

Implementation of Dual Sentiment Analysis of User Comment

#¹Prof. R.N.Phursule, #²Tarika Shete, #³Ashwini Darekar, #⁴Tejashri Khawle,
#⁵Ashwini Jadhav



²tarikashetet@gmail.com
³ashwinidarekar04@gmail.com
⁴khavaletejashri@gmail.com
⁵ash.j38@gmail.com

#¹²³⁴⁵Department of Computer Engineering
JSPM's, ICOER, Wagholi, Pune.

ABSTRACT

Now a days the most popular way to model text in statistical machine learning approaches in sentiment Analysis is Bag-of-words (BOW). Determining the polarity of a sentiment bearing expression requires more than a simple bag-of-words approach. Sometimes the performance of BOW remains limited due to some fundamental deficiencies in handling the polarity shift problem. To address this problem for sentiment classification, a model is proposed called dual sentiment analysis (DSA). So that first a novel data expansion technique is proposed by creating a sentiment-reversed review for each training and test review. Basis of this propose a dual training algorithm is proposed to make use of original and reversed training reviews and a dual prediction algorithm is proposed to classify the test reviews by considering two sides of one review. Also extend the DSA framework from polarity (positive-negative) classification to 3-class (positive-negative-neutral) classification. At the end results shows the effectiveness of DSA in supervised sentiment classification.

Keywords: Sentiment analysis, Mining, Opinion mining, Machine learning.

I. INTRODUCTION

What people think has always been an important piece of information during the decision making process. In the past, when an individual needed to make a decision he typically asked for opinions from friends and family. When an organization wanted to find opinions of the general public about its products and services, it conducted surveys. With the explosive growth of the social media content on the internet in the past few years, the world has been transformed. E Commerce sites, online communities, forums, discussion groups, web logs, product rating sites, chat rooms are some of the sources on which people can now express their views on almost anything in discussion. Sentiment analysis refers to the use of natural language processing, text analysis and computational linguistics to identify and extract subjective information in source materials. Sentiment analysis is widely applied to reviews and social media for a variety of applications, ranging from marketing to customer service. Analysers used for polarity identification. Analysers are of two types manual (domain

oriented) and automatic (generalized oriented) we used domain oriented in are methodology. In manual analyser predefined data set exit which similar/ related term have to feed and result occurs and other hand automatic analyser consist huge data set and also capable to handle multiple language at a time. Sentiment analysis is used to classify polarity and the sentiment analyser is used to define polarity opinion expressed is (+) tive, (-) tive or (=) neutral[1].

In this paper we do a survey of papers on Dual Sentiment Analysis and detail the techniques used.

II. BASIC SURVEY

Basic Concepts:

a) Sentiments

Sentiment is a sincere and refined sensibility, a tendency to be influenced by emotion rather than reason or fact: to appeal to sentiment. Sentimentality implies affected, excessive, sometimes mawkish sentiment: weak

sentimentality. The study of emotions in text can be conducted from two points of view. Firstly, one can investigate how emotions influence a writer of a text in choosing certain words and/or other linguistic elements. Secondly, one can investigate how a reader interprets the emotion in a text, and what linguistic clues are used to infer the emotion of the writer.

b) Sentiment Analysis

Sentiment Analysis is process of computationally identifying and categorizing opinions expressed in a piece of text, especially in order to determine whether the writer's attitude towards a particular topic, product, etc. is positive, negative, or neutral. "Sentiment Analysis is the task of identifying positive and negative opinions, emotions, and evaluations". Sentiment Analysis has many names. It's often referred to as subjectivity analysis, Opinion mining, and appraisal extraction, with some connections to affective computing (computer recognition and expression of emotion).

c) Dual Sentiment Analysis

A model called dual sentiment analysis (DSA), to address this problem for sentiment classification. We first propose a novel data expansion technique by creating a sentiment reversed review for each training and test review. On this basis, we propose a dual training algorithm to make use of original and reversed training reviews in pairs for learning a sentiment classifier, and a dual prediction algorithm to classify the test reviews by considering two sides of one review.

III. PROPOSED SYSTEM

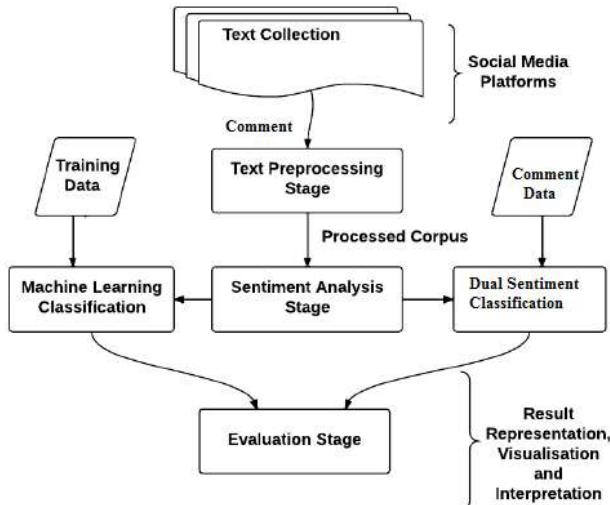


Fig 1 System architecture

Text Extraction – This step involves extracting words from text that influence the outcome of the result.

Text Refinement – This step involves refining text in form of relevant phrases, words etc.

Text Classification – This step includes classification of text into its class(positive/negative).

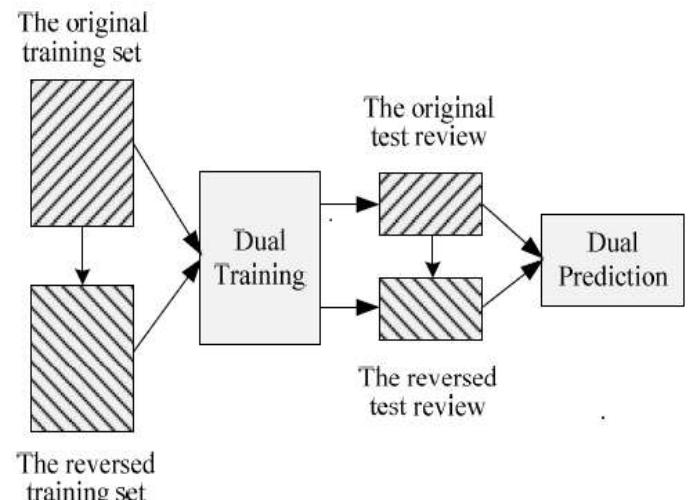


Fig 2 Basic system flow

Goal:

- Ideally, an opinion mining tool would process a set of search results for a given item, generating a list of product attributes (quality, features, etc.)
- This system is implanting for the opinion mining for upcoming feedback from users. We also expand using networking system.

Objective:

- Then begin by identifying the unique properties of this problem and develop a method for automatically distinguishing between positive and negative reviews.

IV. RESULT

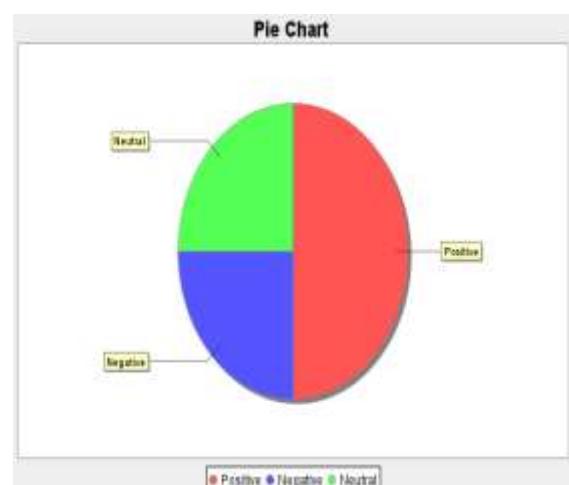


Fig 3. Result analysis graph

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VI. CONCLUSION

In this work, we propose a novel data expansion approach, to address the polarity shift problem in sentiment classification. The manner of using a pair of samples in training (dual training) and prediction (dual prediction). DSA algorithm by developing a selective data expansion technique that chooses training reviews with higher sentiment degree for data expansion.

REFERENCES

- [1] R. Xia, F. Xu, C. Zong, Q. Li, Y. Qi and T. Li, "Dual sentiment analysis: Considering two sides of one review", in IEEE Trans. Knowl. Data Eng., vol. 27, no. 8, pp. 2120-2133, Aug. 2015.
- [2] Shulong Tan, Yang Li, Huan Sun, Ziyu Guan, Xifeng Yan, Interpreting the Public Sentiment Variations on Twitter, IEEE Transactions on Knowledge and Data Engineering, VOL. 26, NO.5, MAY 2014.
- [3] Y. Hu, A. John, F. Wang, and D. D. Seligmann, Et-lda: Joint topic modeling for aligning events and their twitter feedback, in Proc.26th AAAI Conf. Artif. Intell. Vancouver, BC, Canada, 2012.
- [4] Bhagyashri Ramesh Jadhav, Manjushri Mahajan, "Review of Dual Sentiment Analysis", International Journal of Science and Research (IJSR) ISSN (Online): 2319-7064.
- [5] Kishori K. Pawar, Pukhraj P Shrishrimal, R. R. Deshmukh," Twitter Sentiment Analysis: A Review" International Journal of Scientific & Engineering Research, Volume 6, Issue 4, April-2015 ISSN 2229-5518 IJSER © 2015
- [6] S Revathi, N Rajkumar,"A Survey on Sentiment Analysis for WebBased Data by Using Various Machine Learning Techniques", International Journal of Engineering Trends and Applications (IJETA) – Volume 1 Issue 2, Sep-Oct 2014
- [7] A. Abbasi, S. France, Z. Zhang, and H. Chen, "Selecting attributes for sentiment classification using feature relation networks," IEEE Transactions on Knowledge and Data Engineering (TKDE), vol. 23, no. 3, pp. 447-462, 2011.

[8] Rui Xia, Feng Xu, Chengqing Zong, Qianmu Li, Yong Qi, and Tao Li," Dual Sentiment Analysis:Considering Two Sides of One Review", 1041-4347 (c) 2015 IEEE