Shetkari Sakha Application Using Machine Learning

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Abstract - In our day to day life we consume food and our survival is based on mainly food. A considerable amount of our food is coming from farms and other means too. These farmers do their hard work for growing and serving many lives across the country, which pays for their source of income. But due to intermediates in the selling of their final products the farmers are unable to make their profit and mostly live poor. By this project we will be able to connect farmers directly to the customer so that direct dealing of products can be accomplished. This will result in a significant decrease in the prices of the products currently available in the market as well as the profit will directly reach the farmers pocket. We are surrounded by technology but there are many people who are still unaware of the benefits of this technology or its use, by the help of this project and the support for the awareness of the projects many farmers will be able to use as well as will be taught how to use this application with its benefits.

Technical Terms – Machine Learning, Image Processing,Firebase.

1. Introduction - Agriculture is a way of life, a tradition, which, for centuries, has shaped the thought, the outlook, the culture and economic life of the people of India. The advent of modern technologies at the beginning of the last century has brought in development of various technologies, which has substantially increased the yields of various crops.

It is an agricultural application which gives solutions to the farmers and buyers. Farmers aims to disseminate useful information about improved technology to the farming community and service providers in the rural areas. The major focus of Agriculture sector presently in the in this application, is pertaining to market price, Government facility, Farming Methods, Expert Talk, Different Services, Import/Export, News.

This application focuses on helping farmers. It's purpose is to give profits to farmers. The basic idea of this application is online auction. It allows farmers to sell their crops at best price.

can be done accordingly. Since the farmer will be dealing with the customer directly so the prices of the products offered by the farmer to the customer will also be affordable to customer, which will help both the farmer and the customer where the customer can save some money and the farmer will gain extra profit that he deserved.

Fig.1.Fire Base, Machine Learning

The various steps are performed on farming product images before the detection of output. Initially, the farming product image is gripped as input to the machine learning algorithms. After that, the image is divided into different segments to zoom the interested area. Then, the features are extracted from these segments through information retrieval

techniques. Next. The desired features are selected and therefore the noise is removed. Finally, the classifier is employed to classify the extracted data and make predictions supported this classification. These steps are utilized in every experiment of machine learning. The supervised, semi-supervised, unsupervised, active learning algorithms are the most categories of machine learning.

A. Supervised learning - It gives a training set of instances with appropriate objectives to a computer system. Taking this training set system give response accurately on given possible inputs. The classification and regression are the categories of Supervised Learning.

•The inputs are distributed into different classes using classification methods, and the trained system must generate actions that allocate hidden inputs to these classes. This is called multi labeling process. The spam purifying is the case of classification, in which the emails are classified into "spam"and, "not spam".

•The regression is a supervised technique in which the outcomes are continuous rather than discrete. The regression predictions are evaluated using root mean squared error (RMSE), unlike classification predictions in which accuracy is used as a performance measure.

B. Unsupervised learning - The system will take the decision by itself rather train on the basis of some dataset. No labeling is given to the system that can be used for predictions. Unsupervised learning can be used to retrieve the hidden pattern with the help of feature learning of the given data.

•The clustering is an unsupervised learning approach that is used to divide the inputs into clusters. These clusters are not identified earlier. It builds groups on the basis of resemblance.

C. Reinforcement learning - In Reinforcement learning the trained data is provided only as a response to the program's activities in a self-motivated situation, such as to drive a vehicle or playing a video game.

2. Technology –

A.JAVA- Java is an Object oriented general- purpose and very famous computer- programming language. It is also concurrent and class-based or object-oriented programming language. This is also platform independent programming language which is main advantage of using this programming language. Java is mainly designed to allow or to give privilege to application developers or software developer “write once, run anywhere" that is called as WORA which basically means that once compiled Java code can run in almost every and all plat- forms that support Java or which have JVM installed , without the need for recompilation. Java applications are basically com- piled to intermediate code that is “byte code" which can run on any virtual machine (JVM) which is regardless of the underlying computer architecture.

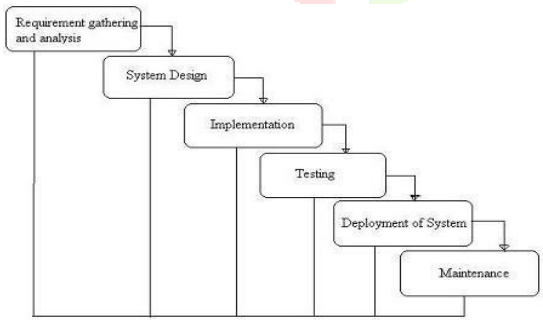
B.XML - XML stands for Extensible Markup Language. XML is a markup language much like HTML used to describe data. XML tags are not predefined in XML. We must define our own Tags. Xml as itself is well readable both by human and machine. Also, it is scalable and simple to develop. In Android we use xml for designing our layouts because xml is lightweight language so it doesn’t make our layout heavy.

C.FIRBASE- Google Firebase is a Google- backed application development software that enables developers to develop iOS, Android and Web apps. Realtime database – the Firebase Realtime Database is a cloud-hosted NoSQL database that enables data to be stored and synced between users in real time.

The Waterfall Model was first Process Model to be introduced. It is also referred to as a linear-sequential life cycle model. It is very simple to understand and use. In a waterfall model, each phase must be completed fully before the next phase can begin. This type of model is basically used for the for the project which is small and there are no uncertain requirements. At the end of each phase, a review takes place to determine if the project is on the right path and whether or not to continue or discard the project. In this model the testing starts only after the development is complete. In waterfall model phases do notoverlap.

G.U.I: Graphical user interface is a means of interface between the user and the device. In this system we use the GUI for making the interaction much more easier for the user. This will make the application much more user friendly and may help more user to use this application. In this application we have two separate UI for both the farmers and the normal customers. Since the farmer is going to be a seller so user interface for him will vary than the normal user. On the other hand the customers user interface will have more simpler things and modules for access.

FARMER: Farmer uses this application to sell his product. Farmer will directly be able to connect with the customer. So there is no role of distributor and whole seller; hence the farmer will be able gain maximum profit. This block divided into two sub-blocks, upload product list



and inventory management.Farmer can upload his product list, product information and quantity of product in product upload list. This product list will be uploaded in database of application. Inventory management is management of farmers product which he wants to sell. Every crop is having its deadline; before it, the product must sold out.

OTHER USER: Other users are nothing but the buyer of the products. Buyer can searchthe product by its name. If buyer wants to buy the product he/she can add it to cart. Also buyer can select quantity of a product.Also buyer can upload his requirements regarding the products. There are two payment modes which are available for thecustomer, first is online payment and second cash on delivery of product. After this receipt of payment will be generated. And the notification will sent to the farmer as well as the customer

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