

Intelligent Product Suggestions Engine for E-Commerce Platforms using Hybrid Recommendation and Sentiment Analysis.

Pranav Patil¹, Dr. Prof. Roshani Raut², Asst. Prof. Sapana Kolambe³

¹ Student M. Tech, ² Prof. Mtech, ³ Asst. Prof. Mtech
Pimpri Chinchwad College of Engineering (PCCOE), Pune

Abstract: *In the evolving landscape of e-commerce, providing relevant and personalized product suggestions has become essential for enhancing user experience and increasing sales. This paper presents a hybrid recommendation system that combines content-based filtering, collaborative filtering, and sentiment analysis to deliver intelligent product suggestions tailored to user preferences. The proposed approach not only considers historical interactions and product similarities but also analyzes user sentiments from product reviews to improve recommendation accuracy. A sentiment classification model is integrated to interpret customer opinions, refining the relevance of suggested items. Experimental results demonstrate improved recommendation precision compared to traditional methods. This intelligent recommendation engine offers a scalable solution for e-commerce platforms, aiming to boost customer satisfaction, engagement, and purchase likelihood.*

Keywords: Recommendation System, E-Commerce, Hybrid Model, Content-Based Filtering, Collaborative Filtering, Sentiment Analysis, Natural Language Processing, Data Visualization, etc

