Project Initialization and Planning Phase

Date	18 July 2024
Team ID	SWTID1720277644
Project Title	Rice Classification by CNN
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) template

This project proposal outlines a solution to address a specific problem. With a clear objective, defined scope, and a concise problem statement, the proposed solution details the approach, key features, and resource requirements, including hardware, software, and personnel.

Project Overview	
Objective	We have trained an AI model which can be used by farmers to check the type of rice. The users need to upload image of a rice grain and click on the submit button. Our model will give its prediction for probable rice type based on the image. Our model can predict up to 5 different types of rice.
Scope	This model is useful for farmers, agriculture scientists, home farmers, gardeners, etc.
Problem Statement	
Description	There are many types of rice available for production. It is essential to identify the type of rice as each produce needs different amounts of water, manure, etc. It is not possible for the farmers to pay the agriculture experts hefty fees every time they have a new produce. We have come up with a solution to this problem.
Impact	This AI model is made using Convolutional Neural networks and under CNN we will be using transfer learning.
Proposed Solution	
Approach	Under CNN we will be using transfer learning. Transfer learning has become one of the most common techniques that has achieved better performance in many areas, especially in image analysis and classification.

Key Features	Implementation of a transfer learning assessment model.

Resource Requirements

Resource Type	Description	Specification/Allocation
Hardware		
Computing Resources	CPU/GPU specifications, number of cores	T4 GPU
Memory	RAM specifications	8 GB
Storage	Disk space for data, models, and logs	1 TB SSD
Software		
Frameworks	Python frameworks	Flask
Libraries	Additional libraries	TensorFlow, Pandas, numpy, matplotlib, seaborn
Development Environment	IDE, version control	Jupyter Notebook, Git, Kaggle
Data		
Data	Source, size, format	Kaggle dataset, 75,000 images