

FASHION SENTIMENT CHECKER: SENTIMENT ANALYSIS ON FASHION BRAND REVIEWS

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ABSTRACT

In recent years many fashion brands have claimed to offer high quality products, as more people now care about great fashion products. However this has also led to a rise in greenwashing, where brands exaggerate or mislead customers about how great they really are. Most current methods for checking these claims rely on brand-reported data, which often lacks transparency and does not reflect real customer opinions. This makes it difficult for consumers to know which brands they can trust.

To solve this the project introduces an AI chatbot that analyzes how people feel about fashion brands and their products. It uses FinBERT a pre-trained language model to understand whether reviews are positive, negative, or neutral. SHAP (Shapley Additive Explanations) is also used to explain the reasons behind each result. A custom dataset of online reviews from ten Sri Lankan fashion brands was created to train the system. This AI-powered tool helps users get a clearer and more honest view of how brands are seen.

The model was tested using key data science metrics such as accuracy, precision, recall, and F1-score. It achieved 91.5% accuracy, showing it gives correct results most of the time. It performed best on neutral reviews (F1-score of 0.94), and also did well on positive (0.88) and negative (0.87) ones. These results show the system can accurately understand how people feel about fashion brands. With SHAP providing clear explanations, the tool is not only accurate but also easy for users to trust.

Keywords: Artificial Intelligence (AI), Sentiment Analysis, Natural Language Processing (NLP), Explainable AI (XAI), Consumer Reviews

Subject Descriptors

- Computing methodologies → Artificial intelligence → Natural language processing
- Information systems → Sentiment analysis
- Computing methodologies → Machine learning → Explainable artificial intelligence