

PREDICTIVE MODELLING:

UTILIZING MACHINE

LEARNING TO ACCURATELY

DETERMINE A PLAYER'S RANK



By: Rakeem Pharaoh





WHAT IS OVERWATCH

- A team-based first-person shooter developed by Blizzard Entertainment.
- FPS / MOBA hybrid
- Emphasizes teamwork and strategy, offering players a fast-paced



DATA ANALYSIS PROCESS

Data Sourced through Kaggle based on the in game competitive season.

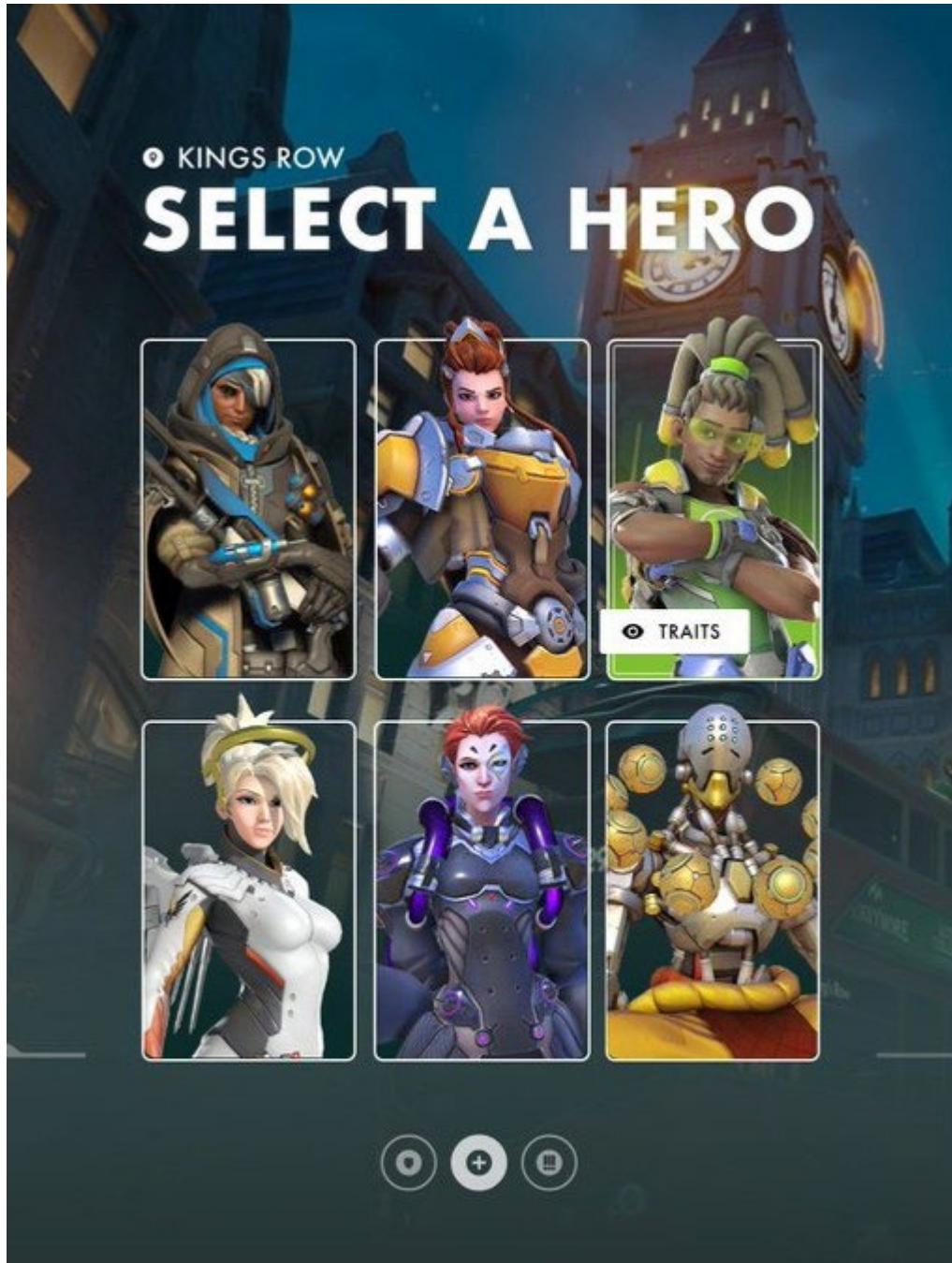
Algorithms Utilized

- Logistic regression
 - K-means
 - K Nearest Neighbors Algorithm
 - Xgboost



OVERWATCH®

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SKILL BASED MATCH MAKING

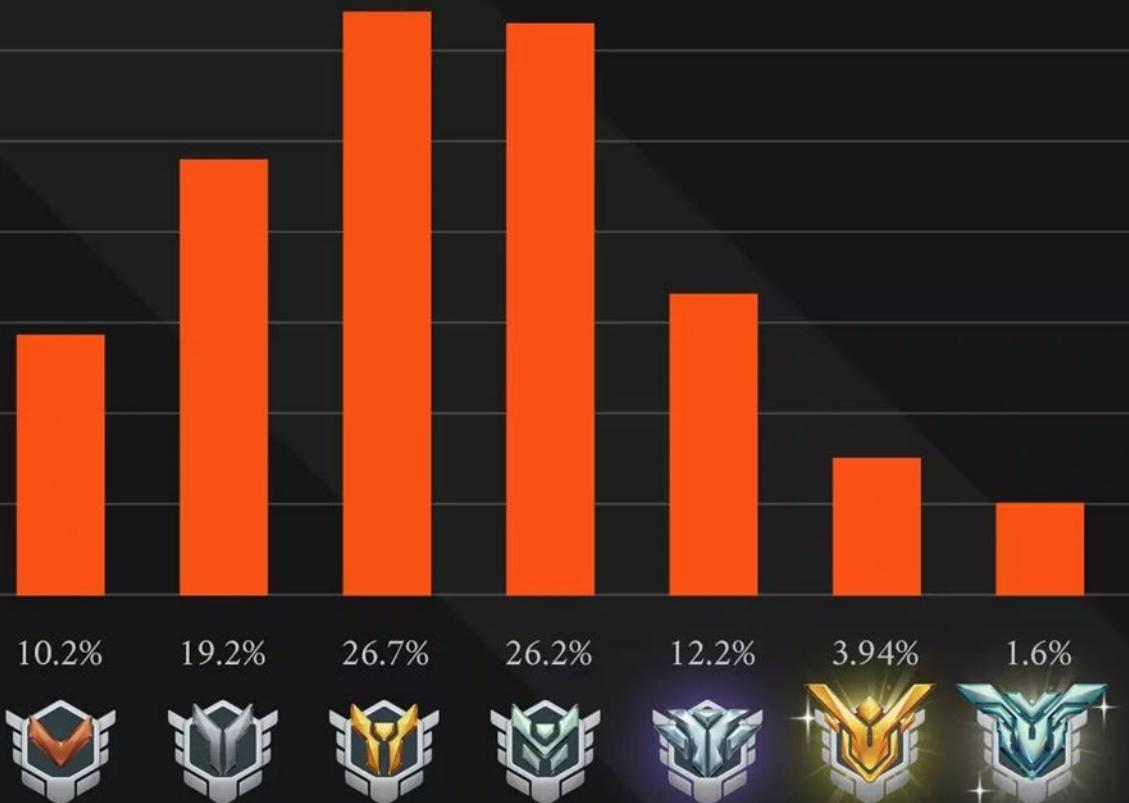
Skill Rating (SR): In Overwatch, MMR is often closely associated with Skill Rating.

Role-Based MMR: dividing players into three distinct roles—Tank, Damage (DPS), and Support.

Invisible Rating: MMR is not directly visible to players

Balancing Act: The matchmaking system aims to create fair matches.



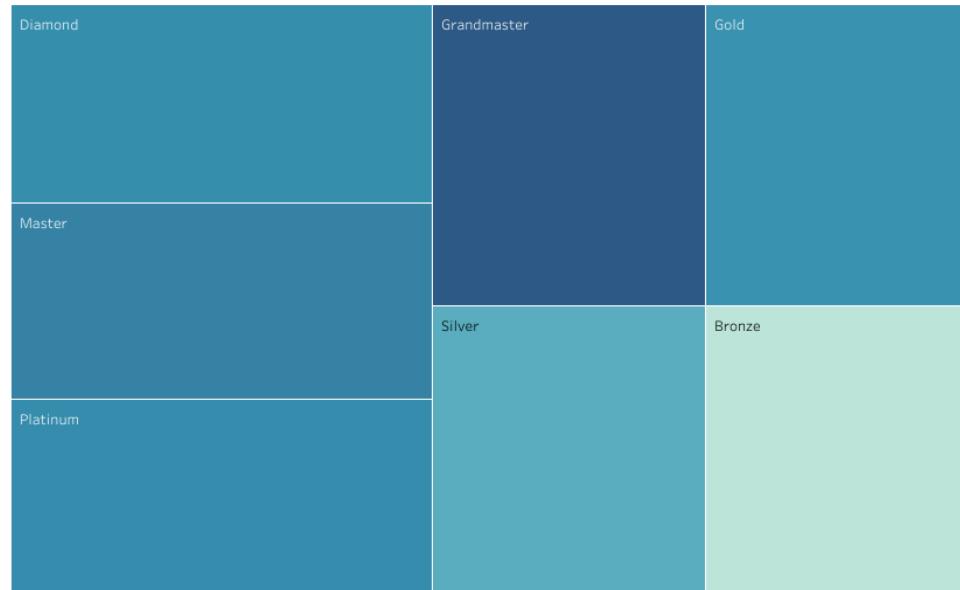


ASSESSING SKILL RATING

KDA by Skill Tier

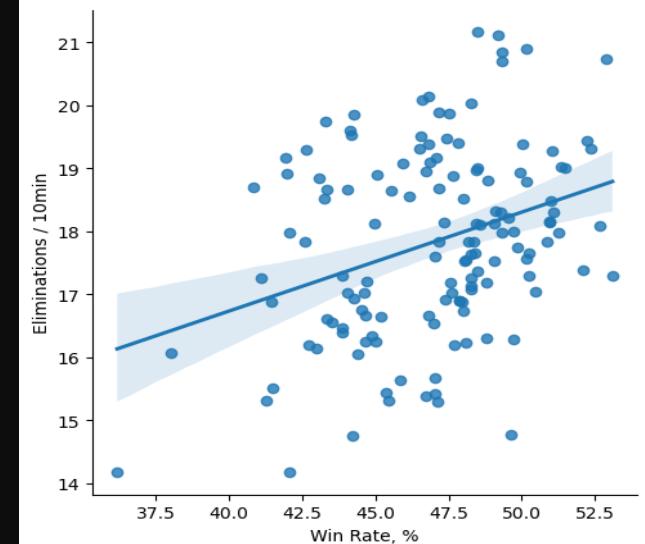
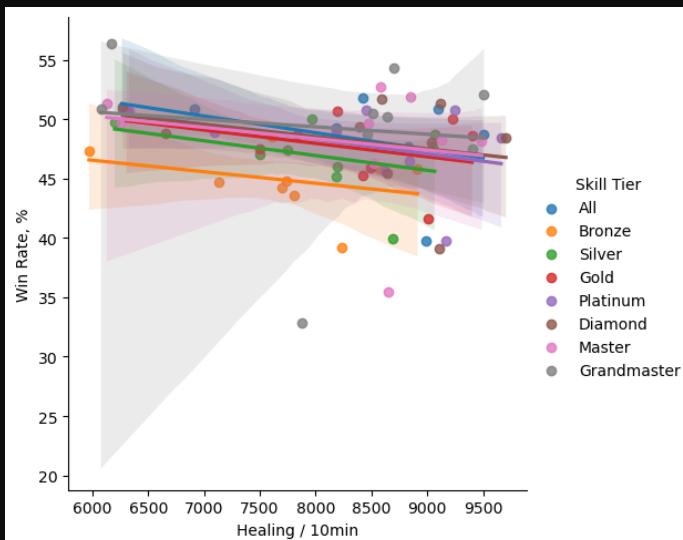
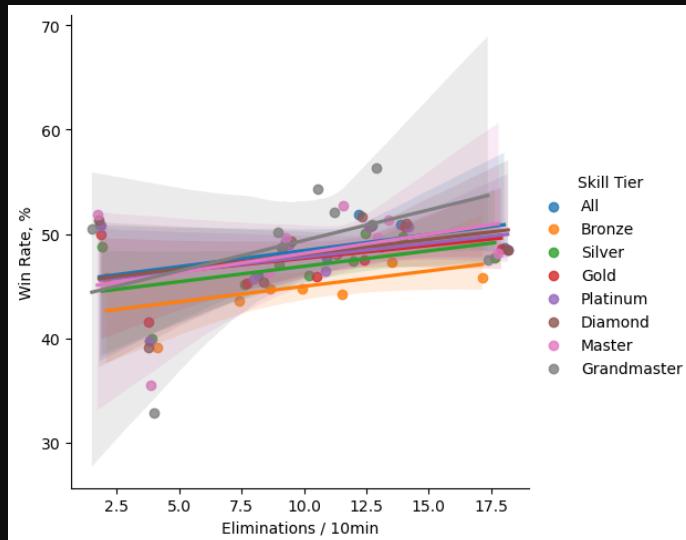


Weapon accuracy

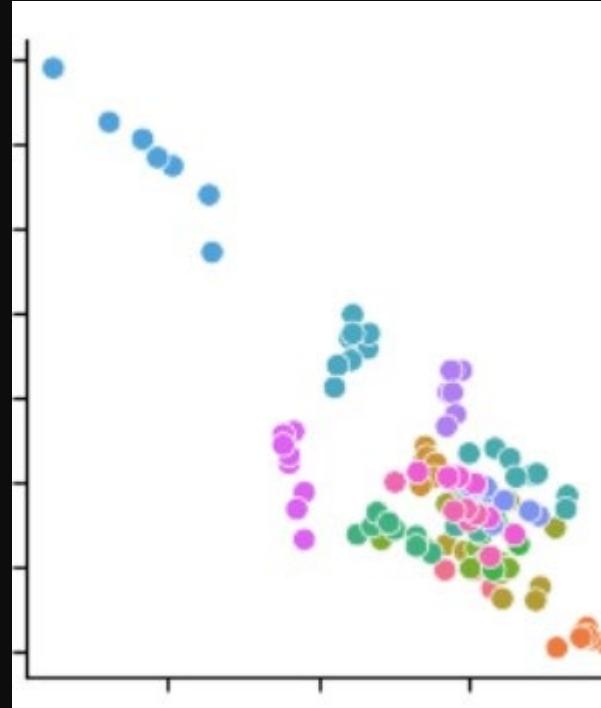
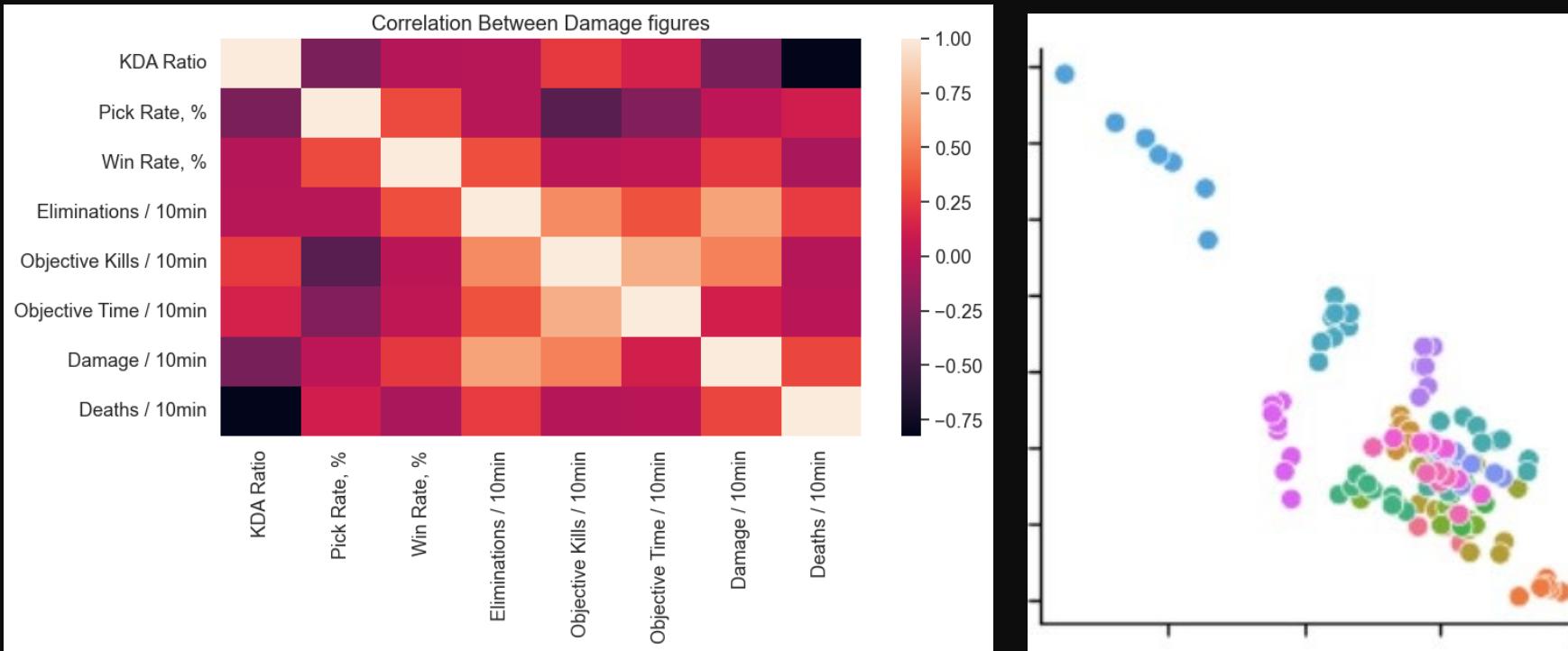


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SUPPORT DILEMMA



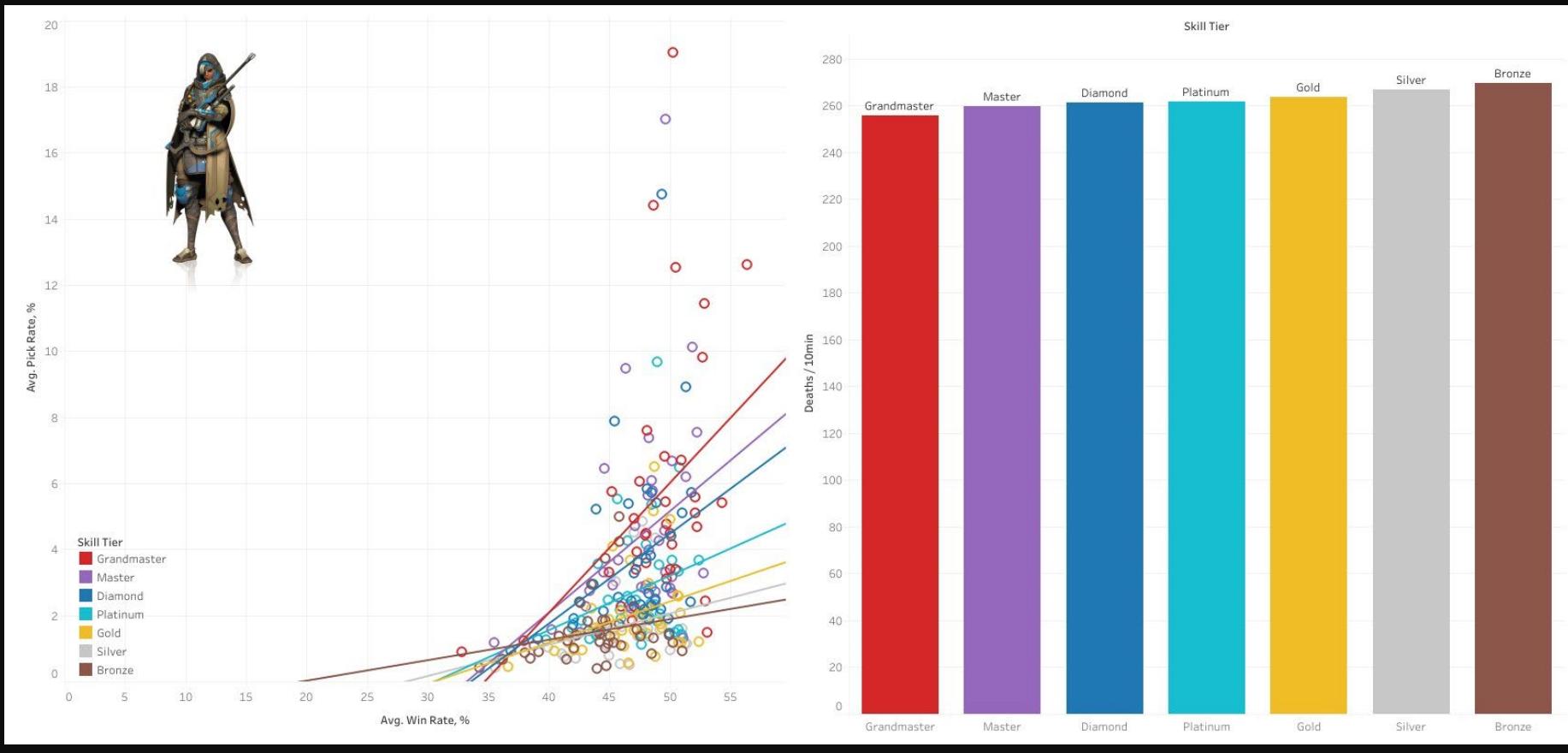
CORRELATION



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ESTABLISHING THE META

Support Dilemma

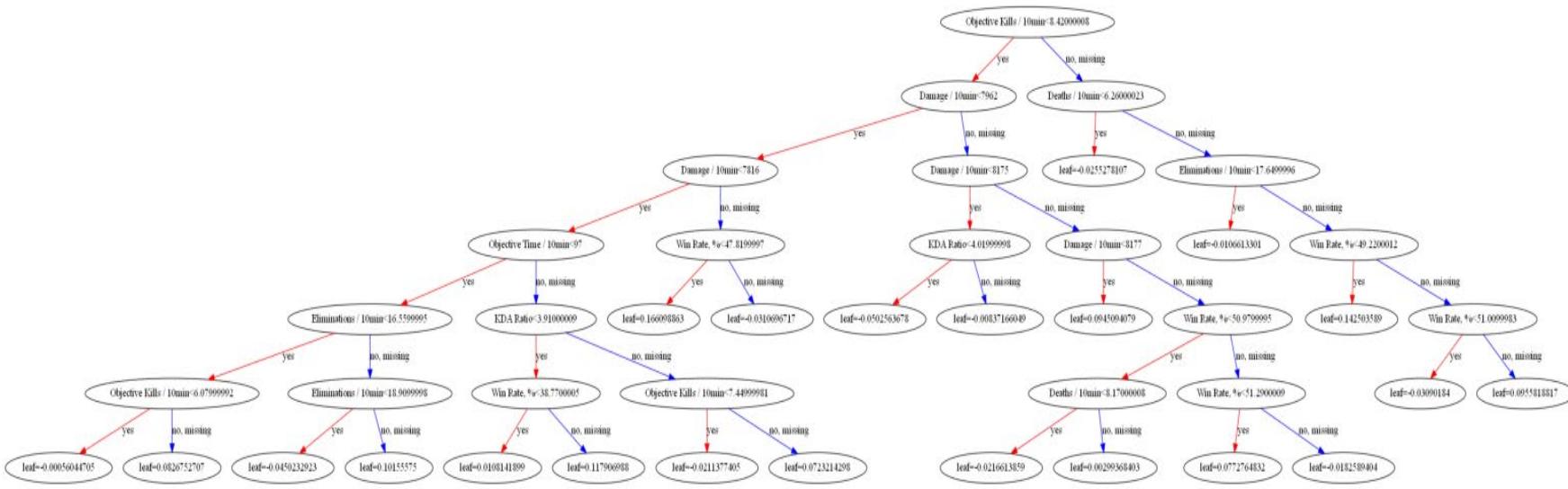


Higher ranked players died less often, and gravitated towards established characters that outperformed the Roster.



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RESULTS



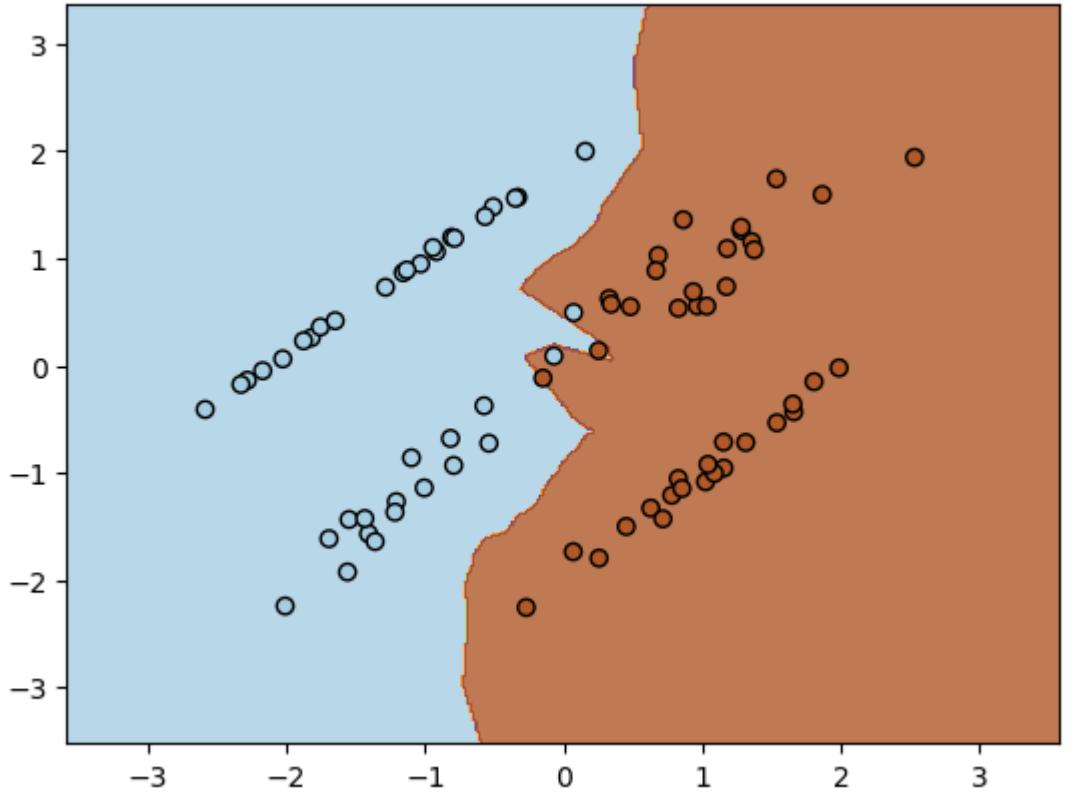
XGBoost Tree plot

Mean Squared Error:
0.1914



RESULTS

KNN Classifier with Decision Boundaries



Support Dilemma





THINGS TO CONSIDER

- Data cannot account for:
- Team coordination/ Synergy
- Communication
- Adaptability & Counterplay