Capstone Project Submission

Instructions:

i) Please fill in all the required information.

ii) Avoid grammatical errors.

Team Member's Name, Email and Contribution:
Ranjith K (ranjith26.ganesh@gmail.com): • **Exploratory data Analysis** • **Outlier detection** • **Outlier treatment** • **Handling null values** • **Data Preprocessing** • **Model to be Used in the Project** • **Recommendation System** • **Nearest Neighbours Based Recommendation System** • **SVD Based Recommendation System** • **Hybrid Approach** • **Model Explainability** • **Summary** • **Technical documentation**
Please paste the GitHub Repo link.
GitHub Link: - https://github.com/RanjithK2608/Book-Recommendation-System

Please write a short summary of your Capstone project and its components. Describe the problem statement, your approaches and your conclusions. (200-400 words)

Recommendation systems is used for the purpose of suggesting items to purchase or to see.
They direct users towards those items which can meet their needs through cutting down large
database of Information. A various techniques have been introduced for recommending items i.e. content, collaborative and hybrid techniques are used. This paper solves the problem of data sparsity problem by combining the collaborative-based filtering and

SVD(Single Value Decomposition) to achieve better performance and the trends are achieved by principal of popularity. The results obtained are demonstrated and the proposed recommendation
algorithms perform better and solve the challenges such as data sparsity and understanding
the metric evaluation.

During the last few decades, with the rise of Youtube, Amazon, Netflix, and many other such web
services, recommender systems have taken more and more place in our lives. From e-commerce
(suggest to buyers articles that could interest them) to online advertisement (suggest to users the
right contents, matching their preferences), recommender systems are today unavoidable in our
daily online journeys.

Personal recommendation systems have been emerged to conduct effective search which related books based on user rating and interest. The proposed system used the KNN KNN Cosine Distance function to measure distance and Cosine Similarity function to find Similarity between the books clusters also we implemented SVD system that give good recommendation.

SVD(Singular value decomposition) with **best accuracy** on test data which give stronger

recommendations. These results show that our proposed system can remove boring books from the

recommendation list more efficiently.

Popularity based recommendation systems helpful to new users. we don't have data about new user so

here popularity based recommendations are more useful

A hybrid recommendation system was built using the combination of both content-based filtering and

collaborative filtering systems. A percentile score is given to the results obtained from both content and

collaborative filtering models and is combined

Most of the companies like Netflix , Amazon are using Hybrid recommendation search engines because they are more efficient.

In Our case also Hybrid approach gives **best** recommendations...