DEPARTMENT OF APEX INSTITUTE OF TECHNOLOGY

PROJECT PROPOSAL

1. Project Title: - Autonomous Agricultural Monitoring System

2. Project Scope: -

A smart module in recommending the crop for irrigation and obtaining maximum yield based on present environmental factors. This also serves as a guide for any unknown person who is in need of any crop recommendations than facing any trial basis error. The trending machine learning algorithm has helped us to build a model in the agriculture sector also using IoT and helping the farmers in deciding the best yield crop by just measuring the needy parameter like Nitrogen, Phosphorous, Potassium, Rainfall, Temperature, pH, and humidity. In the near future, the agriculture sector will be converted into smart agriculture and will never face any decline in production, yield, and quality thereby the agriculture sector progress to AI, IoT-based Precision farming.

Excelled efficiency.

Today agriculture has become extremely fast, and it is a competition now. Farmers need to grow more crops in a less amount of time to meet the requirements of the people. Atmospheric conditions are a major part of concern for the farmers because agriculture depends on that fully. The IoT enabled systems can help farmers to monitor the conditions in real-time and take necessary actions.

Reduced resources

This method has reduced the resources and only cares about the main resources needed by the plants not the unnecessary details. This is just an advance for precision farming in which sensors collect the relevant data and take actions based upon that.

Cleaner process

The traditional method has the irrelevant use Pesticides and fertilizers which is very harmful for human health. IoT based system reduces the use of the pesticides and focuses more on greener farming with the less use of water and energy at the same time.

3. Requirements: -

- Hardware Requirements
  1. Sensors
  2. IoT Devices
  3. Central Monitoring System
  4. GPS trackers

- Software Requirements
  1. Data Analytics and Processing
  2. Python Libraries (NumPy, Pandas, TensorFlow, Keras, Matplotlib, Seaborn, Pytorch)

3. Machine Learning
4. Python
5. IOT
6. GIS (Geographic Information System) Software

4. STUDENTS DETAILS

Name	UID	Signature
Shivangi Rai	21BCS6155	
Sachin Saini	21BCS6025	
Hardik Agarwal	20BCS6260	

APPROVAL AND AUTHORITY TO PROCEED

We approve the project as described above and authorize the team to proceed.

Name	Title	Signature (With Date)
Ms. Tanvi (E15506)	Supervisor	