

Smartphone Recommendation System using 91 Mobiles Rating with YouTube Reviews

Name: Nehanth G

Roll. No: 21951A6790

Branch: CSE (Data Science)

Abstract:

The project focuses on developing a smartphone recommendation system that integrates data from the 91mobiles website and YouTube review videos to provide comprehensive ratings for smartphones. The system leverages web scraping techniques to extract detailed specifications and ratings of smartphones from the 91mobiles website. Additionally, it utilizes the YouTube API to collect metadata, including likes and views, from review videos of the smartphones. A unique YouTube rating is calculated by taking the ratio of likes to views, multiplied by 10, and then normalized to a scale of 10. The final rating for each smartphone is a weighted sum, where the 91mobiles rating contributes 70% and the YouTube rating contributes 30%. This approach ensures a balanced consideration of both expert reviews and user feedback. To recommend the best-rated smartphones based on user-specified criteria, a machine learning model using the Random Forest classifier is trained. This model predicts the highest-rated smartphones by analysing input specifications provided by the user. The entire system is implemented as a web application using Flask, enabling users to interact with the recommendation engine through a user-friendly interface. This integrated platform offers a reliable and accurate smartphone recommendation by combining professional reviews and popular opinion, tailored to user preferences. The use of Random Forest classifier enhances the prediction accuracy by handling the complexity of the input features and their interactions effectively. The web application not only simplifies the process of finding the best smartphones but also ensures that the recommendations are backed by robust data analysis and machine learning techniques. By aggregating and analyzing data from diverse sources, this project provides a holistic view of smartphone ratings, helping users make informed purchasing decisions.

Keywords:

Smartphone recommendation system, 91mobiles website, Web scraping, YouTube API, 91mobiles rating, YouTube rating, Final rating, Machine learning model, Random Forest classifier, Flask.