Big Data Classification using Fuzzy K-Nearest Neighbor

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Authors:
Malak El Bakry, Soha Safwat, Osman Hegazy

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Abstract

Because of the massive increase in the size of the data it becomes troublesome to perform effective analysis using the current traditional techniques. Big data put forward a lot of challenges due to its several characteristics like volume, velocity, variety, variability, value and complexity. Today there is not only a necessity for efficient data mining techniques to process large volume of data but in addition a need for a means to meet the computational requirements to process such huge volume of data. The objective of this paper is to classify big data using Fuzzy K-Nearest Neighbor classifier, and to provide a comparative study between the results of the proposed systems and the method reviewed in the literature. In this paper we implemented the Fuzzy K-Nearest Neighbor method using the MapReduce paradigm to process on big data. Results on different data sets show that the proposed Fuzzy K-Nearest Neighbor method outperforms a better performance than the method reviewed in the literature.

References
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Index Terms

Computer Science Fuzzy Systems
Keywords

Big data; Classification; Fuzzy k-nearest neighbor; Fuzzy logic; Hadoop; MapReduce