Chapter 15
Recommender System in the Context of Big Data: Implementing SVD-Based Recommender System using Apache Hadoop and Spark

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ABSTRACT

The increasing usage of e-commerce website has led to the emergence of Recommender System (RS) with the aim of personalizing the web content for each user. One of the successful techniques of RSs is Collaborative Filtering (CF) which makes recommendations for users based on what other like-mind users had preferred. However, as the world enter Big Data era, CF has faced some challenges such as: scalability, sparsity and cold start. Thus, new approaches that overcome the existing problems have been studied such as Singular Value Decomposition (SVD). This chapter surveys the literature of RSs, reviews the current state of RSs with the main concerns surrounding them due to Big Data, investigates thoroughly SVD and provides an implementation to it using Apache Hadoop and Spark. This is intended to validate the applicability of, existing contributions to the field of, SVD-based RSs as well as validated the effectiveness of Hadoop and spark in developing large-scale systems. The results proved the scalability of SVD-based RS and its applicability to Big Data.