# Fake Product Review Monitoring System

**[1]Priyanka Jadhav, [2]Tushar Jagtap, [3]Pratiksha More, [4]Vaishnavi Shelke, [5]Prof. S. N. Bhadane**

Dept. of Information Technology
PVGCOE & S.S.D. Institute of Management
Nashik-422004.

*Abstract*- Online reviews and comments after product sales have become very important for making buying and selling decisions. Fake reviews will affect such decisions due to deceptive information, leading to financial losses for the consumers. Identification of fake reviews has thus received a great deal of attention in recent years. However, most websites have only focused on dealing with problematic reviews and comments. Amazon and Yelp would only remove possible fake reviews without questioning the sellers who could continue posting deceptive reviews for business purposes. In this paper, we propose a method for the detection of fake reviews based. We first analyze the characteristics of review data using a crawled Amazon China dataset, which shows that the patterns of review records for products are similar in normal situations. In this method, we first extract the review records of products to a temporal feature vector and then develop an isolation forest algorithm to detect outlier reviews by focusing on the differences between the patterns of product reviews to identify outlier reviews. We will verify the effectiveness of our method and compare it to some existing temporal outlier detection We will also study the impact caused by the parameter selection of the review records. Our work provides a new perspective of outlier review detection and our experiment demonstrates the effectiveness of our method.

*Key Words:* Online Product Review, Product Review, Product Review, SVM

## INTRODUCTION

Social media is an effective informational channel for sharing details about the goods and services offered by online retailers. Customers who have purchased the goods themselves offer this information. Analysis of customer-cited features and specifications based on their sentiment. These descriptions and reviews may be found on the Flipkart and Twitter websites. Reviews of features/specification Twitter and Flipkart websites were taken into account for this study project. As a result, the work's analysis of customers' issues with purchasing high-quality goods was its main focus. For the purpose of evaluating comments, this work automates the process of extracting semantic-based elements or features and their opinions

## PURPOSE

This will help customers and businesses to classify the reviews and know the authenticity of a product or service which businesses are providing or customers are getting. Customers will be freely doing the selection and purchase of the product after knowing the authentic reviews of the product.

## OBJECTIVES

☐ To help users and business organizations distinguish between fake and genuine reviews.
☐ To help users buy products from trustworthy websites.
☐ To reduce and save efforts and time by helping users and businesses identify spams from different opinion quickly.

## LITERATURE SURVEY:

1. Paper Name: Aspect based Sentiment Summarization using Fuzzy Logic Author: Jenifer Jothi Mary, Dr. L. Arockiam Abstract ::- Online business is one of the rapidly growing business sectors of current world. Now-a-days people purchase a lot of things from online shopping sites. Sales of online products are most often review driven. Thus, detecting deceptive reviews is getting more importance day by day. Sentiment analysis has great importance in fake review detection system. This paper introduces a sentiment analysis model that can separate positive and negative sentimental reviews efficiently. It shows an analysis of sentiment distribution for fake and truthful reviews. Also, the proposed sentiment model is used to find the impact of probabilistic sentiment score in fake online review detection using a hotel review dataset.

2. Paper Name: :- A Framework to enhance the Accuracy of Aspect level Sentiment Analysis in Big Data Author: Jenifer Jothi Mary Arockiam L Abstract : — In this era of Whatsapp, Facebook, Twitter, Instagram, and various other social media platforms, we all are connected to each other's thought in one way or another. The Internet has brought us closer to everybody's work, place, plans, ethics, feelings, and emotions. We are much more interested in showing off our day, commenting and reviewing each and everything we came across throughout the day, knowing others opinion on the same and identifying how and why are they different from ours. Reviews also help in identifying the market conditions and strategies, and it could be done via Sentimental analysis as it helps us in identifying the things that are in trend and helps the organizations, businesses to utilize and expand accordingly. It can also be used in general by people themselves to look for which movie to watch to which laptop to buy, but when we encounter spam reviews we sometimes do not know whether they are fake or not in reality, but they do change our point of view. In this article, we go through this in a step by step format of different papers and summarise for other readers how we can identify the correct emotions and differentiate between the real and fake reviews. Using some researches, we get to know in-depth about how to choose the correct dataset, and the challenges faced.
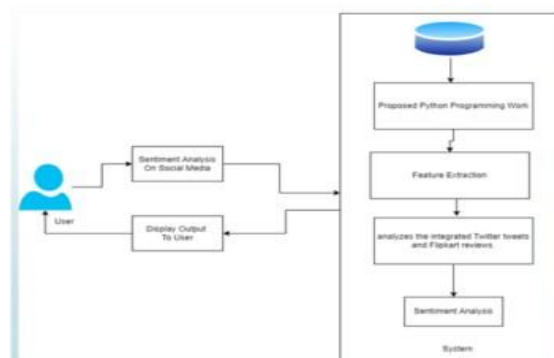
## PROPOSED SYSTEM



Figure 4.1: System Architecture

Figure System Architecture 4.1.1 Module • Admin In this module, the Admin has to log in by using valid user name and password. After login successful he can do some operations such as View All Users and Authorize, View All E-Commerce Website and Authorize, View All Products and Reviews, View Authorized user name and password. Once Login is successful user will do some operations like Manage Account, Search Products by keyword and Purchase, View Your Search Transactions, View

## SYSTEM REQUIREMENT
## HARDWARE REQUIREMENTS

-     System        : Intel I5 Processor.
-     Hard Disk    : 40 GB.
-     Monitor     : 15
-     Ram        : 16

## SOFTWARE REQUIREMENTS
- ☐ Python 3.8.
- ☐ Pip 20.2.2
- ☐ Anaconda Navigator
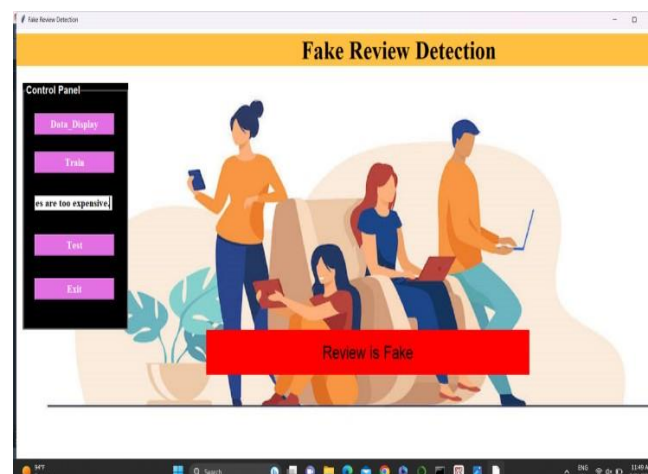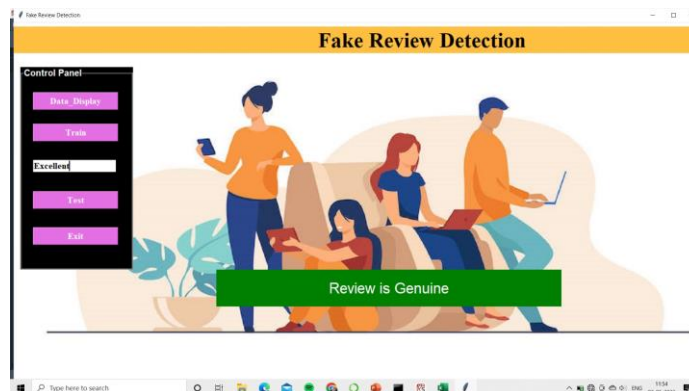- ☐ IDE : Spyder
- ☐ SQLite DB

## ADVANTAGES
- ☐ SVM is more convenient.
- ☐ To develop a machine learning model which can predict whether an online reviews is fake or not.
- ☐ Implementation of using algorithm in order to identify fake product reviews
- ☐ This research aims to detect fake reviews for a product by using text.

## IMPLEMENTATION
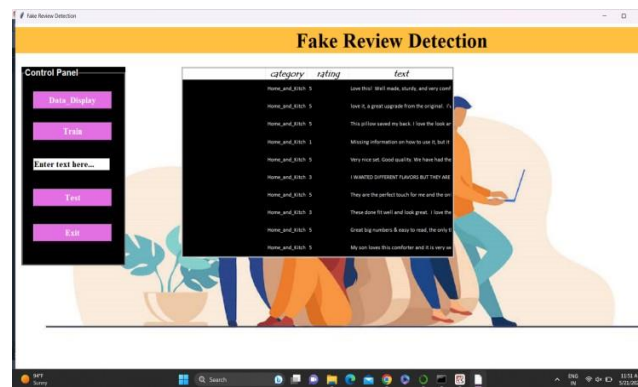


## DATA DISPLAY

**TESTING DATA ACCURACY**

| | precision | recall | f1-score | support |
|---|---|---|---|---|
| 0 | 0.90 | 0.88 | 0.89 | 1551 |
| 1 | 0.88 | 0.89 | 0.89 | 1513 |
| accuracy | | | 0.89 | 3064 |
| macro avg | 0.89 | 0.89 | 0.89 | 3064 |
| weighted avg | 0.89 | 0.89 | 0.89 | 3064 |

Accuracy : 88.772845953002625%
Model saved as model.joblib

**CONCLUSION**

In this system we have proposed a fundamentally different approach to address the issue of multi-output for classification tasks. Previous approaches worked with the assumption that different classes need to be mutually exclusive in multi-class or multilabel classification tasks, due to discriminative learning of classifiers. In this system we have proposed to transform a discriminative single-task classification problem into a generativemulti-task classification problem.

**FUTURE ENHANCEMENT**

he trust that consumers place on reviews. It also destroys the credibility that other companies have worked so hard to build. The following can also happen to you and your brand if you're caught posting fake reviews. we are using another technologyand other algorithm

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