A Power System Adaptive Scheme Depending on a Data Mining Model

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Abstract

The conditions of any power system always keep on changing over time due to the continuous load variation nature of the system. The conventional relays that had been always used for power system protection face difficulties to comply and offer the required protection because of their fixed settings parameters. Many adaptive solutions have been introduced. They depend on evaluating the system conditions in order to help taking the proper actions, regarding changing the relay settings or protection schemes to suit the new system conditions. Among these solutions, data mining-based solutions are distinctive. The most frequently used data mining algorithm for the evaluation process is the decision trees. This paper introduces a new evaluating data mining model using support vector machines (SVM), as another superior tool. The SVM model proves to have higher correct rate in evaluating and predicting the system conditions than the decision trees model.

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