of them were not up to the standard in order to perform a brand reputation analysis. As a step forward this research is conducted on brand reputation analysis on post posted by users in social media considering the special language linguistics.

In order to perform a brand reputation analysis from texts taken from Twitter, Facebook, LinkedIn posts, in this research a supervised learning approach using a general machine learning based framework and a deep learning-based approach is implemented and evaluated for best accuracy and the results are presented. The language linguistics Sentiment, Sarcasm and also Emoji were considered for this analysis and a prototype was developed providing options for the users to select different types of scenarios in order to analyze a reputation score.

Keywords: Natural language processing, Sentiment analysis, Brand Reputation