Comparison of DBSCAN and K-Means in Overcoming Cold Star Problem in Collaborative Filtering

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ABSTRACT

The development of recommendation systems is currently growing rapidly. A recommendation system is a technology that can recommend a particular item to users. One method that is often used is collaborative filtering. The way collaborative filtering works is by providing recommendations to users based on ratings from other users. However, there is a problem found, namely the existence of new users (cold stars) that affect the performance of the recommendation system, so that the recommendation system has difficulty analyzing the direction of user interest where new users have not rated a product which results in the inability of a system to recommend something. Therefore, an algorithm is needed to alleviate the cold star problem with a clustering approach using K-Means and DBSCAN. Research clustering process using data from Movielens.com, through attribute selection k-means divides demographic data into 2 clusters with an accuracy of 100% and DBSCAN into 2 clusters with an accuracy value of 98.52%.

Keywords: Clustering; K-Means; DBSCAN; Rapid Miner; Cold Star