**A SYNOPSIS ON**

**SENTIMENT ANALYSIS ON PRODUCT REVIEW**

***Submitted in partial fulfillment for the award of the degree of***

**Master of Computer Applications Batch**

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***Submitted to***



***Submitted by :***

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**Synopsis of Project**

# 1. Title of the Project

Sentiment Product Analysis Review System

# 2. Objective of the Project

The objective of this project is to develop a web-based application that analyzes customer product reviews and classifies them into positive or negative sentiments using Natural Language Processing (NLP) and Machine Learning techniques. The system aims to:  
Automatically determine the sentiment behind a user’s review. Help businesses understand customer opinions on their products. Visualize sentiment distribution using charts and word clouds.  
Enable real-time review addition and classification.  
Offer an easy-to-use interface using Streamlit for interaction and deployment.

# 3. Resources Required

## A. Hardware Requirements

Processor: Intel i3/i5/i7 (or equivalent AMD)  
RAM: Minimum 4 GB (8 GB recommended)  
Storage: Minimum 500 MB free disk space  
System: Windows/Linux/Mac OS

## B. Software Requirements

Operating System: Windows 10 or above / Ubuntu 20.04+ / macOS  
Python Version: 3.8 or above  
IDE: Visual Studio Code / Jupyter Notebook / PyCharm  
 Web Browser: Google Chrome / Firefox

## C. Libraries & Frameworks Used

|  |  |
| --- | --- |
| Library/Framework | Purpose |
| Streamlit | Building interactive web app UI |
| Pandas | Data loading, cleaning, and manipulation |
| NLTK | Natural Language Processing (stopword removal, text normalization) |
| scikit-learn | Machine learning modeling (Decision Tree, accuracy, train/test split) |
| Matplotlib & Seaborn | Data visualizations (bar chart, confusion matrix) |
| WordCloud | Generating word cloud for visualizing frequent positive words |

**Chapterization**

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