

Predicting the Ideal Workout and Wellness Plan the day before a tournament

- Minimize Fatigue the day of a game
- Maximize Load (Measurement of players activity) day of the game
- Random Forest Regressor predict fatigue values for all possibilities of workout and wellness plans
- From the predicted fatigue if it is from 4-7 (above average) predict the total load for that game day
- Gives us the ideal wellness and workout plan

Gathering and Modeling

- Sorted Wellness and RPE data for all the players the day before a game
 - Some Values were missing used about half of the data
- Sorted the Soreness, Fatigue, Total Load (Measurement of players activity) day of the game
 - Formula:
$$\sum_{i=1}^n \sqrt{(ax_i - ax_{i-1})^2 + (ay_i - ay_{i-1})^2 + (az_i - az_{i-1})^2}$$
- Two Random Forest Regressor
 - Features: SleepHours, Nutrition, Soreness(Day of the Game), SessionType, Duration
 - Initial Target: Fatigue (Minimize)
 - Final Target: Load (Maximize)

Ideal Plan

SessionType	Duration	Sleep Hours	Nutrition	Soreness (Game Day)
		11	Okay	

Expected Fatigue	Expected Load
5	45354