Various Strategies Available for Prediction of Weather Based UAV with the Help of Machine Learning Techniques

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Abstract

Weather forecasting plays an important role in case og agriculture, economy of a country. This weather prediction has to be predicted correctly without that planning of any ideas is not possible. To overcome this problem in this paper we propose the prediction of the climate change in the future. By using the data mining technique we solve this problem. With the help of the data mining the water, temperature and the climate can be predicted at the earlier stage. By providing the data earlier the preventive measures had takes place before causing any health issues. The data mining can analyze the historical data from the data base based on the data they can predict the time period of climate change. At which period the climate will be hot and which period the climate will be cold. The prediction is more accurate and efficiency.

1. Introduction

The climate can be changed in the irregular manner. The change in the irregular climate we can't able to plan anything for future. The climate change can affect the planned things. In some years back the climate change can occurs at the regular interval of time. So there is any great loss in property and in the health issues. Based upon the climate change the works are get takes place in the future scenario. At winter season they planned some activities they can do according to that and in the summer season they planned set of activities they can do that activities according to that. So there is less impact in the climate change. It does not occur a lot in the human's health. The health issues are takes place mainly in rainy season they can made the preventive measures according to that. But in the present the past climate change will not change according to the period of time. So the humans get suffered from the change in the climate. The climate change can be predicted by using the data mining technology. The data mining technology can predict the weather in the future it is known as the weather forecasting. The weather forecasting has be made to analyze the prediction result. The prediction can be made through the geographical manner.

The weather prediction can mainly helpful to the agriculture based upon the climate they can plant the crops. There some seasonal crops in these season the particular crops will grow and yield a lot. Based upon the forecasting result farming has made according to that. The prediction can helpful in most of the companies at which period the production has been made, at the particular season the production will be high. To improve this prediction in high level machine learning system is get employed. Based upon the climate change the works are get takes place in the future scenario. At winter season they planned some activities they can do according to that and in the summer season they planned set of activities they can do that activities according to that. The data get formulated in the graphical manner. The geographical result can show the climate change in each state of the country. The prediction has been made by the past historical data by comparing the data with present and analyzes the climate change. The model provides a better result and efficiency. Major thing is the humans life is get saved by suffering from various kinds of disease. The future prediction such as the rainfall, temperature and humidity. The prediction can helpful in most of the companies at which period the production has been made, at the particular season the production will be high. To improve this prediction in high level machine learning system is get employed. Based upon the climate change

the works are get takes place in the future scenario.

2. Literature Survey

A. R. Chaudhari, D. P. Rana, & R. G. Mehta et., al., proposed about the prediction of the weather at each and every place before it happens. So by predicting the forecasting of the weather in the feature it may help the humans to do activities according to that. The prediction should be accurate and efficient. The prediction shows the rain, cloudy, wind at all the part of the location. So this paper shows the prediction of the weather at each and every area with the help of the data mining. In data mining using various algorithm has been implemented supervised and unsupervised due to the dimensional and non linear of data prediction of the weather is not more accurate. In this machine learning method is used by using various algorithm like SVM, navies bayes for the classification of the data in the server. The data can be separated according to the season period. The separated data is get compared with the present data of the geographical information. Based upon that the prediction can be done. The weather forecasting can helps the human to plan daily work and saves the human from affecting by disease. This system can provide accurate result of about 80%. So the system is takes into consideration for predicting the weather conditions. The change in weather according to the period. The sudden formation of cyclone can create a great impact in the weather change [1].

Adeyemo, A. et., al., proposed the climate changes can create a great impact in human and in all resources. In order to predict the climate change weather forecasting method is took place. It is the challenging thing to predict the weather from the large set of data. The data gets accumulated in the server and it gets compared with the present situation either it is rainy, cloudy or snow. The forecasting of weather can be more helpful to agriculture, tourism and medical. The prediction of the weather in future manner can helps most of the human from disease. Based upon the prediction the preventive measures have been taken. The can protect the farming from the great loss. Because the loss in the agriculture is due to the uneven changing of the climate by predicting the climate change in the future it can helps most of the people. It is one of the challenging thing to the scientist in the field of research. The two methods has been get implemented in the prediction one is the hadoop and the mapreduce. This two can predict the result in accurate with minimum period of time. The fetching of data from the huge data set made simple with the help of the hadoop technique [2].

Agboola A.H., Gabriel A. J., & Aliyu E.O et., al., proposed the forecasting of the weather is more useful for the various activities. The prediction of the weather can helps the farmer in the agriculture field, for the tourist it will be more helpful to protect from the rainfall before itself. To predict the weather the knowledge growing system is implemented this can analyze the data from the data set can pays a wave for the present weather condition. The future prediction can be done using AI method which uses the A30S algorithm in which it can be predict the weather at each location. The location based weather prediction can be made. At each area the weather is get monitored and form the data in the set in which it is compared to the present data to predict the data result. This algorithm can provides nearly 70% of the total result. The result can be much effective and accurate. The knowledge based system can helps the for the identification of the data from the entire data. The exact period of data can be compared with the present to predict the future [3].

Badhiye S.S., Wakode B.V., & Chatur P. N et., al., proposed the weather change in the can create great impact in the power system. In the pace of the hilly region the renewable resources power is get extracted from the sources and it get supplied to the grid. The power estimation and protection can be high in the season of the rain. This paper shows the short term forecasting of power. It can implement in the area of Malaysia. At the side of the peninsula region the wind mill can be installed a regular set of periods. By using the forecasting day to day power monitoring has get implemented. The Time series system in which the power production can be varied according to the time. The graph shows the linear change in the power with respect to time. Nearly the By forecasting the weather the power saver system can be installed before itself to save the large amount of protection power. The power is get stored in the battery and it supplied to the grid [4].

Juraj Bartoka, Ondrej Habalab, Peter Bednarcet., al., proposed the forecasting of the weather for the large set of period is not so simple and it does not provides a exact result. So in this system very short term prediction has been made the prediction is period is less than a hour. The prediction can be done for every set of period. There is the huge demand in weather forecasting in the field of agriculture, business, and transportation. The short term fore casting can helps in farming and tourism. The updated result can be collected by the data forecast which is get owned by the some of the private companies. The data lane network can be installed in the everywhere at period of 2 to 3 km. these can sends the periodic

information about the updated weather prediction system. The data are get located in the server part it can be fetched and transfer through the sensor network. The POTEKA sensor is placed at every regular distance a they can transmit the data from the end to end server with the help of the surface medium. The XGBoost can provides the vector support machine with the real set of data [5].

Jyotismita Goswami, & Alok Choudhury et., al., this paper proposes the alert warning system about the weather condition at regular interval of time. The data can be fetched from the server using data mining technique the fetched data can be use dot predict the weather condition at regular period of time. The sensor can transmit the weather information to all the private companies who has owned the data forecasting. The data from the set is compared with the present data. The data classification has been made according to boundaries in the set. The data prediction with high accuracy is obtained. This system proposes the data framework the preprocessing and the classification of the data samples are easy. Using this technique the data prediction is accurate[6].

K. Somvanshi, et., al., proposed the weather forecasting is implemented using the data mining system. The large set of data is get hidden in the metrological patterns. To predict the hidden data and accurate weather predicting this system uses the artificial neural network (ANN). The data mining tools has been used to predict the weather at each and every localized area. The BPN system is get implemented for predicting the weather in the regular period of time. The ANN and BPN can consist of the last 3 years of the data made a record of about 15000 records. The records can consist of about rainfall, humidity, wind. By using the data from the data sets the weather can be predicted. It consists of the metrological data in the form of geographical manner [7].

M. Viswambari, & Dr. R. Anbu Selviet., al., proposed the use of predicting the weather using AI technique. The data are get collected in the server. The several research paper are get used analyzed the data technique by deep learning. The prediction can be done for every set of period. There is the huge demand in weather forecasting in the field of agriculture, business, and transportation. The short term fore casting can helps in farming and tourism. The updated result can be collected by the data forecast which is get owned by the some of the private companies. The data from the set is compared with the present data. The data classification has been made according to boundaries in the set. The data prediction with high accuracy. This system proposes the data framework the preprocessing and the

classification of the data samples are easy [8].

Meghali A, Kalyankar, & Prof. S. J. Alaspurkaret., al., proposed the predicting the data of the weather form the data mining system. In several institutions like BKMG and Japan. The DSS can be applied in the weather pattern system. The prediction can be done for every set of period. There is the huge demand in weather forecasting in the field of agriculture, business, and transportation. The short term fore casting can helps in farming and tourism. The updated result can be collected by the data forecast which is get owned by the some of the private companies. The data lane network can be installed in the everywhere at period of 2 to 3 km. These can sends the periodic information about the updated weather prediction system. The weather can be localized at each and every area. The web scraping technology system is get implemented to predict the exact set of data [9].

Pabreja, & Kavitaet., al., proposed the inter dimension system is get implemented in the system. The data from the set can fetch using the data mining technology. The DIAL method is implemented in the mining technology. The geographical set of data is located from the observations. The patterns are get existed in the potential relations. The mechanism of mining is get deployed in the forecasting of data system. This can involves two set of classification one is the static data base and the other one is the multi dimension analysis. The predicted result is formulated in the path of patterns. The patterns data can be transmitted to the data forecasting network sensor. The prediction of the multi dimensions of the data can be recorded at the each regular interval of period. The weather condition can updated using the bayes method. This system is more accurate and efficient [10].

3. Proposed Method of Weather Forecasting in Data Mining

This paper proposes the predicting the weather condition using the data mining technology. The technology which includes the neural network algorithm to predict the exact weather condition report is used by data mining. The prediction can be more helpful to the humans and prevention has been done to avoid the health issues. Prediction can be used in the agriculture, tourism, medical etc. The prediction can be more accurate and efficient.
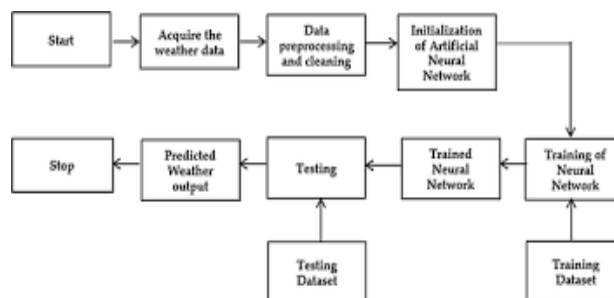

Figure 1: Architecture of weather management system

4. Results and Discussions

In real time a UAV (Unmanned Aerial Vehicle) is been designed with sensors connected to it. The sensors will measure the parameters such as temperature, moisture, humidity etc. we will design many such type of parameters which will be stored in the cloud for analysis of weather prediction. We use the concept of data mining to weather predictions and results are tabulated. The following graph represents the rainfall derived using linear regression algorithm.
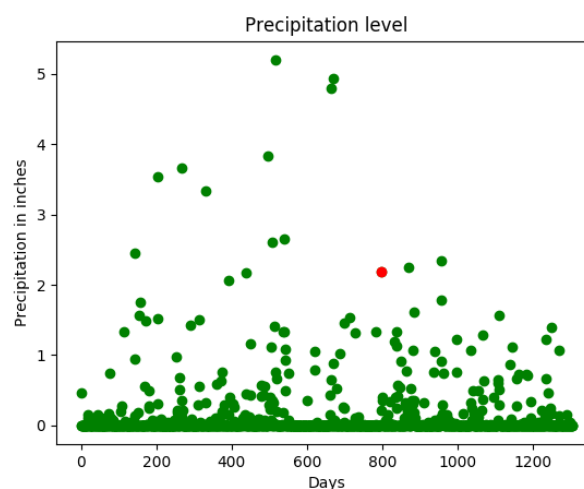

Figure 2: Rainfall prediction graph

The following graph represents the prediction rate of environmental analysis between unmanned aerial vehicle and general remote sensing. It is found that prediction by UAV is better than the normal sensing.
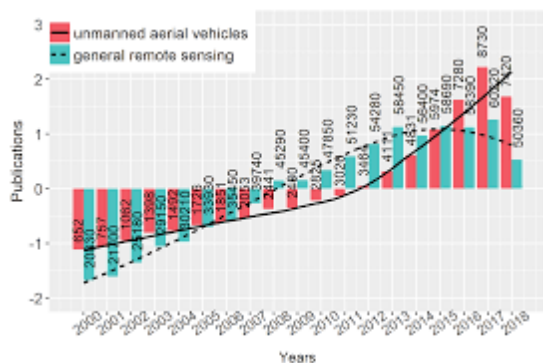
Figure 3: Graph between UAV and normal sensing

5. Conclusion

Predicting weather plays a vital role and a challenging task in today's world. With weather prediction only we can plan agriculture activities and any events such as sports, functions etc. So this weather prediction has to be predicted correctly. We are using linear regression algorithm to predict the weather condition and it is results are obtained with high accuracy.

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