FUTURE READY APPLICATIONS HACKATHON

WEED DETECTION AND CROP PREDICTION

Presented by: Ramalakshmi, Kumar, Kingshuk, Krishna


Do You Agree?
Cultivators of the earth are the most valuable citizens.
Thomas Jefferson

Problem Statement

WHAT FARMERS FACE.

Farmers grow crops, but every year crops are affected by weed growth. The growth of weeds leads to increase in use of herbicides, which sometimes destroy the crop more than the weed itself. So, what do we do?
Here's what we have to offer.

Solution

We provide a solution to this in two steps.

Step 1 :
Detect the weeds, filter them out from the crops and create a differentiation set between them. (Trained on a crop and weed dataset)

Step 2 :
Based on the ground nutrient content, predict for farmers what kind of crops can be grown in that soil.

Future Implementation?

Approach

Dataset : Deepweeds dataset, Crop recommendation dataset

Implementation model :
Convolutional Neural Networks, Decision tree classifier

Reason for use :
Classification between weed or crop, and decision making between what crop to grow.

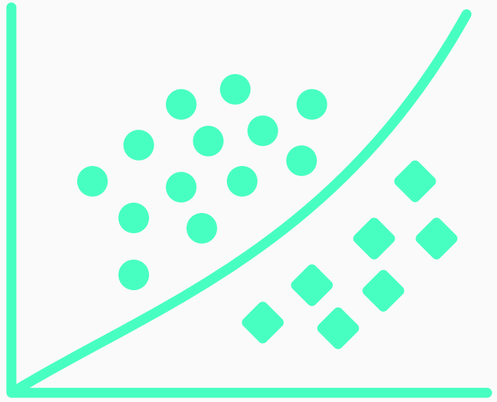
Market Analysis

Current Competitors:
Bosch - **Smart spraying – precision herbicide application on weeds**
Bosch smart spraying technology uses cutting edge technologies to discretely apply herbicide on weeds without spraying unaffected areas of crops, along with land coverage analysis

OUR UNIQUE POINT:
Along with Weed statistics and nutrient composition content, the product predicts the **apt crop type** that can be grown, under these circumstances.

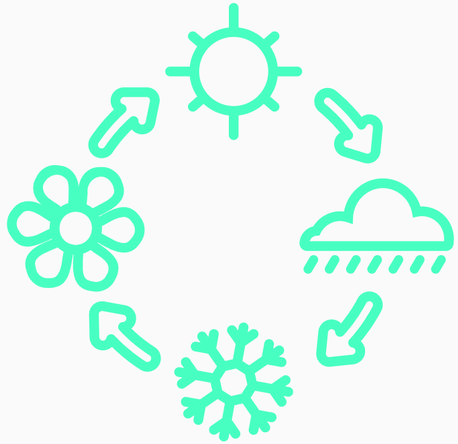
ISSUES & THREATS

Current challenges



Possible Misclassification

Financial Challenges



Current unavailability to predict crops based on season

Future Scope

1. **Integration with Sensors (IOT Based Product) to gather real time nutrient composition data.**
2. **Smart Sprayer when a weed is identified**
3. **Seasonality prediction**

Azure services used:

Machine Learning Studio

Azure ML


Thank you.