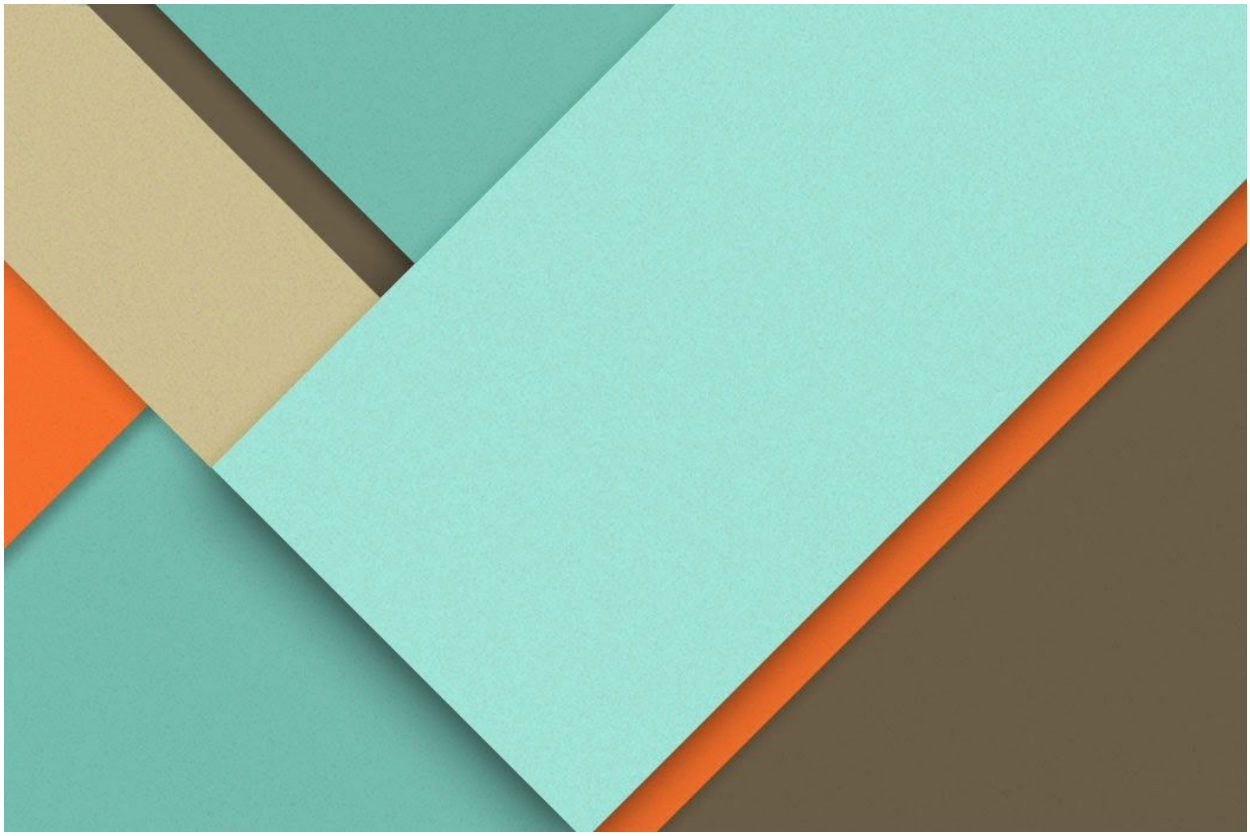


P.E.T.S.A.

Product Efficiency Through Sentiment Analyser

Valiants
Jaipur

Executive Summary

1. Overview

P.E.T.S.A. is an acronym which stands for Product Efficiency Through Sentiment Analyser, This Project is focused on determining and enhancing the efficiency of a product, as to how the product is performing in the market like - what community thinks about the project, what things can be improved and so on. Giving the end-user an overall view of the product.

2. Main Idea

The main idea behind the project is to give an overall view of a Product to the end-user i.e. “Why this Product?”. Let’s take an instance where I’m a consumer who wants to buy a Product. Now generally what I would do is look for the product, check its price, look up its ratings and product reviews, and finally draw a conclusion whether I should buy the product or not. So the solution we came up with- why not provide the user with a platform where he can directly put the information of what he/she wants and get the answer right away.

3. Potential

The P.E.T.S.A. is not only limited to the consumer but also has great business value for the manufactures as well, as it gives them the idea of how their product is performing in the market.

For manufacturers, a security feature can also be added which makes their whole product-based analysis more secure, instead of giving that insight available to the general public.

For a better user experience, it can have specific platform based views and opinions or it can have a generalized overall view of all the platform’s views and opinions.

Innovation & Core Values

1. Core Values

- **Integrity**:- Since P.E.T.S.A. is using real-time data sets from reliable platforms like Twitter, Amazon, and Flipkart, and providing authentic results, Hence there is no scope for deception.
- **Accountability:-** We take ownership of our work and promptly correct mistakes to the greatest extent possible.
- **Unbiased:-** P.E.T.S.A. considers and appreciates all sorts of opinions without any sort of biased towards particular opinions.

2. Future Goals

- To design an API for P.E.T.S.A. to enhance and ease the use of it.
- To integrate more platforms other than which are initially included.
- To set up security protocols for the manufacturer for better data privacy.
- To enhance the user experience i.e. continuous maintenance and development.

3. Innovation Goals

To deliver the reviews of anything from any source as fast as possible, on a single platform, customized for any of the user's needs with a very simple and to the point UI so that customers from any background can utilize the technology. This allows any person from any place to have access to how their product is performing in the real world.

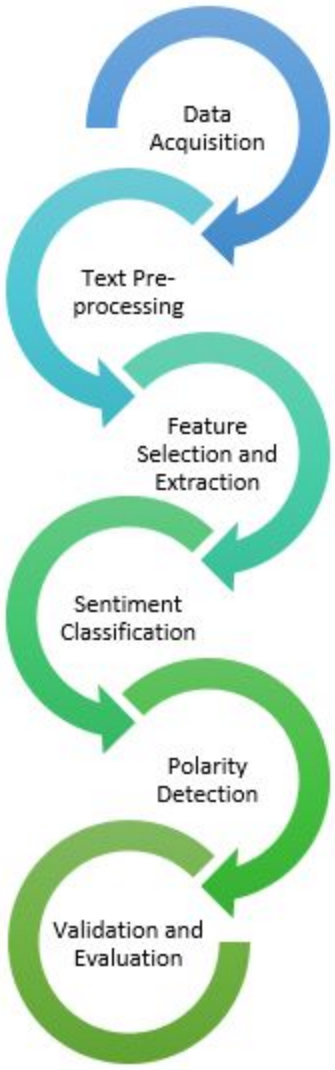
The main challenge is to make it faster in delivery of output and more accessible to people from any background whatsoever, hence leading us to aim towards:

- Accurate prediction of the sentiments
- Customizable channels to input our data, dictated by the user
- A pipeline that enhances fast delivery and fast computation
- UI that is an assertive, and minimal theme, to avoid chaos

Leverage Machine Learning for the Project

1. Question Analysis

The project gives the result of the efficiency of any product. To analyze whether the product is efficient or not, we have to analyze the sentiments of the comments done by any person. It also depends on the sentiments of the tweet of any person for the product. The sentiment is divided into three categories, i.e. positive, negative, and neutral.



2. Metric to Predict

The product has buyers and buyers have general opinions. Humans use to tell their general opinions using sentences over social media like Twitter as well as the sites from where they use to shop the product like Amazon, Flipkart. We have to gather all the data of any product over the different platforms. We have to analyze and predict the sentiment of any hashtag, any mentions, or any sentence for any product.

3. Data Input and Analysis

Data is a valuable asset for this project and it is used to predict the sentiments of any person how he/she looks towards the use of that product. The data come through the web servers and API of any platform. Then all the data is clean and filtered out as per the use of the Model to analyze. Data is also labeled according to the words and sentiment it contains whether it is positive, negative, or neutral. Depending on this label our model analyze whether the product is efficient in the market or not

4. Statistical Approach and Algorithm to Choose

The main statistics behind this idea is to analyze the market cap undertaken by any product and to study how to get maximum profit from minimum coverage. We have to make a Recurrent Neural Network that can predict how much the product is efficient in the market.

5. Final Output

PETSA (Product Efficiency through Sentiment Analysis) is a web-based application that runs on client sites and shows them how their products are performing in the market. PETSA also deals with Hashtags, mentions, and sentences which have some sentiment regarding any product. There is a specific place to search for hashtags, mentions, or sentences for any product.

Team - The power behind the idea

Valiants
Team Members

Anubhav Sharma - Former Researcher and Intern at Axis India Machine Learning. Former Machine Learning Lead at Developer Student Club - Google. An engineering student with 9 months of good experience in ML, AI, and Data Science.

Pramila Jangid - Machine Learning Researcher at Axis India ML Institute. Handled web app and UI (Streamlit) and contributed to modeling.

Abhishek Dixit - A RPA Advance Certified Student & Gamer who is ready to learn new technologies.

Mihir Sharma - A CSE pursuing student and an ML enthusiast keen to explore more in the world of AI.

A Glimpse of the Project