

# SEO for Medical Products to target regional audience using Sentiment analysis

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## ABSTRACT

Internet has grown exponentially in last decade more and more users and devices are added daily which has given opportunity of personal advertising allowing companies to reach to the customers directly but to get to the intended customers organizations need to go through search engine. SEO is technique that allows web document to be found more efficiently by search engine and provide right results for right query.

This Paper focuses on implementing neural networks and sentiment analysis on social media pages and extract emotions for specific web document and categorize them and find new trends and predicting words which help to view and visit count of the page. Project scope is handling text data and not video /audio

**Keyword:** Search Engine Optimization, Machine Learning, Sentimental analysis

## 1. INTRODUCTION

This paper outlines the applicability to a website and the efficacy of certain search engine optimization (SEO) strategies. Sentimental analysis tracks the subjective information in a statement, such as views, assessments, feelings, or attitudes about a subject, person, or thing. Positive, negative, or neutral expressions can all be classified. Targeting medical products is another challenge as it has its own factors that affect marketing. conveying medical products information to the intended customer in known language. There can be customers living in locale but do not understand local languages.

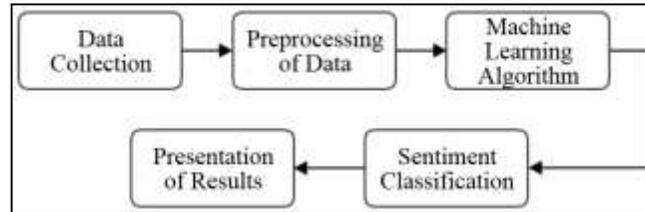
## 2. BACKGROUND

Before buying a new product, most customers read reviews and conduct extensive research. Sentiment analysis makes analyzing the views of millions of consumers easier. There are 4 types of sentimental algorithms:

1. Fine grained sentiment: This study provides you with a knowledge of your client feedback.
2. Emotion Detection Sentiment analysis: This is a more advanced method of detecting emotion in a piece of writing. The sentiment is determined using lexicons and machine learning. Lexicons are collections of positive and negative words.
3. Aspect Based: This form of sentiment analysis is typically used to evaluate one element of a service or product.
4. Intent Analysis: This is a more in-depth knowledge of the customer's intent. For example, a business can anticipate whether a consumer would utilize a product.

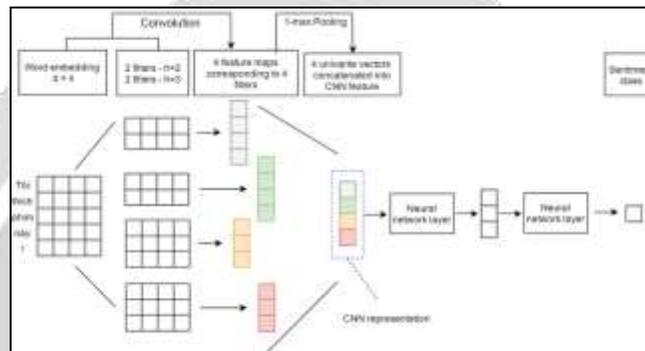
## 3. IMPLEMENTATION

Provided below is ideal life cycle of any sentiment analysis model implementation. These steps generally involve collecting and cleaning data and then applying algorithms



**Fig -1:** Sentimental analysis classification

Presented implementation in paper uses CNN (Convolutional neural network) below is the general layers involved while training CNN for sentiment analysis



**Fig -2:** Sentimental analysis Work

There are multiple algorithms like pooling, Conv2D and vectors are used to create machine learning classification model which takes web documents text as input and classifies input text into emotions i.e(happy, angry, sad, scared).from these emotions extracted we can apply SEO techniques to improve page ranking. As model also provides “words” which with their weight which decided sentiment of the input so these words can be targeted and used to apply SEO on the web page/video content. This whole process can be automated as no human is involved in complete process

## 5. CONCLUSION

This paper presents approach of using machine learning and CNN (Convolutional Neural Network) for Search engine optimization and customer classification based on geolocation and sentiment. Implemented algorithm gives 80~% accuracy with k fold model evaluation

## 6. REFERENCES

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