

**BELLARENA – DEEP LEARNING BASED
PERSONALIZED ONLINE WOMEN’S CLOTHING
RECOMMENDATION SYSTEM**

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Abstract

BELLERENA is designed to give more accurate and personalized recommendations for online shoppers.

With the large amount of information which comes rapidly to the internet, makes it difficult in finding needful information. This becomes a critical problem for internet users in finding needed information or products in any platform. As a solution expert started inventing and developing various kinds of recommendation systems. And the Collaborative filtering approach has become the most important algorithm among other algorithms. With the use of collaborative filtering algorithms, it's easy to make quality recommendations.

E companies also started using recommendation systems to give suggestions for the products, which their customers might be interested on. Recommender systems provide excellent sales for E-commerce companies. Recommender systems were commonly used to recommend items such as Movies, Books, Items, Music etc. to customers. Netflix uses recommender systems in recommending movies and Amazon uses the recommendation system in recommending books to their customers. There are several ways of making recommendations, such as Providing the top list items, making recommendations based on demographic data, analyzing the past interaction activities of users. Among all, the collaborative filtering approach is the best approach invented by [Goldberg et al., 1992]. There are three types of recommendation systems, Collaborative Filtering, Content-based recommender system and Hybrid approach.

The collaborative filtering can be divided into Model based filtering and Memory based filtering, under model-based filtering comes the Matrix factorization, Clustering, Bayesian networks. And under Memory based filtering comes the Item – Item collaborative filtering approach and User- User collaborative filtering approach.

Rather than making common recommendations for the users BELLERENA is designed to give more accurate and personalized recommendations for online clothing shoppers. Since online clothing is a massive area, BELLERENA is scoped down to Women's online clothing personalized recommendations. In order to personalize the