Abstract

Cloud computing is a solution for processing large amounts of data. Therefore, Google introduced map reduce as a programming model for large scale data applications in the cloud environment. Map reduce is used for data processing and parallel computing. The Apache Hadoop is an open source implementation of mapreduce. However job shop scheduling problem (JSSP) is an important issues that is one of the most popular NP hard, it is necessary to find a faster solution for large scale problems. For this purpose, fuzzy neural network must be use to solve this kind of optimization problem. In this paper, we proposed new novel method by using a fuzzy neural network with map reduce model to solve job shop scheduling problem, implementation and results are presented. The experiments of our proposed method are performed for well-known problem instances from job scheduling. The results show our method has high convergence speed and less execution time compared with Genetic algorithm.


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Index Terms

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Cloud Computing  Map Reduce  Fuzzy Neural Network  Job Scheduling.