Statement of Work

Project: AgriAdvisor, a crop recommendation, fertilizer suggestion, and disease detection app

**Introduction**: In today's rapidly evolving agricultural landscape, informed decision-making is the cornerstone of successful farming. AgriAdvisor, our pioneering app, is poised to redefine the agricultural sector by seamlessly integrating crop recommendations, precise fertilizer suggestions, and real-time disease detection into a single, user-friendly platform. With agriculture serving as the lifeblood of economies and communities worldwide, AgriAdvisor's significance lies in its ability to empower farmers, growers, and agronomists with the knowledge and tools necessary to optimize crop yields, reduce resource wastage, and combat the ever-present threat of crop diseases. By bridging the gap between technology and agriculture, AgriAdvisor promises to revolutionize farming practices, foster sustainable cultivation, and ensure food security for generations to come.

**Objectives**: The primary objectives of AgriAdvisor are threefold: firstly, to enhance agricultural productivity by providing farmers with accurate and tailored crop recommendations, ensuring optimal crop choices for their specific regions and conditions; secondly, to promote sustainable farming practices by delivering precise fertilizer suggestions that minimize environmental impact and resource wastage; and thirdly, to safeguard crops against diseases through real-time detection and expert guidance, ultimately reducing crop losses and enhancing food security. By achieving these objectives, AgriAdvisor aims to empower the global agricultural community with the tools and insights necessary to drive higher yields, reduce costs, and contribute to a more sustainable and resilient agricultural ecosystem.

**Scope**: The scope of AgriAdvisor encompasses a comprehensive range of services tailored to modern agriculture, including precise crop recommendations, fertilizer suggestions, and real-time disease detection. Our app utilizes advanced algorithms, agricultural data, and AI technology to provide users with valuable insights and guidance. However, it's important to acknowledge certain limitations: AgriAdvisor's effectiveness relies on the accuracy of the data provided by users and the availability of up-to-date information, including weather conditions and disease databases. Additionally, while our app can significantly enhance decision-making in agriculture, it should be used as a supplementary tool rather than a sole determinant for farming practices, as on-ground expertise and experience remain invaluable in the agricultural industry.

**Data Sources:**

* **1.** [**https://www.kaggle.com/datasets/atharvaingle/crop-recommendation-dataset**](https://www.kaggle.com/datasets/atharvaingle/crop-recommendation-dataset)
* **2.** [**Fertilizer suggestion dataset**](file:///C:\Users\apoor\Downloads\fertilizer.csv) **[customized]**
* **3. https://www.kaggle.com/datasets/vipoooool/new-plant-diseases-dataset**

**Methodologies:**

1. Plant disease classification using ResNet-9
2. Support vector machine
3. Random Forest
4. Gaussian Naïve Bayes
5. XGBoost

**Timeline:**

1. Oct 10 – Finish the project