



HACK T
CRACK 1.0



Team intro

- **Team Name** : Team Alpha
- **Team Leader Name** : Priyanka S
- **Team Members** : Poojashri S, Naveen Kumar S, M.A.Reno
- **Problem Statement** : Develop an AI solution for agriculture to identify plant diseases and estimate crop yields. Utilize machine learning models trained on diverse datasets for accurate insights. The user-friendly tool aims to empower farmers, enhancing crop management and boosting agricultural productivity.



Problem Statement Description

- The challenge is to develop an AI solution for agriculture that combines algorithms for plant disease identification and crop yield estimation.
- The aim is to create a user-friendly tool for farmers, utilizing machine learning models trained on diverse datasets to enhance disease detection accuracy and yield predictions.
- The focus is on analyzing crop images, empowering farmers with valuable insights for improved crop management and increased agricultural productivity.

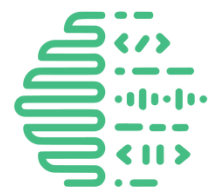




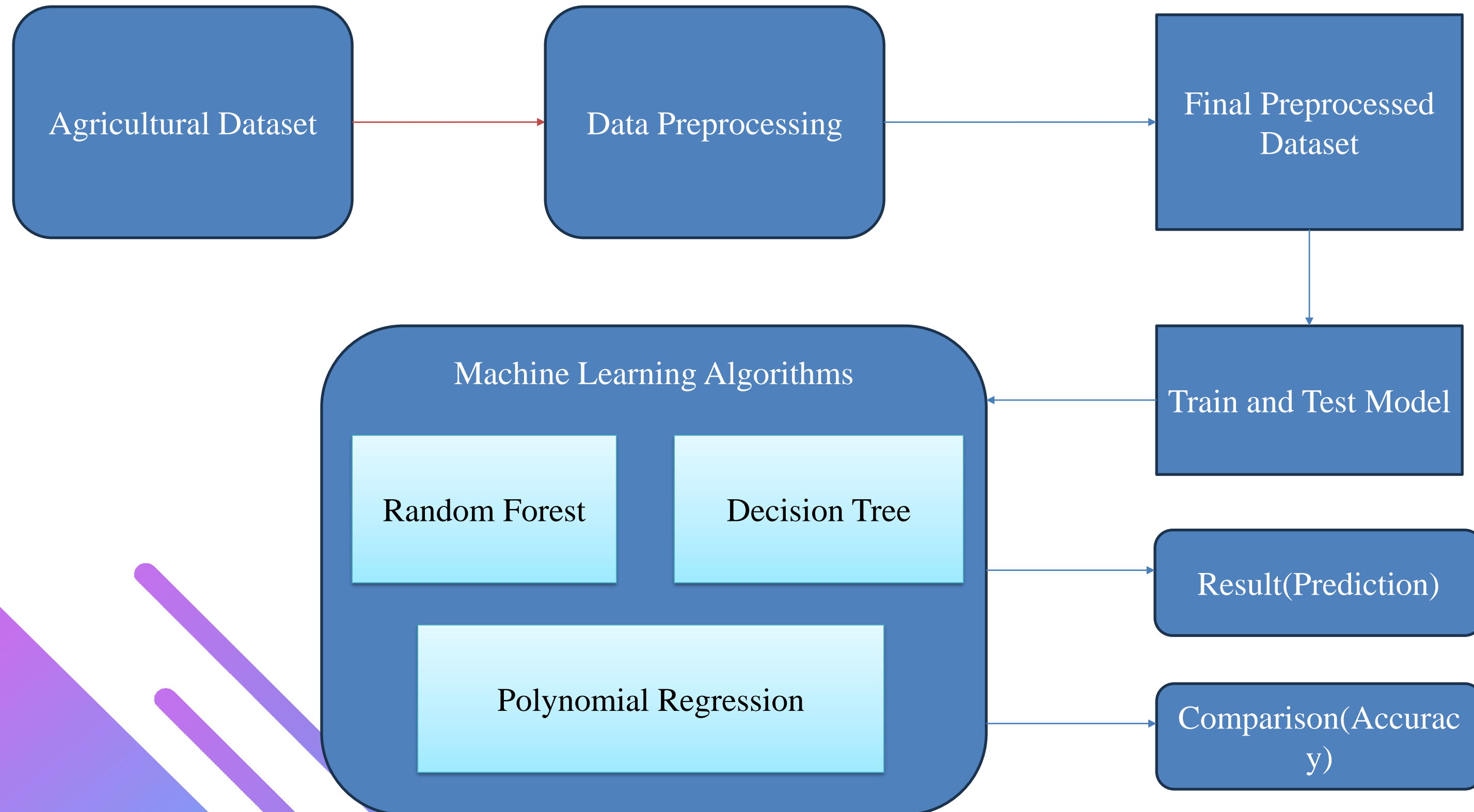
Idea Details

- Our project centers on an AI solution for agriculture, incorporating CNNs for disease identification and regression models for yield estimation.
- With advanced image preprocessing, a user-friendly interface, and real-time updates, our system empowers farmers to upload crop images and receive actionable insights.
- Cloud-based deployment ensures scalability, while continuous learning and collaboration with experts enhance the solution's effectiveness.
- This holistic approach aims to provide a practical tool for farmers, fostering improved crop management and increased agricultural productivity.





Flowchart / Architecture





Tech Stack Used

1. Machine Learning:

- TensorFlow or PyTorch for disease identification.
- Scikit-learn for crop yield estimation.

2. Backend:

- Flask or Django for serving ML models via API.

3. Frontend:

- React or Vue.js for user interfaces.

4. Cloud Services:

- AWS, Google Cloud, or Azure for hosting and scalability.

5. Database:

- MongoDB or PostgreSQL for efficient data storage.

6. Image Processing:

- OpenCV for comprehensive image manipulation.