Project Initialization and Planning Phase

Date	15 July 2024
Team ID	739741
Project Title	Octagon Oracle: Machine Learning-Powered UFC FIGHT FORECAST
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	Develop a machine learning model to predict the outcomes of UFC fights, providing accurate forecasts based on fighters' historical data and fight metrics.
Scope	Data collection and preprocessing Feature extraction and selection Model development and training Validation, testing, and deployment Documentation and results presentation
Problem Statement	
Description	Predicting the outcomes of UFC fights is complex and requires analyzing various factors. An ML model can enhance prediction accuracy by processing extensive historical and real-time data
Impact	Improves prediction accuracy for fans and analysts, aids in strategic planning for fighters and coaches, and enhances the overall understanding of fight dynamics.
Proposed Solution	
Approach	Collect and preprocess UFC fight data (fighter stats, fight outcomes, etc.).

	Extract relevant features (striking accuracy, takedown defense, etc.). Develop and train ML models (Logistic Regression, Random Forest, Neural Networks). Validate and test models. Deploy the best-performing model. Monitor and evaluate performance.
Key Features	High prediction accuracy Real-time updates Scalability User-friendly interface for predictions

Resource Requirements

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