Online based Agriculture Monitoring System using AI

H Manoj T Gadiyar
Computer Science and Engineering
SDM Institute of Technology Ujire, India

Soubhagya K
Computer Science and Engineering
SDM Institute of Technology Ujire, India

Dr. Thyagaraju G S
Computer Science and Engineering
SDM Institute of Technology Ujire, India

Sinchana N
Computer Science and Engineering
SDM Institute of Technology Ujire, India

Vandana M G
Computer Science and Engineering
SDM Institute of Technology Ujire,
India

Swarna S
Computer Science and Engineering
SDM Institute of Technology Ujire,
India

Abstract—**Agriculture monitoring system using Artificial Intelligence help farmers in automating their farming and also contribute in shifting to precise cultivation for betteryield in crop and improvement in its quality while using fewer available resources. This system helps farmers in selecting right crop based on market scenario, understanding climatic conditions due to strong climate changes, and understanding to certain extent which crop to be select based on the soil health, and also identify certain crop diseases.**

Keywords—Artificial Intelligence, agriculture, crop, climate

INTRODUCTION

Agriculture being a key sector of Indian economy deserves a very good technical support which can be rendered through Artificial Intelligence. Agricultural exports constitute more than ten percent of the country's exports and come under fourth largest exported principal commodity category in our country.Resource intensive agricultural practices are still dominating in our country. Agriculture contributes in large to Indian economy, provides employment to more than 60 % of country's population and contributes considerably in total GDP. Agriculture contributes significantly towards economic prosperity of the developed nations and it plays active role in improving economy of the developing countries as well. Development in the agricultural sector generally improves the rural development leading to transformation in rural areas resulting in the structural transformation. Stress associated with, such as climate change, nutrient deficiencies, weed, insect and fungal infestations should be identified well in advanceso as to provide an opportunity for the farmers to mitigate. Artificial Intelligence (AI) can be used as forecast on sowing, pest control, input control, to help in providing better income and stability for the agricultural community as a whole.

LITERATURE SURVEY

Richard M adamas, Brian H.hurd, Stepganie lenhart, Neil leary, "Effect of global climate change on agriculture" [1]. This focuses on climate which is the primary factor for productivity in agriculture. The paper raises concern over the potential effects of long-term change in climate on agricultural produce which has ignited a substantial body of research over the many years. Here, the paper throws a light on physicalharm due to climatic change on agriculture, which includes changes in crop and livestock yields, and economic consequences of these potential yield changes. This paper does the literature review on the physical and economic effects and interprets thisresearch in terms of common themes or findings. Sushant Wavhal, Nishtha Tilloo, Ruturaj Haral, Pragati Tekawade, "Farmer Friendly Application for Resource Mapping of Village with Government Aided Schemes" [2]. This paper emphasize on using horticulture concept where Farmer Helping Service system that will be providing detailed information on fruits, vegetables to the farmers and in audio form. Here, android smart phone is used to provide information from anywhere and anytime without using internet and at free of cost. This system describes android based application for farmers which would exhaustively help them in their farming activities. H Manoj T Gadiyar, Dr.Thyagaraju GS, Poornima, Rajashree, Sanjana, "AI AND CLOUD BASED SMART FARM ASSIST IN KANNADA FOR COCONUT FARMERS" [3] This paper shows Artificial Intelligence technologies can align agriculture to modern practices. Here, the application assists the farmers with the use of dialog flow, natural language processing and cloud. It recommends suitable policies to the coconut cultivators to overcome farming-related problems. Here, the system provides information about weather, marketing value, government schemes and type of soil for a region and also users can access video for more,information.Amit Patil, K Marimuthu, Nagaraja Rao A and R Niranchana. (2017) "Comparative study of cloud platforms to develop a Chabot", International

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Journal of Engineering & Technology, Vol.6,No.3,), pp. 57-61. [4] According to this build a chatbot using cloud platform.system that satisfies the information and help to rural farmers.

Study carried out on Related Work

The study of the existing systems with respect to the proposed system is carried out referring to the papers mentioned below.
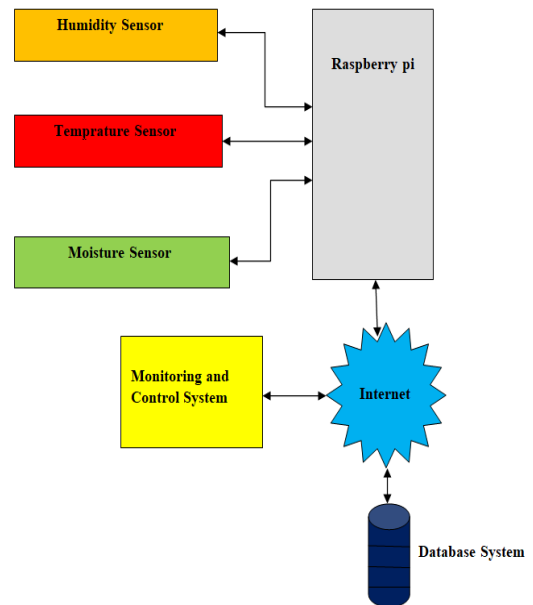
Sl.No	Paper Title	Techniques used	Application
1.	Agriculture Productivity Enhancement System using IOT	Disease prediction based on Temperature, Humidity and Soil Moisture. Supervised Machine Learning Algorithm C4.5	The system informs the farmers on the amount of pesticides to be used to enhance the agricultural growth and productivity.
2.	Agriculture Talbot Using AI	Natural Language Processing Technique, TalkBot as virtual conversational assistant	Prediction Algorithm to predict the future cost of agriculture products

METHODOLOGY USED

o   Django framework which is an end-to-end platform for interface design.
o   Manage intents with API.
o   Build an agent from scratch.
o   Use data to improve agents.
o   User service:
Farmerprovides the data to thesystem.
Expertgives the advice
o   Data will get stored in the cloud and is can be used in retrieve data whenever required.
o   AI Algorithm used to predict crop diseases.
o   Farmer gets the statistical analysis as result.
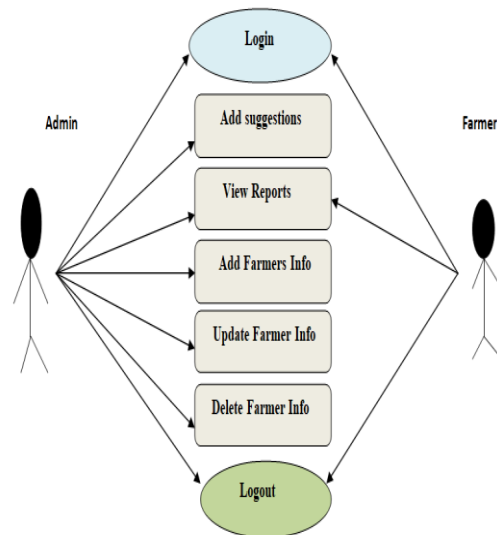
PROPOSED SYSTEM

Here, the figure shows theproposed human emotion recognition system.

USER INTERFACE DESIGN

The user interface design of the proposed system is depicted in figure

CONCLUSION

Introducing AI in agricultural sectors will not only contribute farmers in automating their farming but also shifts to Precision farming for better crop yield and improvement in quality while using fewer available resources. Automated machines and development of online based agriculture monitoring system will contribute in technological advancement in the future and help in facilitatingapplications which are more useful to this sector where the countries can manage with food production and supply issues for the fast growing population. Artificial Intelligence (AI) based agriculture help farmers in identifying more systematic ways to protect their crops from plagues, weeds and also contribute in showing better ways to produce, harvest, sell essential crops, forecast weather data, monitor crop and soil health, and decrease pesticide usage considerably.

FUTURE WORK

Online based Agriculture monitoring system using AI is being built as a unique and using video farming techniques with high resolution cameras. While large scale research is still in progress and some applications are already available in the market like using IoT and other similar technologies, we plan to work on web based and video streaming/video analytic techniques. In order to explore the enormous scope of AI in agriculture, applications need to be more robust.

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