

CHAPTER – 6

Conclusion

- ❖ The proposed system, with the introduction of Serendipity in Recommender systems, handles the issues of:
 - Popularity Bias/Matthew Effect
 - ‘Long Tail’ Problem
 - ‘Over Specialization’ Problem
 - ‘Cold Start’ Problem
- ❖ Introduction of the Bhattacharyya Similarity Measure performs exceedingly well to handle the scattered values in the MovieLens dataset as it is able to overcome the weaknesses of some of the traditional similarity measures.
- ❖ Equal importance was assigned to Relevance Scores to ensure that the recommended movies are genuinely interesting to the target user, thereby improving the algorithm’s effectiveness.
- ❖ The novelty aspect, combined with relevance, was emphasized to ensure that the recommended movies are not only pertinent and meaningful but also fresh and engaging.
- ❖ To assess the aggregate quality of the suggested system, a metric to assess the novelty score was introduced, resulting in an average novelty score of 83% for the MovieLens dataset.
- ❖ Highlighting the extensive range of 'long tail' items is becoming increasingly essential, as it brings a multitude of these items into consideration. This process can serve as a foundation for many other emerging items to gain crucial recommendations and recognition.
- ❖ We conducted a comparative evaluation of three distinct serendipitous algorithms based on a key metric: novelty score metric. The presented results and analysis in Chapter - 5 demonstrate that all the algorithms are effective in recommending a wide variety of items.
- ❖ With an average novelty score of 79.39%, the K-Farthest Neighbor algorithm does admirably when it comes to suggesting a varied and unique selection of objects. With an average novelty score of 55.57%, the Tangent algorithm is also producing acceptable results when it comes to suggesting and recommending unique goods.
- ❖ However, the innovative serendipitous recommender algorithm is incredibly effective at achieving the highest originality score, with an overall mean novelty score of 83.33%.

Additionally, it takes into account the vast majority of "long tail" items, demonstrating the superiority of the innovative serendipitous recommender algorithm.

- ❖ Inculcating the aspect of ‘Serendipity’ in the Recommender System motivates the researchers to provide reasonable attention to the much-desired feature of ‘User Satisfaction’. But, at the same time, the traditional measure of Accuracy of the system to generate recommendations should not be totally ignored. So, there is a need to strike balance between these two contradicting measures.
- ❖ The feature of ‘Serendipity’ and hence ‘Novelty’ is very much the fitting concept in any real-world scenario or use case. So, it is high time this concept gets the attention it desires.