DEPARTMENT OF APEX INSTITUTE OF TECHNOLOGY

PROJECT PROPOSAL

PROJECT TITLE:-

Rec Shokubutsu: A Plant Identification Application

PROJECT SCOPE:-

Plants are the backbone of all life and there are about 40 million plant species on Earth providing us with oxygen, food and many essential products helping for the existence of human life. Species knowledge is important for biodiversity conservation as well. Identification of plants by conventional approach is complex, time consuming, and frustrating tor non experts due to the use of botanical terms. This project uses convolutional neural network models to perform plant species identification using simple leaves images of plants, through deep learning methodologies. Training of the model was performed by using a dataset of 184 distinct classes of plant containing 7744 plant species images.

The aim of the project is to develop an application that helps people to identify plant species using simples' leaves images of plants without begin concerned about the knowledge of botany (study of plants). This will help us to identification of new or rare plant species to improve the balance in the ecosystem. We are going to implement these by building our own CNN model on 184 distinct plant species. The deep learning model with conventional neural network is going to be implemented using Tensorflow and will be used in the application using an API.

REQUIREMENTS:-

Hardware Requirements:-

A minimum of 8 GB RAM, GPU with 2 GB VRAM, 10 GB Hard Drive Space

Software Requirements:-

Python 3.7 or higher

Jupyter/Colab Notebook

Numpy, Scikit-Learn, NLTK and other deep learning libraries

Tensorflow/Keras deep learning framework

VSCode code editor/ Pycharm IDE

Javascript

React Native

STUDENT DETAILS:-

NAME	UID	SIGNATURE
Neel Madhab Roy	**19BCS6064**	**Neel_Madhab**

APPROVAL AND AUTHORITY TO PROCEED:-

NAME	TITLE	SIGNATURE
Mr. Ajay Pal Singh	**Supervisor**	