



# SENTIMENT ANALYSIS INTEL PRODUCTS

## PROBLEM STATEMENT:

Intel products sentiment analysis from online reviews

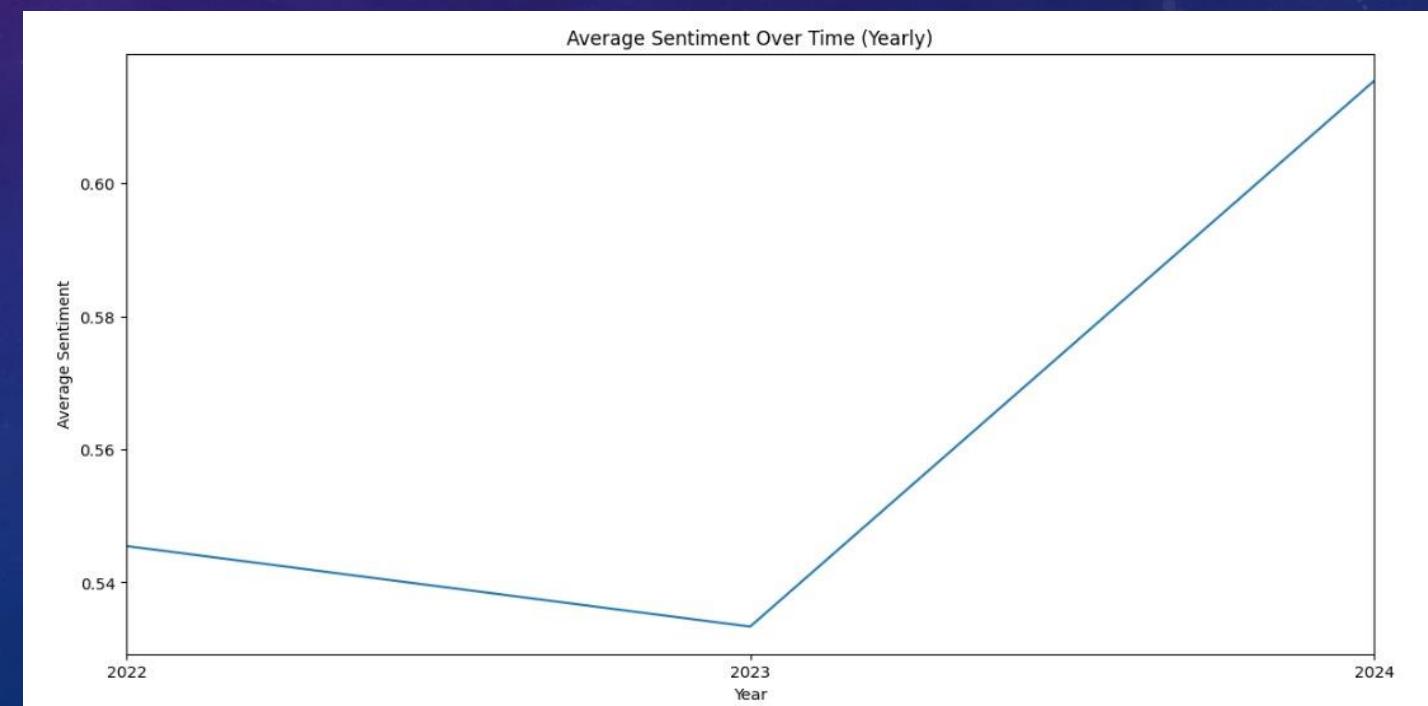
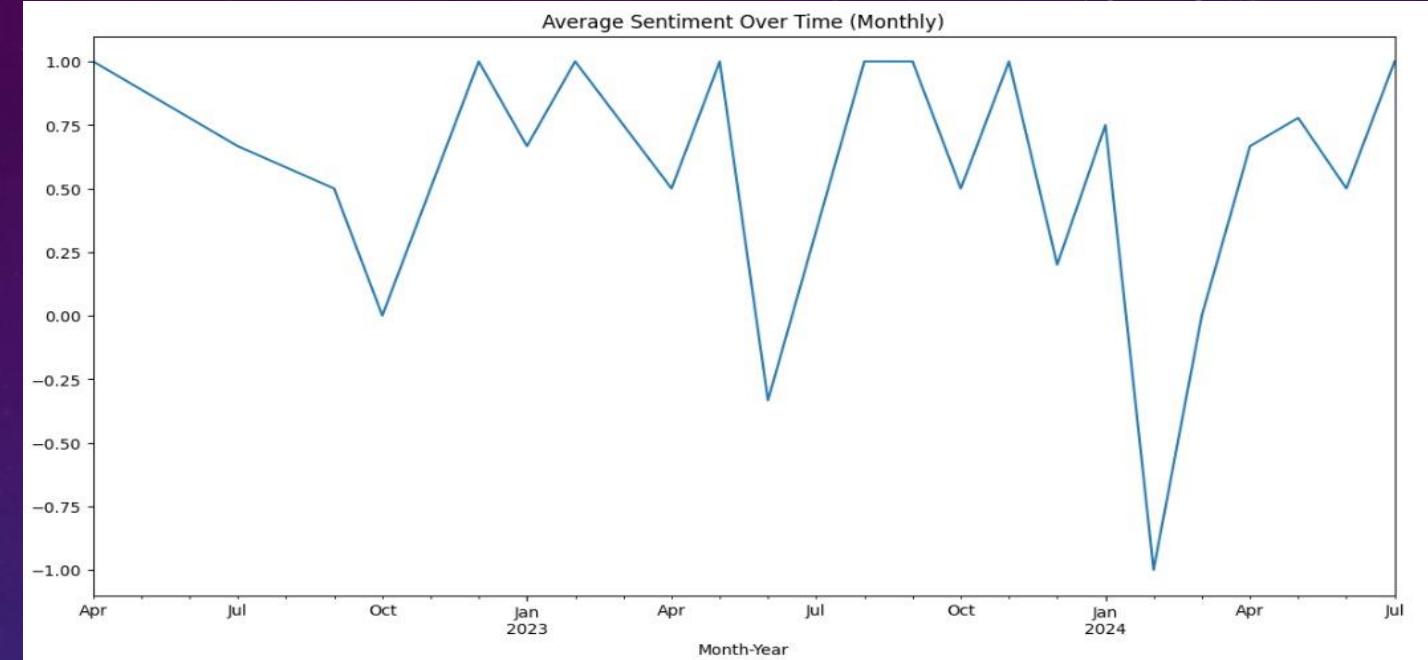
“Sentiment analysis is a type of text mining that tries to identify the emotional tone of a piece of writing. In this case, it would be used to determine whether online reviews of Intel products are positive, negative, or neutral”.

## UNIQUE IDEA IN BRIEF :

- Sentiments were analyzed not only on whole but also depending on the keywords/features mentioned In the reviews by implementing Aspect Based Sentiment Analysis. This was achieved by using a technique called Latent Dirichlet Allocation. LDA is a technique used to assign keywords with a probability distribution. For more about LDA we have learnt from <https://towardsdatascience.com/end-to-end-topic-modeling-in-python-latent-dirichlet-allocation-lda-35ce4ed6b3e0> .
- Also, recommendations on product improvement were generated by creating a review-based dictionary, providing the key improvements for better productivity.
- For finding the attributes in which we call aspects, in customer reviews and the respective opinions. This task involves identifying and extracting the aspects mentioned in a review . Aspect Types are , Explicit aspects are directly mentioned in the text . Implicit aspects are not directly mentioned but can be inferred through context.

# FEATURES OFFERED :

- By analyzing the sentiment of reviews how it varies over a period of time ,This information can be used to identify areas for improvement based on trends and also get update about the status of the product in the market.
- Recommendations were provided with each review. These recommendations are derived for every mentioned feature of the processor, which provides a detailed insight into the area of development needed.



# PROCESS FLOW :

The process flow of your sentiment analysis project:

1. Data Collection and Cleaning
2. Exploratory Data Analysis (EDA)
3. Feature Extraction and Sentiment Mapping
4. Aspect based sentiment using LDA
5. Recommendations for Product Improvements
6. Trend Analysis
7. Conclusion and presentation

# ARCHITECTURE DIAGRAM :



## TECHNOLOGIES USED :

- Web Scrapping: API involving Amazon review scrapper
- NLP : Natural Language Processing, Text cleaning.
- Sentiment analysis: Hugging face transformers
- Aspect based sentiment analysis: LDA - Latent Dirichlet Allocation A dictionary for generating recommendations
- Sentiment over time: Generation of sentiment analysis using pipeline.

# TEAM MEMBERS AND CONTRIBUTION :

## **WEB SCRAPPING:**

Sanjay T

Rishit  
Rodriquez J S

## **NLP TEXT CLEANING:**

Varsha A

## **MACHINE LEARNING TECHNIQUES:**

Thejashwini M

Nithyasri S V