ISSN(Online): 2320-9801
ISSN (Print): 2320-9798

International Journal of Innovative Research in Computer and Communication Engineering

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Website: www.ijircce.com

Vol. 7, Issue 5, May 2019

Location Based Agriculture Crop and Price Forecasting Using Data Mining

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ABSTRACT: India is a country, here agriculture are important supply of living for kith and kin. In India, because of many reasons plurality of the agriculturists don't seem to be ready to receive the expected crop breeds. During this circumstances, the agriculturists wants a well-timed steering to predict the crop and crop value is to be analysis so as to assist the farmers to maximize the productivity. Major issue of farmer is for agricultural designing is to induce correct yield estimation for the many crops concerned and future value of it. Each farmer is curious in knowing that crop to grow to get high yield that he will expect. Agriculture crop prediction and value prediction system helps the farmer to induce the knowledge concerning that crop to grow and predict the long run value. The crop prediction and value prediction system can predict concerning crops which is able to aid the grower to owe the optimum yield. Sensible and effective solutions for this downside is achieved by applying totally different data processing techniques. It's sensible approach for prediction. Crop prediction is a vital agricultural downside. This model provides an honest answer for farming by predicting the agricultural crop and crop value which might be encourage the farmers in gaining the high profit to a good extensiveness. Agriculture prediction is helpful for farmers to require call on that crop to be big and understand the long run value..

KEYWORDS: Data mining, Auto-regressive integrated moving average, Naive Bayes, Regression, Artificial neural network, Classification.

I. INTRODUCTION

In agriculture area where farmers and the group of indus- tries dealing with agriculture produce and service required in farming have to make incalculable decisions every day and complexities that involves the various factors controlling them. Necessary concern for agricultural planning aim is the precise yield evaluation for the several crops involved in the planning. Agriculture has been a clear target for data mining. Environmental conditions, lack of consistency in soil, input levels, combinations and product prices have made it all the more applicable for farmers to use information and get help to make critical farming decisions. The agricultural observation induces farmers to adjust their agricultural production and shipment. And it contributes the government's supply policy and price stabilization measures. However, due to global warming and unusual weather, agricultural forecast is becoming more complex and more difficult. Agricultural production of next year is affected from crop degree of previous years, price, consumption patterns, imported agricultural products. It takes into consideration with the impact of a combination of many factors. Agriculture and related businesses are large industries in the U.S. In addition, the group of industries dealing with agriculture produce and service required in farming has become very complicated in recent years, and hence the importance of agricultural planning has increased. Crop call designing is a very important a part of effective farm management. Because of many uncertain factors such as weather changes, technology advances, and crop yields and prices, all of which prove to change considerably, decision planning can be very complex. Crop producers often suffer from a lack of precise information. Data mining is the process of extracting useful information from large data sets. It is applied technique of examining existing databases to restore new information.

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II.. RELATED WORK

There has been sizable amount of learning on crop pre- diction and worth foretelling. This section presents a awfully temporary review of the connected and up to date
NantachaiKantanantha, et al [1], performed to develop precise yield and worth evaluating models to assist to boost within the result. For yield evaluating, it establish a crop and yield data representative mistreatment regression ways. Model propose a semi-parametric regression model, that accounts for each at intervals and between year relations within the information. For worth evaluating, we have a tendency to reach a representative that embrace close data that valuate worth.

P.S. Vijayabaskar et al [2], projected the representative to check the richness of soil. The representative offer data regarding plantation supported values get from sensors. Lo- cation based mostly data of crop within the style of block out. to boost the crop productivity data regarding manures are provided to the farmer, prophetical analysis includes numerous applied mathematics techniques.

YogeshGandge et al. [3], agriculture give most profit for country. Agriculture give data is incredibly helpful for farmer to create daily call for crops. Circumstances out of hand will injury the yield of crop. Farmer suffer from cash management drawback are carrying self destruction. Valid data regarding crop can facilitate the farmer, control to create arrangements like accumulate, dispose.

JharnaMajumdar et al. [4], explicit regarding agriculture give data is incredibly helpful for farmer to create daily call for crops. In circumstances, out of hand will injury yield of crop. Matter of competition of agriculture representative is to supply the yield. Main approach to achieve attainable, operative explication is succeeded by applying applicable methodology.

Haoyang Wu et al. [5], bestowed model is to predict a few farming completely different promoting in barely one town. Mixed mode has 2 technique referred to as ARIMA model and PLS regression methodology. It focus on clock and capability aspects. It helps to get weekly value of farming in several market place.

Jiangui Liu et al. [6], projected regarding crop and productivity to the farmer to achieve most profit. This model signalize by crop yield that's supported soil and environ- mental condition, crop varieties and phenological cycles. Vegetation chemical action activities ruled by cover spectral coefficient and it's primary productivity indication. Potential of the model is investigated mistreatment time-series NDVI for mapping abstraction variability of cropland productivity.

R.HarineRajashree et al. [7] explicit the model for agricul- ture fashionable farming technique. It uses supported farmers web site specific parameters like soil characteristics, style of soil, yield of crop are collected. Model helps the farmer the simplest crop garrison on farming parameter. This model helps produces smart choice on a crop and will increase within the profit in farmer web site. during this model crop prediction is by proposing random tree, K-Nearest Neighbor.

Pallavi V. Jirapure and professor. Prarthana A. Deshkar [8], explicit model regarding feature extraction of helpful information supported dataset. This dataset includes satiate and perceivable patterns. In agriculture domain, learning regarding the data the info the data and mistreatment information. Country community have the farming and its job. India's providence is agriculture and farming. Content and recognizing the patterns needs massive information sets.

BhagyashreeNigade et al. [9] tells that crucial future values of a companys stocks and alternative money values by the strategy of stock exchange prediction. stock exchange prediction with the assistance of multivariate analysis is that the most systematic combination to predict the stocks and also the conditions of the market.

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Market lacks a scientific software system wherever correct the right the correct submission of accessible stocks and also the proper share analysis ar bestowed in systematic means. The investors ought to be target-hunting and impressed to take a position within the stocks in an exceedingly logical means. the expansion of an important application for examining and predicting stock exchange costs.

R. Sujatha and Dr. P .Isaakki et al. [10] explicit that season, organic, and money supply are the most factors of agriculture crop production. The prognosticating of agricultural yield can be a tough and engaging task for every nation. Farmers are trouble to supply the yield thanks to unknown climatic changes and cut back in water resources. This information can be gathered, hold on and investigated for helpful data and incontestable to estimate the crop yield, select the foremost outstanding crop, thereby upgrade the worth and gain of the rural area mistreatment mining techniques.

III. METHODOLOGY

The objectives of the planned model estimates the knowledge regarding agriculture victim is at ion data processing approaches. The fourteen year info regarding totally different crops that contains year, location, area, rainfall, temperature, soil type, irrigation, yield, humidity, worth square measure trained within the dataset. In the planned model, changed approach naïve Bayes algorithmic program is employed. It provides sensible learning algorithms and previous data and ascertained information which might be combined to predict the crops. This classification additionally helps to produce a aspects to estimate the crop results. The specific chance for hypothesis square measure calculated and noise within the coaching datasets square measure removed. To get future worth regression technique is applied and this makes use of nonlinear algorithmic program.

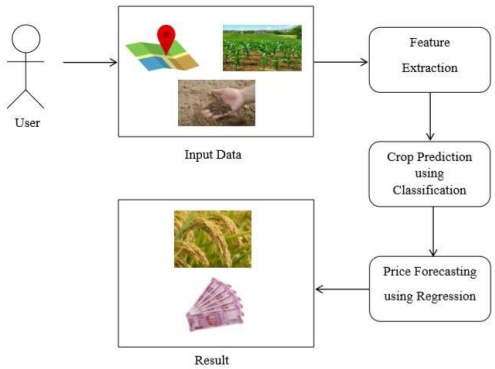

Figure 1: Architecture Diagram for Crop Prediction and Price Forecasting

Figure 1 depicts the process of crop and price prediction. The rectangular blocks indicate various stages involved in the prediction process. First step involves that user input to the system. Feature extraction is done to extract the features of the given data by matching it with the dataset. Essential process involves crop prediction using naïve bayes classification. Based on the predicted crop future price will be forecasted. Then predicted crops and future price will be given to the user.

IV. RESULT AND ANALYSIS

The experimental results revolve around the performance of the crop and price prediction system with training data. The accuracy of the system increased with the increased number of training data. Fill the text from your manuscript in different sections. System provides better accuracy, there is a slight delay while generating a training model and during initializing testing and displaying the output.

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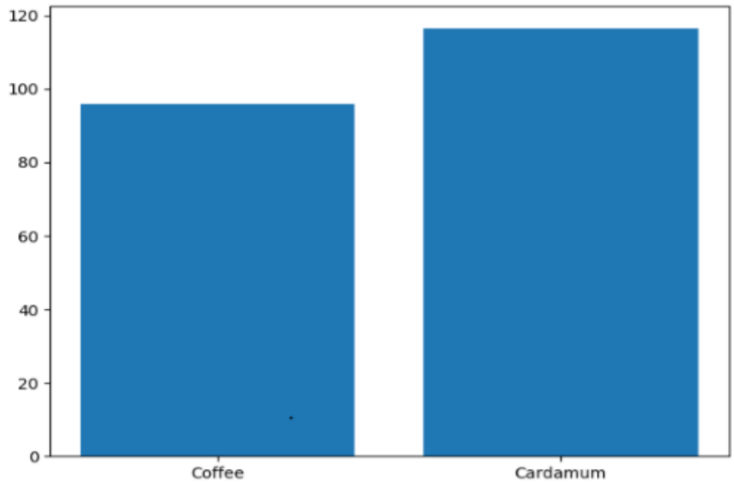

Figure 2: Result of Crop and Price Forecasting

V. CONCLUSION AND FUTURE WORK

The project is developed with an objective of providing useful information to the farmer about cultivation of crops and return they would receive for their crops before cropping begins. The aim is satisfied with the help of data mining techniques which lets the system to make the approximation of the future selling prices of crops for the farmers. The developed system provides better accuracy with some delay during training and testing. Future enhancements can be focused by implementing the model in systems which predicts different crops and price for all the locations which is not considered in the proposed model.

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