

# PureView AI: An Unbiased NLP Tool For Customer Sentiment



## Overview

PureView AI is an unbiased NLP tool that analyzes customer sentiment and topic modeling in Amazon product reviews. Addressing concerns of potential biases, our project offers a transparent, third-party alternative using VADER and LDA Topic Modeling. We provide a scalable Tableau dashboard for efficient exploration of review sentiments and topics. Our open-source approach empowers consumers with clearer insights into product reviews.

## What

### Unbiased Sentiment Scores

We deliver transparent and reliable sentiment analysis of reviews using advanced NLP models free from the influence of platform incentives.

### Adding Context with Topic Modeling

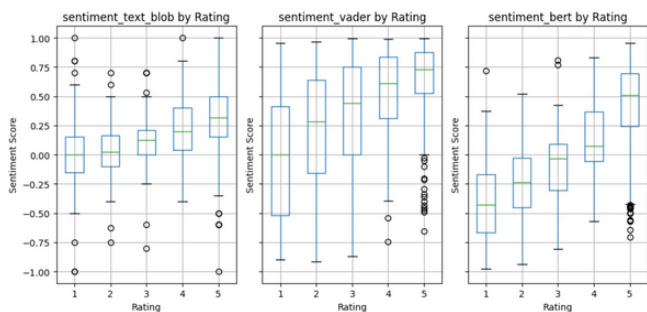
Our tool extracts meaningful themes from product reviews, providing deeper insights into customer feedback.

### One Seamless, Navigable Dashboard

Users can easily explore review sentiments and topics using an intuitive Tableau dashboard with advanced filtering and visualization options for a smooth experience.

## Results

Through combining the two modeling techniques, we were able to build a cohesive Tableau dashboard of customer sentiments, complete with review scores, sentiments, and key topics. The dashboard let's you filter on various departments and review features, to inform you on your potential purchase on a deeper level. We feel confident in our product, due to how well our sentiment scores classified against star ratings (below), and by early feedback from peers



## How

### Preprocessing

- The Genism and NLTK libraries were utilized to preprocess text by removing stop words, lemmatizing, and converting to lowercase

### LDA Topic Modeling

- LDA (Linear Discriminant Analysis) was used to select key topics
- The TF\_IDF framework narrowed down the topics on frequency and significance

### VADER Sentiment Analysis

- Various sentiment models were used and VADER, a rule based sentiment analysis, was ultimately selected due to its ability to classify review sentiment accurately to their ratings and scale effectively

