Basic Details of the Team and Problem Statement

Ministry/Organization Name/Student Innovation : Ministry Of AYUSH

PS Code : SIH1343

Problem Statement Title : Identification of different Medicinal plants/Raw materials through Image Processing using Machine Learning Algorithms

Team Name : CodeXccelrate

Team Leader Name : Shubham Tiwari

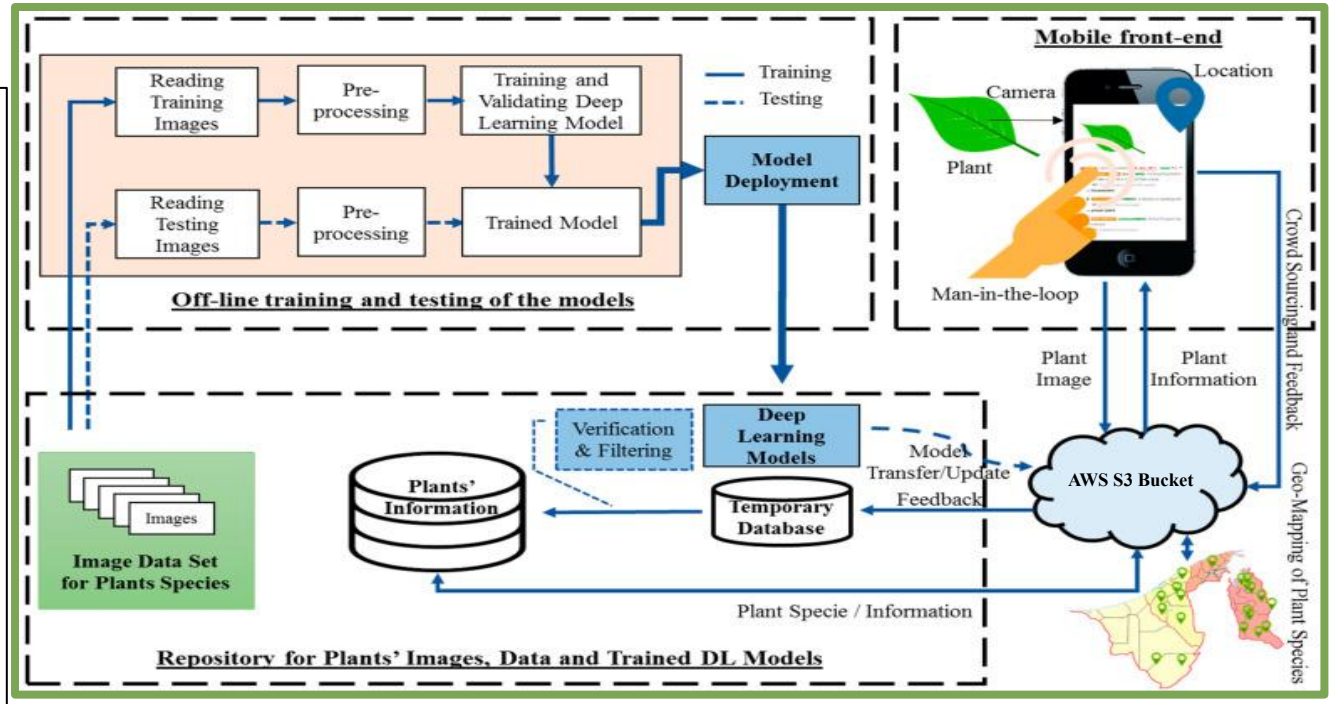
Institute Code (AISHE) : C-33758

Institute Name : LOKMANYA TILAK COLLEGE OF ENGINEERING, KOPARKHAIRANE, NAVI MUMBAI, MAHARASHTRA

Theme Name : MedTech/BioTech/HealthTech

Idea/Approach Details:

- Idea is to provide a platform where User will be able to find where they grow, and check if the plants are endangered for ethical sourcing and medicinal purposes.
- Users can easily upload the images through Web interface and it will be passed on to fetch information about the plant.
- API-driven plant detection provides comprehensive info, conservation status, and locations on an interactive map via S3 cloud.



Product Status:

60% product building is completed and further build is on progress.Testing and Validations steps are next to be undergone.

TECHNOLOGY STACK:

: Designing and WebApp

:Python modules for preprocessing,labeling.

: Image Processing via deep learning.

: ML Integration.

:Server Side rendering.

: Data storage and Google-OAuth.

Use cases :

- **Pharmacists/ Herbalists:** Enhancing product quality and safety and resources of medicinal raw materials.
- **Agriculture and Farming:** Farmers can optimize the crop planning and sustainable agriculture.
- **Conservation Efforts** : Monitoring and protecting endangered plants.
- **Education and Awareness :** Fostering knowledge and conservation awareness.
- **Government Regulation:** Consumers can verify the authenticity of herbal products by using the software to identify the plants listed on product labels.
- **Wild Harvesting Management:** Organizations engaged in wild plant harvesting for commercial purposes can monitor and manage their plants.

Dependencies:

- **API Integration :** Integration with external APIs for real-time geographical data and to fetch the features of plants.
- **Temporary Data Storage :** Utilization of AWS S3 bucket for temporary storage of data during various stages of processing and user interactions.
- **Database Management :** Utilization of Firebase and MongoDB for storing and retrieving plant-related information and user profiles.

Show stopper:

- **Geographical Mapping :** Implementing accurate geographical mapping for medicinal plant locations on the website .
- **Cloud Hosting :** Utilizing AWS for hosting provides the project with scalability and reliability, ensuring it can handle large traffic spikes and user growth effectively.
- **Cross-Platform Compatibility :** Supports multiple platforms (e.g., mobile, web,Android,IOS) enhances accessibility and user reach, making the platform versatile, user-friendly and responsive.

Channels: Govt Portals, Industries, Organizations,etc.

Revenue Streams : Service Based Model.

Team Member Details:

Team Leader Name : Shubham Tiwari

Branch (Btech/Mtech/PhD etc): BE Stream (ECE, CSE etc):CSE Year (I,II,III,IV):III

Team Member 1 Name : Pravin Singh

Branch (Btech/Mtech/PhD etc): BE Stream (ECE, CSE etc):CSE Year (I,II,III,IV):III

Team Member 2 Name : Ajay Gupta

Branch (Btech/Mtech/PhD etc): BE Stream (ECE, CSE etc):CSE Year (I,II,III,IV):III

Team Member 3 Name : Ashutosh Singh

Branch (Btech/Mtech/PhD etc): BE Stream (ECE, CSE etc):CSE Year (I,II,III,IV):II

Team Member 4 Name : Ragini Kaushal Kishor

Branch (Btech/Mtech/PhD etc): BE Stream (ECE, CSE etc):CSE Year (I,II,III,IV):III

Team Member 5 Name : Hrugwed Dalvi

Branch (Btech/Mtech/PhD etc): BE Stream (ECE, CSE etc):CSE Year (I,II,III,IV):III

Team Mentor 1 Name : Prof. Jayendra Jadhav

Category (Academic/Industry): Academic Expertise (AI/ML/Blockchain etc) Blockchain Domain Experience (in years): 4-5

Team Mentor 1 Name : Prof . Rajendra Gawali

Category (Academic/Industry): Academic Expertise (AI/ML/Blockchain etc):AI/ML Domain Experience (in years):2-3