PRESIDENCY UNIVERSITY
SCHOOL OF COMPUTER SCIENCE ENGINEERING

CERTIFICATE

This is to certify that the Project report **"Crowd sourcing of diseases and pest information"** being submitted by "**VAMSHI . J , VISHNU TEJA , SUMAN .V, SHIVA ARUN KUMAR N**" bearing roll number(s) "**20211CSD0162 , 20211CSD0026 , 20211CSD0174 , 20221LSD0006**" in partial fulfillment of the requirement for the award of the degree of Bachelor of Technology in Computer Science and Engineering-Data Science is a bonafide work carried out under my supervision.

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DECLARATION

We hereby declare that the work, which is being presented in the project report entitled **CROWD SOURCING OF DISEASE AND PEST INFORMATION** in partial fulfillment for the award of Degree of **Bachelor of Technology** in **COMPUTER SCIENCE AND ENGINEERING-DATA SCIENCE**, is a record of our own investigations carried under the guidance of **Ms.Sharon ,Associate Professor, School of Computer Science Engineering, Presidency University, Bengaluru.**

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

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ABSTRACT

The rapid advancement of machine learning, particularly deep learning, has opened new doors for automation in various industries including agriculture. One of the most critical applications is plant disease detection, which can significantly affect crop yields and, consequently, economic stability. Traditional plant disease identification methods often rely on manual inspection by experts, which is a process that is time-consuming, prone to errors, and costly. This project aims to overcome these challenges by developing an automated system for plant disease identification using deep learning techniques, specifically convolutional neural networks (CNNs), and deploying it as an interactive, user-friendly web application with StreamLit. The primary objective of this project was to leverage the power of deep learning to accurately identify plant diseases from images of plant leaves. The system was designed to classify images into different categories based on the disease visible on the leaves. This technology can be particularly valuable to farmers and agricultural experts, enabling them to quickly and accurately diagnose plant health issues. The process involves several stages: data collection, preprocessing, model training, and deployment of the trained model into a real-time disease-identification application. A large dataset containing images of plant leaves from different species, each labeled with the corresponding disease, was used to train the model. Preprocessing steps were applied to the images to enhance the features, remove noise, and improve the quality of the dataset for better model performance.A deep learning model, specifically a convolutional neural network (CNN), was trained on this dataset and fine-tuned to achieve optimal accuracy in classifying plant diseases. After satisfactory results were achieved, the trained model was integrated into a web application using StreamLit, which is a popular open-source framework for building interactive data science applications. This integration allows users to upload images of plant leaves through a simple web interface, receive predictions regarding the disease type, and access relevant information regarding the disease, including potential remedies.The results of this study indicate that the deep learning model can accurately detect and classify plant diseases with high precision. The system's ability to classify diseases in real time through an easy-to-use web interface is especially beneficial to users in rural or remote areas, who may have limited access to expert agricultural advice. By empowering farmers to monitor plant health regularly and take timely action, the system can help mitigate the spread of diseases, ultimately improving crop productivity .

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