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 analyse 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 analyse the historical weather data and identify the significant on the 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 need 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

15. Cheng Fan, Fu Xiao, Shengwei Wang, “Development of prediction models for next-day building energy consumption and peak power demand using data mining techniques", 2014 Elsevier Ltd. All rights reserved.
16. Shu-Hsien Liao, Pei-Hui Chu, Pei-Yuan Hsiao, “Data mining techniques and applications
A Weather Forecasting Model using the Data Mining Technique

— A decade review from 2000 to 2011”, 2012 Elsevier Ltd. All rights reserved.

17. Wu He, “Examining students’ online interaction in a live video streaming environment using data mining and text mining”, 2012 Elsevier Ltd. All rights reserved.


Index Terms

Computer Science

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Keywords

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