

**A REPORT
ON**

AI-Based Crop Recommendation with Weather Prediction using Data Mining

Submitted by,

Sibbala Chandana - 20211CSE0723
Gabburi Neha - 20211CSE0812
Civini Meghana - 20211CSE0827
Pathakamuri Harshitha - 20211CSE0824

Under the guidance of,

Mr. Praveen Giridhar Pawaskar

in partial fulfillment for the award of the degree of

BACHELOR OF TECHNOLOGY

IN

COMPUTER SCIENCE AND ENGINEERING

At



PRESIDENCY UNIVERSITY

BENGALURU

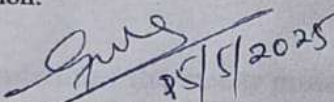
MAY 2025

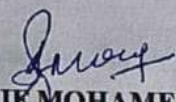
PRESIDENCY UNIVERSITY

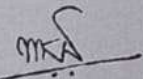
PRESIDENCY SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

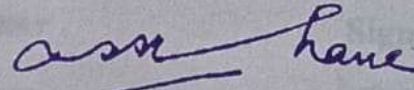
CERTIFICATE

This is to certify that the Internship/Project report **AI-Based Crop Recommendation with Weather Prediction using Data Mining** being submitted by "SIBBALA CHANDANA, GABBURI NEHA, CIVINI MEGHANA, PATHAKAMURI HARSHITHA" bearing roll number(s) "20211CSE0723, 20211CSE0812, 20211CSE0827, 20211CSE0824" in partial fulfillment of the requirement for the award of the degree of Bachelor of Technology in Computer Science and Engineering is a bonafide work carried out under my supervision.


**Mr. PRAVEEN GIRIDHAR
PAWASKAR**
Assistant Professor
PSCS
Presidency University


Dr. ASIF MOHAMED H B
Associate Professor & HoD
PSCS
Presidency University


Dr. MYDHILI NAIR
Associate Dean
PSCS
Presidency University


Dr. SAMEERUDDIN KHAN
Pro-Vice Chancellor -
Engineering
Dean -PSCS / PSIS
Presidency University

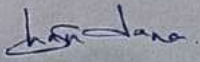
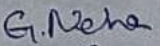
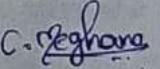
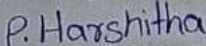
PRESIDENCY UNIVERSITY

PRESIDENCY SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

DECLARATION

I hereby declare that the work, which is being presented in the report entitled **AI-Based Crop Recommendation with Weather Prediction using Data Mining** in partial fulfillment for the award of Degree of **Bachelor of Technology in Computer Science and Engineering**, is a record of my own investigations carried under the guidance of **Mr.Praveen Giridhar Pawaskar, Assistant Professor, Presidency School of Computer Science and Engineering, Presidency University, Bengaluru.**

I have not submitted the matter presented in this report anywhere for the award of any other Degree.

Name	Roll Number	Signature
Sibbala Chandana	20211CSE0723	
Gabburi Neha	20211CSE0812	
Civini Meghana	20211CSE0827	
Pathakamuri Harshitha	20211CSE0824	

ABSTRACT

AI-Based Crop Recommendation with Weather Prediction using Data Mining

Weather forecasting is a method to predict what the atmosphere will be like in a particular place by using scientific knowledge to make weather observations. Weather forecasting is a challenging task due to the dynamic and complex nature of atmospheric conditions. Recently, data mining techniques have been applied to predict weather patterns using machine learning algorithms.

In this study, we propose a weather forecasting model that predicts weather types based on historical weather data. The dataset used in this study includes precipitation, temperature, wind speed, and direction collected from various weather stations. To predict weather types, we used classification algorithms, which are popular machine learning techniques for such tasks. The model was trained on historical weather data and tested on a separate set of data to evaluate its accuracy. The results showed that our proposed model achieved a high accuracy rate of over 90%, indicating that it could be a valuable tool for weather forecasting.

In addition to weather prediction, the system integrates a Gemini-based AI model for crop recommendation. Based on the predicted weather conditions, the Gemini model intelligently suggests a list of five suitable crops along with corresponding farming procedures, tailored to the current climate scenario. This dual-model approach ensures data-driven decision-making for farmers, promoting more effective and sustainable agricultural practices.

The study demonstrates that data mining techniques can be used to predict weather patterns accurately and, when combined with AI models like Gemini, can serve as a comprehensive decision-support tool in precision agriculture. The proposed model can be further enhanced by incorporating additional weather variables such as cloud cover and solar radiation, as well as by exploring more sophisticated machine learning techniques like ensemble methods.