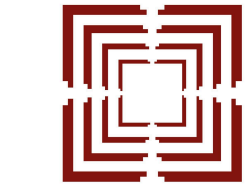

Ahmedabad
University

CSE623: Machine Learning Theory and Practise

Report-1

Group 1

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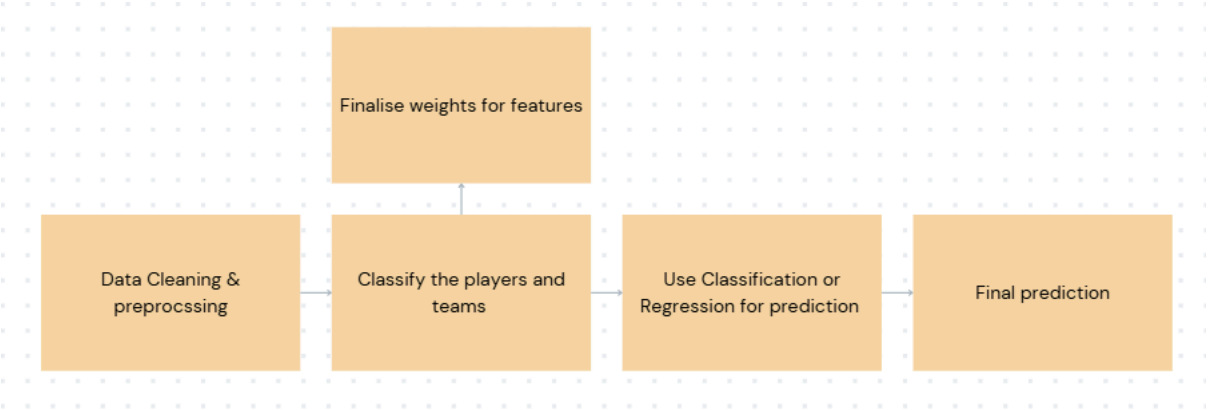
Problem Statement:
This project analyzes game data from the NEC and MAAC conferences over the past four years to create detailed athlete profiles for recruiters. By examining key performance metrics—such as points, assists, rebounds, shooting percentages, turnovers, and defensive actions—alongside contextual factors like player positions and injury histories, the analysis will provide a comprehensive view of each athlete's strengths, weaknesses, and contributions. Using advanced techniques like regression modeling and clustering, the project will uncover patterns to predict future performance, helping teams make data-driven recruitment decisions. This profiling system aims to enhance roster building and long-term planning with a more objective and efficient approach.

Flowchart:



Task completed:

- Understand the dataset and analysing thoroughly
- Explored the possibilities. Using the game score as the main parameter the Regression models are considered to be good intuitively. For using other parameters such as Blocks, Points, Assists etc clustering methods are considered to be good.
- Loaded and processed the dataset.
- Separating the player dataset and player dataset for athlete profile and team profile respectively.
- Segregated the features into 2 categories : Attackers and Defenders

Attackers	Defender
PTS, FGM, FGA, PM, PA, FTM, FTA, AST, OREB, TO, MIN, REB, STL, PF	DREB, BLK, MIN, REB, STL, PF

Approach:

Making two datasets, then to sort one of them using gamescore and using the ML model on the other dataset. Then to calculate the accuracy by comparing it to the other dataset which was sorted according to the game score.

Goals for next week:

- Further research on possible approaches and models. Finalize the approach and work upon it.
- Manipulating data according to the project requirement.
- Deciding which players to keep and which not to based on their game time and matches played.
- Athlete profiling