

AI-Assisted Farming for Crop Recommendation & Farm Yield Prediction Application

Proposed Solution/Plan

To propose to build a web based application so that it can be accessed anywhere, anytime in the world with internet connectivity. If developed as a web based application, the application is not limited to a particular place or device size.

The core functionality of the application will be suggesting the best crop for plantation and the yield/income prediction, which in turn would provide financial stability to the farmers.

I also want to add many other functionalities to it. Functionalities like reading the ground fertility, and long term weather forecast for better crop recommendation. Also, another great functionality will be studying the market in which the farmer is and recommending the best crop that will bring more income.

Novelty/Uniqueness

Most of the products available in the market today are based on generalised reading and data and provide solutions for that area only. As we all know that our country, India is a very diverse country and so are the ways of farming.

So I plan to deep dive into our local Indian farmers, get data from them and provide Place-Specific solutions to the farmers.

Most of the time the geographical positioning of the farmers are not considered, but I wish to take that into consideration for better results in the future.

Also, consideration given to locally available fertilisers are very less. I want to include that too.

Even taking the irrigation system available to the specific farmer will be considered in the proposed application.

Business/Social Impact

According to my previous writings, we know that data on agricultural conditions for specific geographical areas are very crucial, therefore, the most invaluable asset to us would be retrieving the data. The only high cost to the company sponsoring this proposed system would be time in order to get the most suitable data from every nook and corner of the country.

As the solution brought out for the proposed problem is local, general population, the outcome is obvious that the product in the future will be very successful. The business owner will receive nothing but good results out of it.

And speaking about society, our dear farmers will have nothing to worry about as this solution will be their best friend, and would take very good care of them and of course, their crops.

Technology Stack

In order to bring the proposed solution to life, analytics of the data collected will be the most crucial part of it. And we all know where to get that, IBM. IBM Cloud would play a main role in making the application ever ready for use anywhere and anytime.

I plan on using Watson Studio and Auto AI provided by IBM as a base in creating the machine learning model and crucial data analytics.

And for the UI Interface, I have good prior experience on HTML, CSS, JavaScript, PHP, MYSQL. Therefore, I plan on using them.

Scope of Work

1. Developing a simple, easy to use yet beautiful and attractive UI is very important in order to reach the local farmer.
2. I propose on developing an AI engine that will predict the:
 - a. Most Suitable Crop
 - b. Yield Quantity and Quality
 - c. Final Revenue
 - d. Irrigation Quality system
 - e. Fertiliser
 - f. Suitable equipments to be used
3. Study and graphical representation of:
 - a. The current market the farmer is in
 - b. Overall all yield of the country
 - c. Overall revenue
 - d. Comparisons between companies providing materials
4. Study of the farming land and long term weather conditions.
5. Incident and emergency alert system
6. Set up a marketplace for purchasing all required things for farming.
7. Help and advice module for newcomers in the field.

