Project Initialization and Planning Phase

Date	15 March 2024
Team ID	LTVIP2024TMID24997
Project Title	Cereal Analysis Based on Ratings by using Machine Learning Techniques
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	Predict cereal ratings based on nutritional and categorical features using machine learning techniques
Scope	Analyze and model cereal data to provide accurate predictions and insights for manufacturers and consumers
Problem Statement	
Description	Develop a machine learning pipeline that preprocesses data, selects features, trains models, and evaluates performance
Impact	Enhance decision-making in product development and marketing strategies by understanding factors influencing cereal ratings
Proposed Solution	
Approach	Utilize data preprocessing, feature selection, model training, and evaluation techniques to build an accurate predictive model
Key Features	Data cleaning, feature encoding, model selection, hyperparameter tuning, performance metrics, and visualization tools

Resource Requirement

Resource Type	Description	Specification/Allocation
Hardware		
Computing Resources	CPU/GPU specifications, number of cores	e.g., 2 x NVIDIA V100 GPUs
Memory	RAM specifications	e.g., 8 GB
Storage	Disk space for data, models, and logs	e.g., 1 TB SSD
Software		
Frameworks	Python frameworks	e.g., Flask
Libraries	Additional libraries	e.g., scikit-learn, pandas, numpy
Development Environment	IDE, version control	e.g., Jupyter Notebook, Git
Data		
Data	Source, size, format	e.g., Kaggle dataset, 10,000 images