Movie recommendation system using taymon optimized deep learning network

Article type: Research Article

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Abstract: The increased usage of the internet and social networks generates a large volume of information. Exploring through the large collection is time-consuming and hard to find the required one, so there is a serious need for a recommendation system. Based on this context several movie recommendation (MR) systems have been recently established. In addition, they have poor data analytics capability and cannot handle changing user preferences. As a result, there are many movies listed on the recommendation page, which provides for a poor user experience is the major issue. Therefore, in this work, a novel Taymon Optimized Deep Learning network (TODL net) for recommending top best movies based on their past choices, behaviour and movie contents. The deep neural network is a combination of Dilated CNN with Bi-directional LSTM. The DiCNN-BiLSTM model eliminates the functionality pooling operations and uses a dilated convolution layer to address the issue of information loss. The DiCNN is employed to learn the movie contents by mining user behavioral pattern attributes. The BiLSTM is applied to recommend the best movies on basis of the extracted features of the movie rating sequences of users in other social mediums. Moreover, for providing better results the DiCNN-BiLSTM is optimized with Taymon optimization algorithm to recommend best movies for the users. The proposed TODL net obtains the overall accuracy of 97.24% for best movies recommendation by using TMDB and MovieLens datasets.

Keywords: Movie recommender system, deep learning, user experience, taymon, accuracy, movie rating

Price: EUR 27.50