# Analysing Student's Textual Feedback Using Sentiment Analysis

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**Abstract** — *In order to recognition at varied establishments, the management takes each doable efforts in maintaining the standard of lecturers. one amongst the most evaluations done at the establishment is obtaining associate anoymous student feedback at the top of every semester and getting an overall outline of the scholars viewpoints concerning the lecturers teaching. In order to urge a productive feedback, the establishment prepares a form to be crammed by the scholars that covers the key points concerning a lecture/lecturer. Until now, this task was done manually with the usage of papers and pens. This has several drawbacks and evaluating this written feedback may be a troublesome method. however are often online era wherever everything is on-line therefore having associate economical online student feedback system can be same to be because the necessity of each establishment. Online system makes the analysis method easier and additional correct.*

*Keywords t;* **Natural language processing, feedback analysis, Text analytics, opinion and sentiment analysis.**

## I.    INTRODUCTION

Natural Language process could be a on paper driven vary of machine techniques for analyzing and representing present texts at one or a lot of levels of linguistic analysis for the aim of achieving human-like language process for a spread of tasks or applications. There are completely different levels like linguistics analysis, opinion analysis etc. that ought to be studied so as to know this machine language. during this linguistics analysis suggests that understanding the which means of the words to that it represents. linguistics process determines the doable meanings of a sentence by that specialize in the interactions among word level meanings within the sentence.

Opinion analysis suggests that deciding the polarity of the words whether or not they ar positive, negative and neutral and supported that conniving the entire polarity of that entity owing to this advantage tongue is employed within the feedback analysis system. currently it's necessary to know what feedback is and why it's essential? Feedback is crucial to the operating and survival of all restrictive mechanisms found throughout living and non-living nature, and additionally in manmade systems like education and financial system. Feedback could be a 2 means flow as its inherent all interactions, between human-to-human, human-to machine or machine-to-machine.

Student's feedback is incredibly essential for an academic institute success. it'll tell and keep the organization updated concerning the organization's strengths and weaknesses. The institute can think about those weaknesses and take a look at to eliminate it. it'll facilitate them in carrying Strength, Weaknesses, Opportunities associated Threats analysis in an institute. it'll facilitate in conducive to the institute's growth. Student feedback ought to be inspired by the institute because it tells them however driven associated happy the scholars ar in an institute. It tells the institute the reactions of scholars to the institute's policies. the scholar ought to be honest enough in giving their views a couple of explicit entity. they ought to be assured that their suggestions would be taken into thought for implementation and should not be hesitant in giving their feedback.

## LITERATURE SURVEY

### 1. Students' Perception: Student Feedback Online (SuFO) in Higher Education

**Authors:** Tang Howe Eng, Alif Faisal Ibrahim, Noor Emma Shamsuddin

Students Feedback on-line (SuFO) is an internet system that's wont to valuate the teaching and learning elements in terms of lecturer's quality assurance and performance, content and infrastructure. visible of the importance of SuFO, a reliable instrument is deemed necessary for the analysis of students' perception of a lecturer's quality assurance and performance, content and infastructure in teaching in Asian nation. the target of this study is to research the perception of scholars towards SuFO survey. This study was conducted at one among the field of a public university within the centre region of Sarawak, Malaysia employing a survey to research the perception of scholars towards SuFO survey. a complete of 158 full time certification students completed a form regarding views on the perceptions of scholars towards SuFO survey. The form had high internal consistency whereby the alpha worth reportable to be zero.863 for thirty things. Analysis of the students' perception by gender (on independent samples t-test) showed that there's a big distinction in mean perception rating between male and feminine students (p&lt;0.05). Analysis of the students' perception by semester

(using multivariate analysis (analysis of variance)) showed that there's a significant distinction in mean perception rating across totally different semesters ($p < 0.05$). Analysis of the students' perception by ethnicity (using ANOVA) discovered no important distinction in mean perception rating across totally different quality. last, this study has given proof that male students and feminine students rated totally different with regard to the perception toward SuFO survey. in truth male students rated considerably higher when put next to feminine students. On the opposite hand, students with lower elements cared-for rate higher when put next to students with higher elements. it's hoped that this study offers new knowledge to the scope of analysis at intervals this field and promotes more studies in countries abroad.

## 2. Clustering Based Feature Selection using Extreme Learning Machines for Text Classification

**Author:** Rajendra Kumar Roul, Shashank Gugnani, Shah Mit Kalpeshbhai

The growth of the dynamic internet will increase the digital documents, that has attracted several researchers to figure within the field of text classification. it's a vital and well studied space of machine learning with a spread of recent applications. a decent feature choice is of predominate importance to extend the potency of the classifiers acting on text knowledge. selecting the foremost relevant options out of what are often AN unbelievably massive set of knowledge, is especially vital for correct text classification. This paper may be a motivation therein direction wherever we tend to propose a replacement clump based mostly feature choice technique that reduces the feature size. ancient k-means clump technique at the side of TF-IDF and Wordnet helps America to make a top quality and reduced feature vector to coach the intense Learning Machine (ELM) and Multi-layer ELM (ML-ELM) that are used because the classifiers for text classification. The experimental work has been disbursed on 20-Newsgroups and DMOZ datasets. Results on these 2 customary datasets demonstrate the potency of our approach victimization ELM and ML-ELM because the classifiers over the progressive classifiers.

## 3. Implementation of Semantic Analysis Usinsg Domain Ontology

**Authors:** Pratik Agrawal, Prof. A.J.Agrawal,

In feedback analysis of a corporation, the organization desires to provide a outline of feedback supported organization entity. but for a similar entity students will categorical it with completely different words and phrases. For a meaning outline, these words and phrases that area unit domain specific must be sorted underneath a similar entitygroup.This paper proposes associate linguistics based mostly feedback associatealysis system that produces use of an linguistics lexicon and organization metaphysics as a base for matching the desired entity with the assistance of a Jaccard similarity methodology. Experimental results exploitation 3 completely different coaching dataset shows that the planned methodology is competent for the task.

## 4. Opinion Analysis Using Domain Ontologyfor Implementing Natural Language Based Feedback System

**Author:** Pratik K. Agrawal, Dr. Avinash. J. Agrawal.

This paper proposes a tongue primarily based feedback analysis system that extracts linguistics relations from feedback information so as to map it with the domain metaphysics. once pre-processing a group of words or phrases area unit extracted from the computer file. the info area unit analyzed semantically to interpret its which means. This which means is in Associate in Nursing intermediate kind that is then mapped to the terms outlined within the metaphysics mistreatment similarity operate. The opinion analysis of the linguistics information is meted out for measure the polarity of the feedback by the employment of opinion analysis methodology. The system is evaluated on the input feedback information.

## 5. Opinion Mining for Emotions Determination

**Author:** Ashwini V.Yeole,P.V.Chavan,M.C.Nikose,

The rising of the globe Wide internet has magnified the web communication. the utilization of social networking sites is one amongst the approaches for golf shot views of user. so as to enhance the matter strategies of communication like tweets, blogs and chat; it's required to investigate the feeling of user by finding out the input text and emotions of the user. a lot of of this add this space of feeling determination from text has usually centered on detective work the polarity of sentiment (positive/ negative/ neutral).This paper presents a completely unique approach for feeling estimation from the text entered by user on social networking sites with direct word or indirect emotions like emoji or emoticon faces. The work projected during this paper uses emotional words and sentence context analysis strategies for feeling determination. additionally for serving to the users to effectively categorical their feeling. On the premise of entered feeling by user it produces the result in line with highest feeling classification. For planning the system some literature is review that provides the concept concerning previous work yet as comparison for improvement.

## II. EXISTING SYSTEM

Before online system or the world of digital media came into existence every work used to be manual. Even Feedback for certain things or article would be in form of paper. Students would be provided with one form in which he/she have to give there feedback.Then came the online & digital revolutions everything became easier with it. Even Feedback system got its place in here. Students have to login into their portal and fill up the form and submit. Each student has to submit

their feedback in form of rating like 1 to 10 but the concept was similar to manual form. Even with this there were few drawbacks. It never captured the correct emotions of the student. And teachers never came to know in which field they have to improve. In our proposed system we have tried to overcome this drawbacks.

### III.    PROPOSED SYSTEM

**Sentiment analysis** – otherwise referred to as opinion mining – could be alot of bandied regarding however typically misunderstood term. In essence, it's the method of determinant the emotional tone behind a series of words, accustomed gain Associate in Nursing understanding of the attitudes, opinions and emotions expressed inside an internet mention. Sentiment analysis is extraordinarily helpful in social media. Social media watching tools like Brandwatch Analytics build that method faster and easier than ever before, because of time period watching capabilities. The applications of sentiment analysis square measure broad and powerful. the flexibility to extract insights from social information could be a follow that's being wide adopted by organizations across the planet.

Every student are given his/her own login id word when registration verification on the portal. The registration details of each student are keep in an exceedingly explicit information. when with success login within the portal, student can get few choices from there they need to pick out possibility of FEDBACK kind.

After that they need to stock up the form regarding lecturers. the information from the shape are keep in Feedback information until any method.

Here our objective is for analyzing the matter information exploitation sentimental analysis . So , here we've got set to use  K suggests that agglomeration algorithmic rule  stratified algorithmic rule with the assistance of information science for his or her accuracy  reliability. when the process the comments / feedback from the scholars are rated and keep in result information
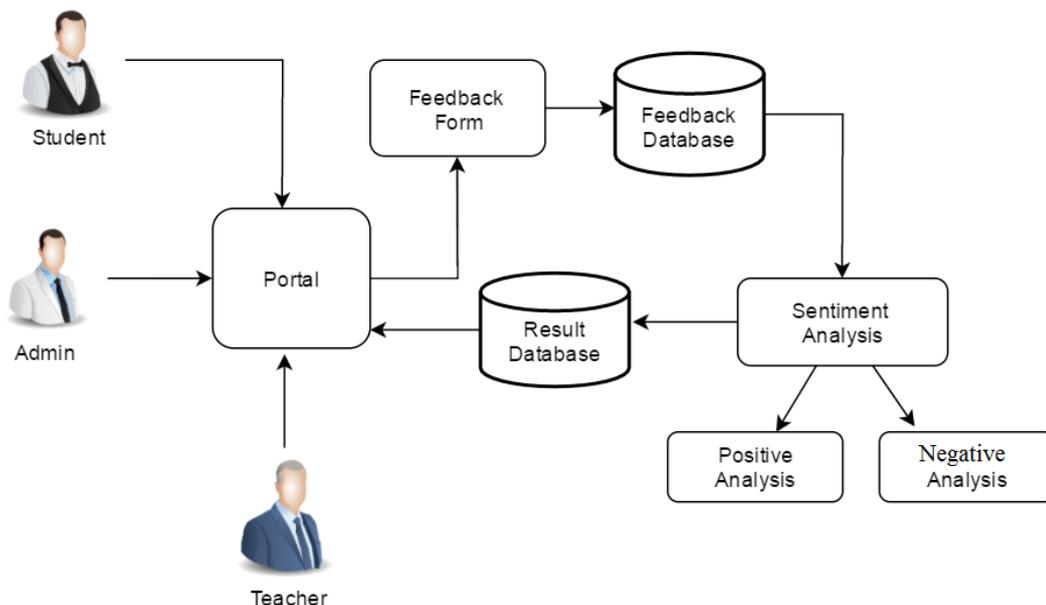


Figure1: Planned System Design

### IV.    EXPECTED RESULT

Question: will teacher provide adequate?
comment :  "He has to provide additional examples." Then when process the rating would be three that's average.
Now when the information keep in result decibel would be analyzed whenever explicit teacher login to his/her portal access the result they'll get the result as :
"you ought to provide additional examples. Students will perceive higher with examples".
This way teacher won't solely  get a rating however can understand within which field he/she needs to improve . this offers additional insight understanding, that past system lacked.

### V.    CONCLUSION

This paper has tried to clarify the necessity of analyzing the unstructured matter feedback for retrieving the customer's opinions concerning the actual product or services offer to him. The reviewed strategies facilitate North American country to spot completely different techniques for analysis additionally because the challenges and scope that are

offered for creating improvement. The tongue primarily based self-learning feedback analysis system is planned that may attempt to solve some or all the challenges and scope that are gift within the matter feedback analysis. Within the future, we are going to implement the planned self learning feedback analysis system and analyze the accuracy and preciseness of results.

## ACKNOWLEDGMENT

## REFRENCES

[1]  Mouthami, K., Devi, K.N. ; Bhaskaran, V.M, "Sentiment analysis and classification based on textual reviews" in Information communication and Embedded Systems (ICICES), 2013 International Conference, DOI:10.1109/ICICES.2013.6508366,pp. 271 – 276 21-22 Feb. 2013.

[2]  Singh,V.K.Piryani, R. ; Uddin, A. ; Waila, P. ; Marisha, "Sentiment analysis of textual reviews; Evaluating machine learning, unsupervised and SentiWordNet approaches" in Knowledge and Smart Technology (KST), 2013 5th International Conference, DOI:10.1109/KST.2013.6512800,pp 122 – 127, Jan. 31 2013-Feb. 1 2013.

[3]  Samuel Brody, Noemie Elhadad, "An Unsupervised Aspect-Sentiment Model for Online Reviews" in Human Language Technologies: The 2010 Annual Conference of the North American Chapter of the ACL, pages 804–812,Los Angeles, California, June 2010.

[4]  Svetlana Kiritchenko, Xiaodan Zhu ,Saif M. Mohammad, "Sentiment Analysis of Short Informal Texts" in Journal of Artificial Intelligence Research 50 (2014) 723{762 Submitted 12/13; published 08/14.

[5]  Wouter Bancken, Daniele Alfarone and Jesse Davis, "Automatically Detecting and Rating Product Aspects from Textual Customer Reviews", Proceedings of DMNLP, Workshop at ECML/PKDD, Nancy, France, 2014.

[6]  Maite Taboada, Jack Grieve, "Analyzing Appraisal Automatically ", In Proc. of AAAI Spring Symposium on Exploring Attitude and Affect in Text. Stanford. pp.158-161, March 2004.

[7]  Hongning Wang, Yue Lu, Chengxiang Zhai, "Latent Aspect Rating Analysis on Review Text Data: A Rating Regression Approach ", KDD'10, July 25–28, 2010, Washington, DC, USA. Copyright 2010 ACM 978-1-4503-0055-1/10/07.

[8]  Justin Grimmer, Brandon M. Stewart. "Text as Data: The Promise and Pitfalls of Automatic Content Analysis Methods for Political Texts ", in Political Analysis Advance Access, pp. 1–31, DOI:10.1093/pan/mps028, January 22, 2013.

[9]  Jingbo Zhu, Huizhen Wang, Muhua Zhu, Benjamin K. Tsou and  Matthew Ma, "Aspect-Based Opinion Polling from Customer Reviews " published in IEEE Transactions On Affective Computing, VOL. 2, NO. 1, January-March 2011.

[10] Michael Gamon, "Sentiment classification on customer feedback data: noisy data, large feature vectors, and the role of linguistic analysis", in COLING '04 Proceedings of the 20th international conference on Computational Linguistics,DOI 10.3115/1220355.1220476, 2004-08-23.