

Evaluation of higher education institutions using aspect based sentiment analysis

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Abstract

Demand for formal higher education programs among the younger generation in Sri Lanka, has grown over the past decade. The demand growth has fueled the opening up of many local and internationally affiliated institutes offering a diverse range of degree programs. The selection of the appropriate course from these institutes is challenging given the wide choice. In order to select the appropriate institute, students use the Internet for reviews and user comments, especially from social network sites like Facebook, Twitter and Google plus. This search, involves a cost in terms of time spent for reading the comments and processing whether the standing of the ratings for the program and the institution are appropriate. This task is challenging because of the difficulty to extract sentiment information from a massive set of online reviews. A solution is proposed, using an aspect based sentiment evaluation system that assesses institutions by considering the reviews provided, to overcome this problem. This concept is based on Natural Language Processing (NLP). A web based, automated application tool that retrieves review data from social media networks on the institution and the features of the program, analyzes the sentiment value and provides a rating has been developed.

Keywords: Natural Language Processing (NLP), Data Mining, Aspect based Sentiment analysis, Online Reviews

Introduction

Social media networks has become popular as a communication tool among Internet users. Social media is the most popular choice among university students to seek and share experiences and inspiration (Laura, 2014). It is reasonable to assume that engagement of social media applications as part of university marketing could contribute to increased enrolment numbers (Constantinides and Zinck Stagno, 2011) and help prospective students make better-informed decisions regarding their study choice and university selection. Online opinionated texts (e.g. Reviews, Tweets) are important for customer decision making (Chen and Xie, 2008) and constitute a source of valuable customer feedback that can help companies to measure satisfaction and improve their services. “Approximately 90 percent of consumers surveyed said that they read online reviews and 88 percent of them said that they trust the online reviews as much as personal recommendations” (Stacey, 2015). In other words, making a decision about a particular service whether to select them or not according to online reviews and ratings provided by users and business experts, seem an acceptable method of making a selection.

The younger generation is keen on pursuing higher education. However, State universities have limited resources and has limited intake. It approximately enrolls only four percent of students sitting for the university entrance examination. In comparison, seventy percent of high school graduates in USA entered some kind of a higher educational institution in 2009 (Weerakoon, 2011). Therefore, most of them enter private higher education institutes than state universities.