Project Initialization and Planning Phase

Date	15 June 2024
Team ID	739693
Project Title	Predicting the Unpredictable: A Look into the World of Powerlifting
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) report

Powerlifting is a sport that demands precision, strength, and strategy. However, predicting performance outcomes and optimizing training regimens are often based on subjective judgment and trial-and-error. This project proposal aims to transform powerlifting performance assessment using machine learning, boosting efficiency and accuracy. The proposed solution promises better training operations, reduced injury risks, and improved lifter satisfaction

Project Overview	
Objective	The primary objective is to enhance the understanding and prediction of powerlifting performance using advanced machine learning techniques, ensuring more accurate assessments and insights
Scope	The project comprehensively examines various factors influencing powerlifting performance, incorporating machine learning to develop a robust and predictive system.
Problem Statement	
Description	Addressing the unpredictability and complexity in predicting powerlifting performance, which affects training, competition preparation, and performance analysis.
Impact	Solving these issues will result in improved training regimens, better competition strategies, and an overall enhancement in the understanding of powerlifting dynamics, contributing to athlete success and the advancement of the sport.
Proposed Solution	
Approach	Employing machine learning techniques to analyze and predict powerlifting performance, creating a dynamic and adaptable prediction system
Key Features	• Implementation of a machine learning-based performance assessment model. • Analysis of various factors such as training data, physical attributes, and competition history. • Dynamic updates and predictions based on new data inputs

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	scikit-learn, pandas, numpy, matplotlib, seaborn
Development Environment	IDE	Google collab
Data		
Data	Source, size, format	Kaggle dataset, 614 csv