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RHYTHMO

Tackling the Cold Start Problem in Music Recommendation Systems Using Contextual Data
with Temporal Convolutional Networks

A dissertation by

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Abstract

Recommendation systems are widely used in all domains. It is addressed in many ways. Which includes content-based filtering, Collaborative filtering and combination of content based filtering and collaborative filtering (Hybrid filtering) in Machine learning and neural network, autoencoding, Convolutional networks in deep learning. Finding a solution for cold start integrating adaptive contextual data using approach TCN application remains unresolved because of the existing algorithms and its limited performance. Although various approaches in Deep learning have provided multiple solutions, solutions found were not effective.

So, after multiple approaches have taken action to solve the problem, Temporal Convolutional Network (TCN) seems most promising approach. So, it has been selected since well suited for personalised music recommendation. Comparing to the approach Recurrent Neural Network (RNN) and Long Short-Term Memory (LSTM), Temporal Convolutional Network (TCN) offer a simple, scalable approach without relying on recurrent connections.

The system was tested by building a Deep learning (DL) model. The model was able to give an output for music recommendations addressing cold start issue and according to adaptive contextual data.

Subject Descriptors: Computing Methodologies -> Machine learning -> Machine learning approaches -> Neural Networks

Keywords: Music Recommendation, Deep learning (DL), Temporal Convolutional Network (TCN),