

# Crop Prediction and Weather Detection

<sup>1</sup>Shubhangi Bangar, <sup>2</sup>Priti Sonawane, <sup>2</sup>Apurva Bangane

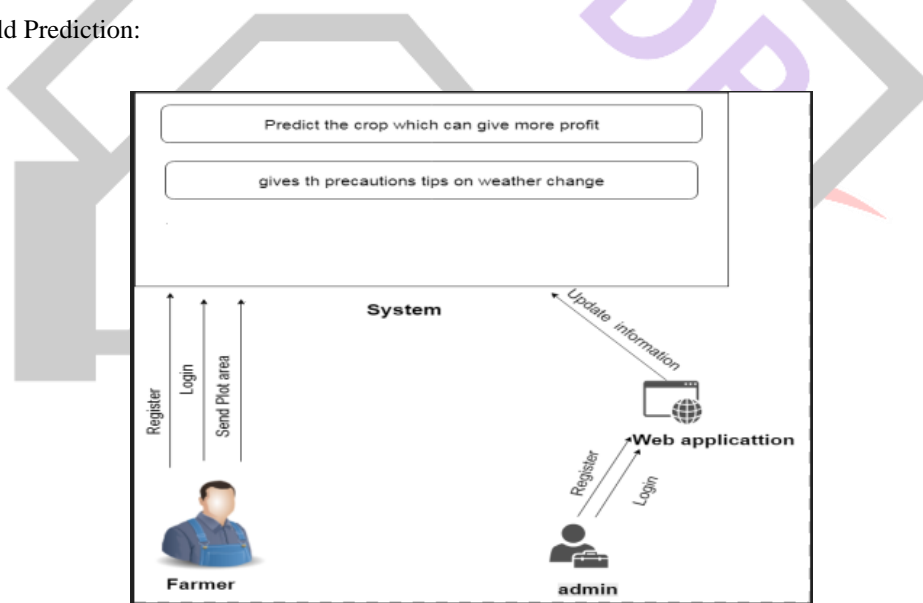
Computer Science and Engineering  
Dr.D.Y.Patil School of Engineering Academy

**Abstract:** Data mining is an appear field of research in Information Technology as well as in agriculture. Agrarian sector in India is facing rigorous problem to maximize the crop productivity. The present study target on the applications of data mining techniques in crop prediction in the face of meteorological change to help the farmer in taking decision for farming and achieving the expected economic return. The problem of crop prediction is a major problem that can be solved based on available data. Data mining techniques are the good choices for this purpose. Different Data Mining techniques are used and valuate in agriculture for estimating the future year's crop production. The patterns of crop production in acclamation to the meteorological (rainfall, temperature, relative humidity, evaporation and sunshine) effect across the selected regions are being developed. Thus it will be beneficial if farmers could use the technique to predict the future crop productivity and consequently adopt alternative adaptive measures to maximize yield if the predictions fall below expectations and commercial viability. The system will also help to take precaution against bad climate due to weather change.

## I. INTRODUCTION

India is an agricultural country with second highest land area of more than 1.6 million square-kilometer under cultivation. Various important industries in India find their raw material from agriculture sector -cotton and jute textile industries, sugar; Vanaspati, etc. are directly dependent on agriculture. There is no such universal system to assist farmers in agriculture. India is an agriculture based developing country. In spite of having lot of digital data, they are not able to access real time to the factual information such as the crop yield data in particular soil and crop disease detection techniques, pesticides to be used, weather conditions, pest management etc. So as a solution to improvement in usability tool, this paper explores to develop solution that aims to be scalable, easy to access, community oriented design, efficient that aims to reduce digital gap among rural farmers towards technology. This paper highlights two major crop related parts:

### A. Crop Yield Prediction:



System Architecture

## III. EXISTING SYSTEM

The productivity of agriculture is very low because since past two decades crop prediction in order to compute agriculture growth of a particular country as well as future direction towards investment plans on agricultural fields has been generalized by formers based on their previous experiences. It leads to situation where farmers fail to evaluate the crop data. In the implementations the developers' uses the single algorithm with the single data set so it gives single output because it find outs the relationships with the single dataset.

Disadvantages of Existing system

- acquire a more time for processing

#### IV. PROPOSED METHOD

In the existing system the yield prediction is done with the single algorithm based classification in which the single algorithm is used with the single dataset by that we can get only the single output with the single dataset. By these process we cannot get the 100% result hence in proposed system we are using the hybrid model for the classification and by the hybrid model we are increasing the accuracy level of the result and 100% guaranteed the accurate output. And the second problem in the existing system is that it acquire a more time for processing because these process is going through

#### Conclusion

Agriculture is the most important application area specially in the developing countries like India. Use of information automation in agriculture can change the scenario of decision making and farmers can crop in better way. For choice making on varied issues related to agriculture field; data mining plays a vital role. In this paper we have discussed about the role of data mining in context of agriculture field. We have also discussed several data mining techniques and their related work by several authors in context to agriculture domain. This paper also focuses on different data mining applications in solving the distinct agricultural problems. This paper alliance the work of various authors in one place so it is useful for researchers to get information of current scenario of data mining techniques and applications in context to agriculture field.

#### REFERENCES

- [1] Adams, R., Fleming, R., Chang, C., McCarl, B., and Rosenzweig, 1993 —A Reassessment of the Economic Effects of Global Climate Change on U.S. Agriculture, Unpublished: September.
- [2] Adams, R., Glycer, D., and McCarl, B. 1989. "The Economic Effects of Climate Change on U. S. Agriculture: A Preliminary Assessment." In Smith, J., and Tirpak, D., eds., The Potential Effects of Global Climate Change on the United States. Washington, D.C.: USEPA.
- [3] Adams, R., Rosenzweig, C., Peart, R., Ritchie, J., McCarl, B., Glycer, D., Curry, B., Jones, J., Boote, K., and Allen, H. 1990. "Global Climate Change and U. S. Agriculture." *Nature*. 345 (6272, May): 219-224.
- [4] Adaptation to Climate Change Issues of Longrun Sustainability." *An Economic Research*
- [5] Barron, E. J. 1995. "Advances in Predicting Global Warming." *The Bridge (National Academy of Engineering)*. 25 (2, Summer): 10-15.
- [6] Barua, D. N. 2008. *Science and Practice in Tea Culture*, second ed. Tea Research Association, Calcutta-Jorhat, India.
- [7] Basu, Majumder, A., Bera, B. and Rajan, A. 2010. Teastatistics: Global scenario. *Int. J. Tea Sci.* 8: 121-124.
- [8] Bazzaz, A., and Fajer, E. D. 1992. "Plant Life in a CO<sub>2</sub> Rich World." *Scientific American*. 1821.
- [9] Brack, D. and M. Grubb. 1996. Climate Change, "A Summary of the Second Assessment Report of the IPCC." FEEM (Fondazione ENI Enrico Mattei, Milano Italy) newsletter, 3, 1996
- [10] M. Soundarya, R. Balakrishnan, "Survey on Classification Techniques in Data mining", *International Journal of Advanced Research in Computer and Communication Engineering* Vol. 3, Issue 7, July 2014.
- [11] D Ramesh, B Vishnu Vardhan, "Data mining technique and applications to agriculture yield data", *International Journal of Advanced Research in Computer and Communication Engineering* Vol. 2, Issue 9, September 2013.
- [12] Gideon O Adeoye, Akinola A Agboola, "Critical levels for soil pH, available P, K, Zn and Mn and maize ear-leaf content of P, Cu and Mn in sedimentary soils of South- Western Nigeria", *Nutrient Cycling in Agroeco systems*, Volume 6, Issue 1, pp 65-71, February 1985.
- [13] D. Almaliotis, D. Velemis, S. Bladenopoulou, N. Karapetsas, "Apricot yield in relation to leaf nutrient levels in Northern Greece", *ISHS Acta Horticulturae* 701: XII International Symposium on Apricot Culture and Decline.