**Capstone Project Submission: - Book Recommendation System**

**Instructions:**

i) Please fill in all the required information.

ii) Avoid grammatical errors.

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| **Team Member’s Name, Email and Contribution:** |
| **Contributor Name:** Ranajay Biswas  **Email ID:** - ranojoybiswas21@gmail.com  **Contributor Role:**   * Data collection * Understanding Data & Attributes * Exploratory Data Analysis * Pre-Processing * Recommender System * Cluster Modeling * Cluster Analysis * Conclusion |
| **Please paste the GitHub Repo link.** |
| Github Link:- <https://github.com/RanojoyBiswas/Book-Recommendation-System---Ranajay-Biswas>  Google Drive Link:-  https://drive.google.com/drive/folders/1vzK3fubu8EeVFll0ZT9EMvB\_6FJG3d0t?usp=sharing |
| **Please write a short summary of your Capstone project and its components. Describe the problem statement, your approaches and your conclusions. (200-400 words)** |
| A recommendation system broadly recommends items to the user best suited to their tastes and traits. It uses the user's previous data and other user's data to give new recommendations.  Book Recommendation systems are popular recommendations system as most people have a very limited time that they spend on trying out and reading new books. So, when they visit an online bookstore or just simply search on the internet about some book, it becomes important to utilize this opportunity to make recommendations that are similar to what they would like.  Also it is important to consider books that are worth reading, meaning books that are popular for being good among other readers.  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.  In a very general way, recommender systems are algorithms aimed at suggesting relevant.  Items to users (items being movies to watch, text to read, products to buy, or anything else depending on industries). Recommender systems are really critical in some industries as they can generate a huge amount of income when they are efficient or also be a way to stand out significantly from competitors. The main objective for us, in this project is to create a book recommendation system for users.  We performed EDA on the 3 different datasets. Made visualizations and found insights from the data. Performed different pre-processing techniques to prepare the data for send it to the recommendation systems and clustering algorithms. We made clusters for similar books based on their goodness and popularity among the readers. Implemented Content based, Collaborative and Hybrid Recommendation systems that are being able to efficiently recommend similar books.  In the EDA, we found most of the readers are from USA, Canada, UK, Germany and Spain. We found the top authors and publishers. Discovered the top rated books and most number of rated books.  We noticed that for many books, very small number of ratings were present in the data which does not really give us an idea if those books are actually good or not. Also not all the users should be considered when building a recommendation system. We want genuine, credible and unbiased users. So, we declared thresholds in terms of selecting users and books that will be considered for recommendations. We had user-item data and content-feature, both kinds of data available. So, we decided to implement collaborative and content based filtering both.  We made suggestions regarding which books can be the bestsellers, which kind of books should be good for recommendations, which countries to focus more on etc. We also explained how to efficiently use the recommendation systems to suggest books. |