Project Initialization and Planning Phase

Date	15 July 2024
Team ID	740067
Project Title	Crop Prediction using Machine Learning
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) template

This project proposal outlines a solution to address a specific problem. With a clear objective, defined scope, and a concise problem statement, the proposed solution details the approach, key features, and resource requirements, including hardware, software, and personnel.

Project Overview	
Objective	Machine learning can also help farmers identify the most profitable crops to plant based on market demand and environmental factors. By analyzing historical market data and weather patterns, machine learning models can predict the demand for different crops and suggest optimal planting times and locations. This can help farmers maximize their profits while minimizing the risk of crop failure. In addition to predicting crop growth and output, machine learning can also analyze the quality of the harvested crops.
Scope	The scope of this project is to take the input of various factors such as soil, weather condition, ph and historical data to predict the crop.
Problem Statement	
Description	Crop prediction is also known as agricultural forecasting. It can help farmers to predict the crop in a particular season when to crop and when to harvest.
Impact	It can be impact on the several factors such as soil, weather conditions, changing in ph values etc.
Proposed Solution	
Approach	Crop Prediction involves variety of approaches like weather data, expert knowledge, sensor technology, Data analytics.
Key Features	N, P, K, Temperature, rainfall, humidity, ph.

Resource Requirements

Resource Type	Description	Specification/Allocation
Hardware Requirements:		
Computing Resources	CPU/GPU specifications, number of cores	T4 GPU
Memory	RAM specifications	16 GB
Storage	Disk space for data, models, and logs	512 SSD
Software Requirements:		
Frameworks	Python frameworks	Flask
Libraries	Additional libraries	Scikit-learn, pandas, NumPy, Seaborn, matplotlib
Development Environment	IDE, version control	Google colab, VS code
Data		
Data	Source, size, format	Kaggle, dataset, csv