Abstract

The weather conditions are changing continuously and the entire world suffers from the changing climate and their side effects. Therefore, pattern on changing weather conditions are required to observe. With this aim the proposed work is intended to investigate about the weather condition pattern and their forecasting model. On the other hand, data mining technique enables us to analyze the data and extract the valuable patterns from the data. Therefore in order to understand fluctuating patterns of the weather conditions, the data mining-based predictive model is reported in this work. The proposed data model analyzes the historical weather data and identifies significant patterns from the historical data. These identified patterns from the historical data enable us to approximate the upcoming weather conditions and their outcomes. To design and develop such an accurate data model, a number of techniques are reviewed and most promising approaches are collected. Thus the proposed data model incorporates the Hidden Markov Model for prediction and for extraction of the weather condition observations, the K-means clustering is used. For predicting the new or upcoming conditions, the system needs to accept the current scenarios of weather conditions. The implementation of the proposed
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technique is performed on the JAVA technology. Additionally for justification of the proposed model the comparative study with the traditional ID3 algorithm is used. To compare both the techniques the accuracy, error rate and the time and space complexity is estimated as the performance parameters. According to the obtained results the performance of the proposed technique is found enhanced as compared to available ID3 based technique.

References

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Index Terms

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Keywords

Data mining, classification, supervised learning, implementation, performance study.