Paper Title:
Recommendation System With Hierarchical Recurrent Neural Network for Long-Term Time Series

Paper Link: https://ieeexplore.ieee.org/document/9430555

1 Summary

1.1 Motivation

This paper aims to present a Recommendation System With a Hierarchical Recurrent Neural Network for Long-Term Time Series. The idea is illustrated with the data of movie reviews and gaming data from Steam. This research can help to provide a good outcome for the recommendation of various items like items of e-commerce shops.

1.2 Contribution

This paper makes a significant contribution by developing an RNN-based Recommendation system. This system is very efficient in handling both long sequence lengths and time interval information that can provide very good results as output. This model is specifically designed to capture and model dependencies in sequential data.

1.3 Methodology

In this paper, the methodology includes collecting data related to the recommendation system from the rich data source. Here the authors used movie review and gaming datasets. Filtering the users with less than 5 events. Afterward, keeping the most recent item for testing, the second most recent item for verification, and the rest of the items for training.

1.4 Conclusion

Overall the paper represented an RNN-based recommendation system. It considers the order and time interval both. The model has got very high performance compared to several baseline models. For the evaluation of the system, two datasets have been used. One is a Movie Review dataset and the other is a gaming dataset collected from the Steam gaming platform.

2. Limitations

2.1 First Limitation

- **System issue:** Could consider other information like review contents and ratings. By using these the system could perform more accurately and provide a good result.

2.2 Second Limitation

- **Dataset issue:** It has been mentioned that it's capable of providing very good results since it has been used with big datasets that have older to new data. But here it has not mentioned whether it will work properly for the less data of a dataset or how it can be implemented with this kind of dataset.

3. Synthesis

Here the developed system has very potential applications. It is very efficient to provide the proper recommendations for the activities where the recommendation is needed. The authors have used Movie Reviews and Gaming datasets for their research activity. So in this case it provides the recommendation of the movies or games according to the client's choice. The paper aims to use additional information for further improvement. Moreover, they have planned to advance the short-term layer of the model.