# Maximizing CLOUD9 League of Legends Win Rate

By Jonathan Lee

# Data Overview

- Dataset includes data from high ranking (Diamond I to Master) competitive matches.

- 9,879 Observations.

- Data includes characteristics of each match at 10 minutes from start of match.

- Target variable is whether the match resulted in a win or loss.

- Logistic Regression model was capable of correctly predicting 72.26% of wins or losses based on the data collected

# Important Terms

- Ward: An item that players can place on the map to reveal the nearby area. Very useful for map/objectives control.

- Assist: Awards partial gold and experience points when damage is done to contribute to an enemy's death.

- Elite Monsters: Monsters with high hp/damage that give a massive bonus (gold/XP/stats) when killed by a team.

- Dragon: AKA Drake. This powerful neutral monster grants various permanent effects and buffs when when killed by a team.

- Herald: A monster that spawns on the eigth minute. Grants a buff that allows the user to spawn the Herald for your team to help push towers and lanes.

# Important Terms

- Tower: A structure that blocks the enemy's path to the base. They take high damage and fire at opponents within a certain radius.

- Gold: Currency awarded for killing monsters or enemy players as well as for completing objectives.

- Level: Champion level. Start at 1. Max is 18.

- Minions: Non-player characters (NPCs) that spawn from each team's base.

- Jungle Minions: NPC that belong to NO TEAM. They give gold and temporary buffs when killed by players.

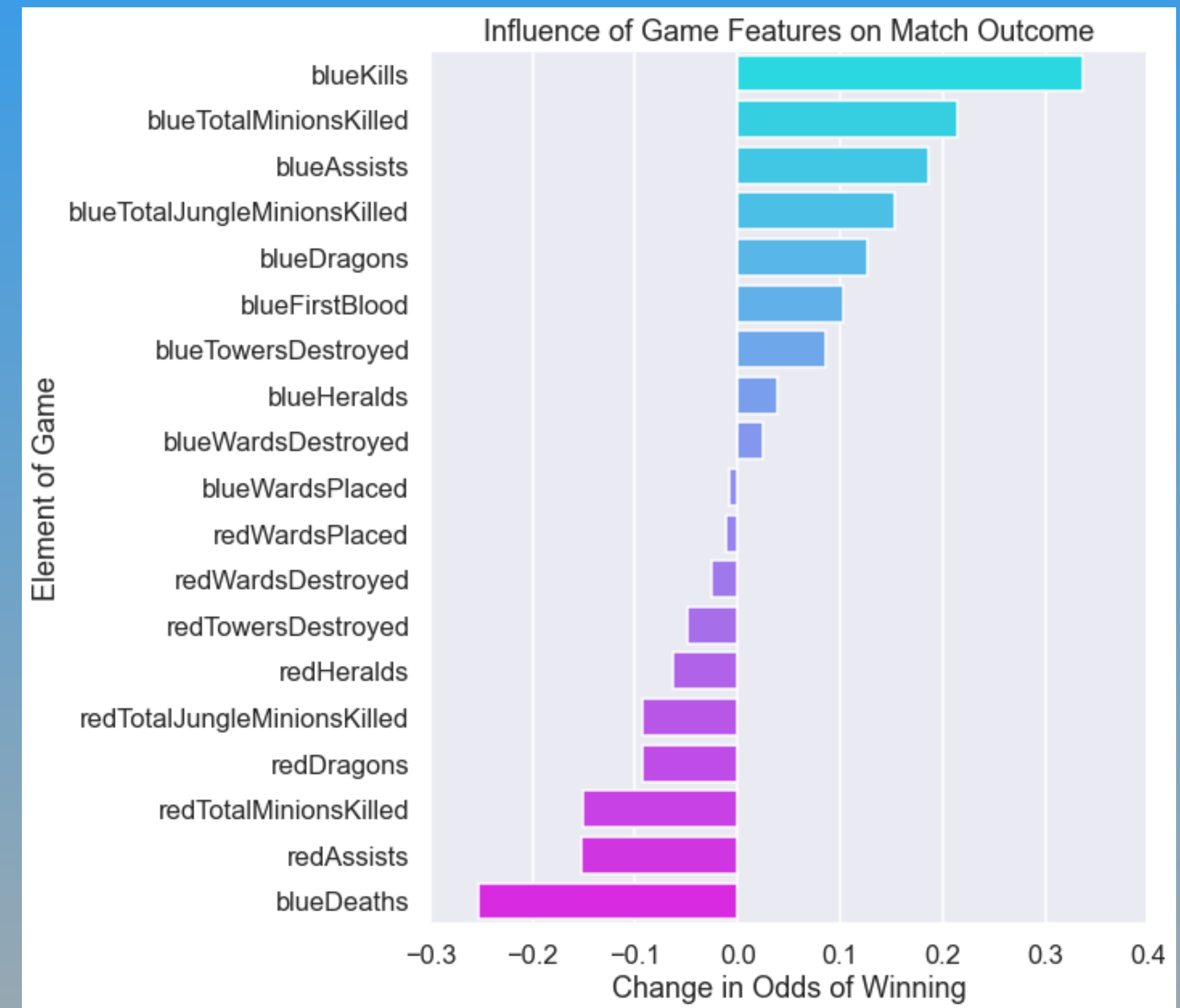# What Factors Most Influenced the Outcomes of Matches?

# Most Important Attributes

- Champion Kills

- Lane Minion Kills

- Jungle Minion Kills

- Dragons
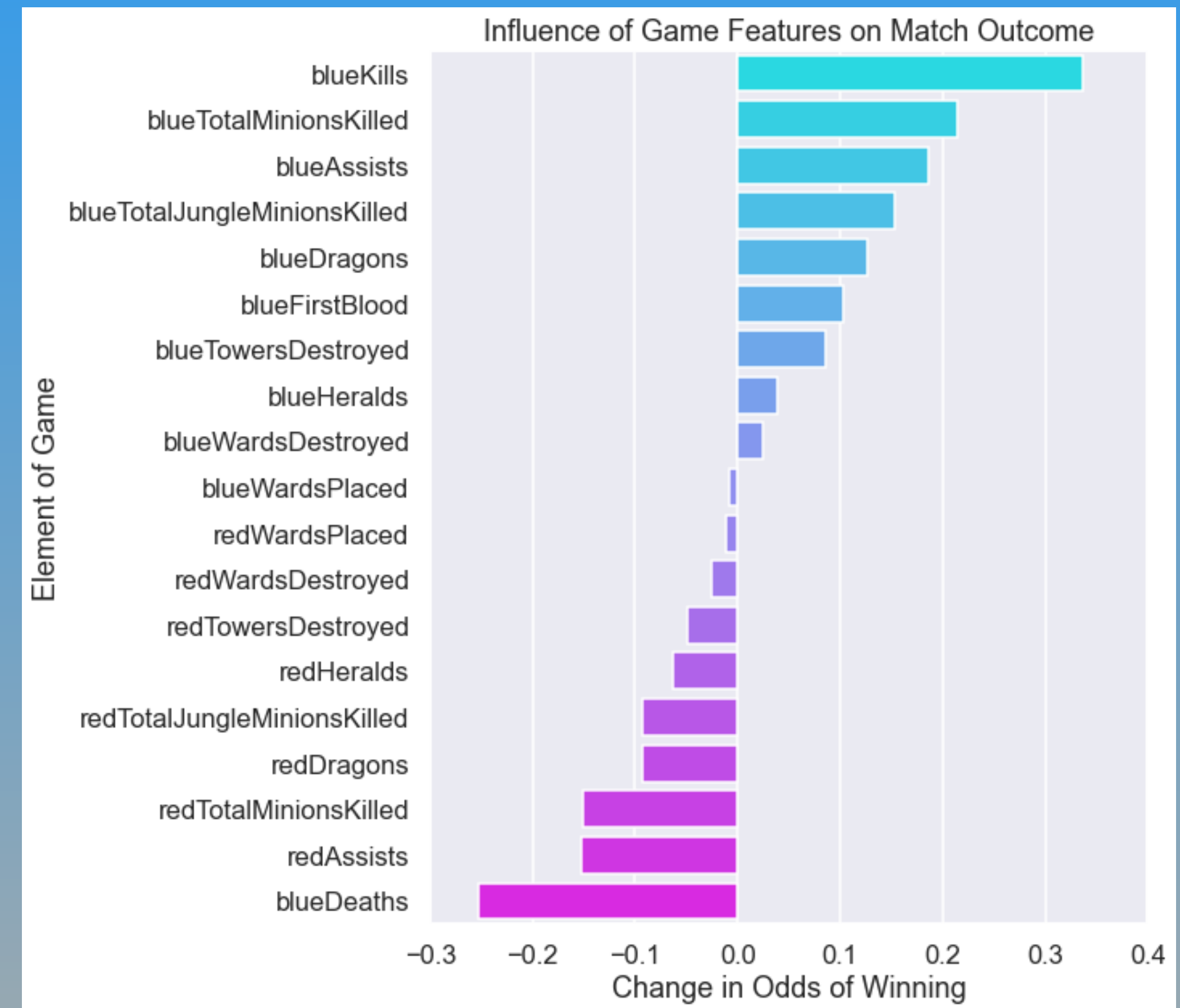
# Least Important Attributes

- Vision Wards

- Towers Destroyed

- Heralds

- First Blood



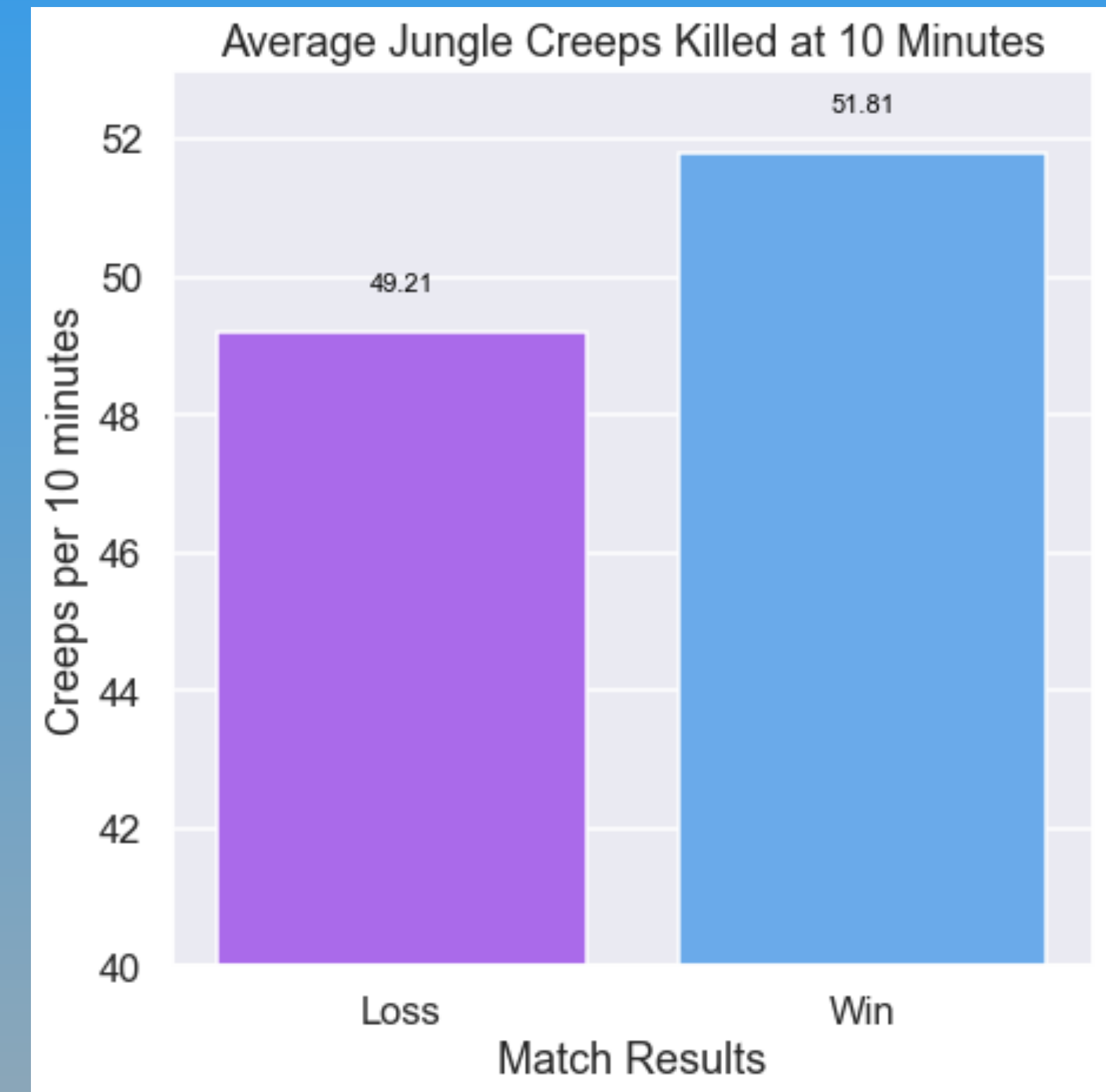Influence of Game Features on Match Outcome

# What Should Training/Drills Look Like?

# Jungler Role

1. Optimize Jungle clearing path to maximize gank potential and secure champion kills.

2. Maximize number of jungle creeps killed.



Average Jungle Creeps Killed at 10 Minutes

# Lane Roles

1. Last hitting drills to maximize total minions killed in first 10 minutes of match.

   - At least 74 Minions per Laner

2. Bottom lane needs to practice maintaining map control and being ready to secure dragon when it spawns.



Average Team CS at 10 Minutes
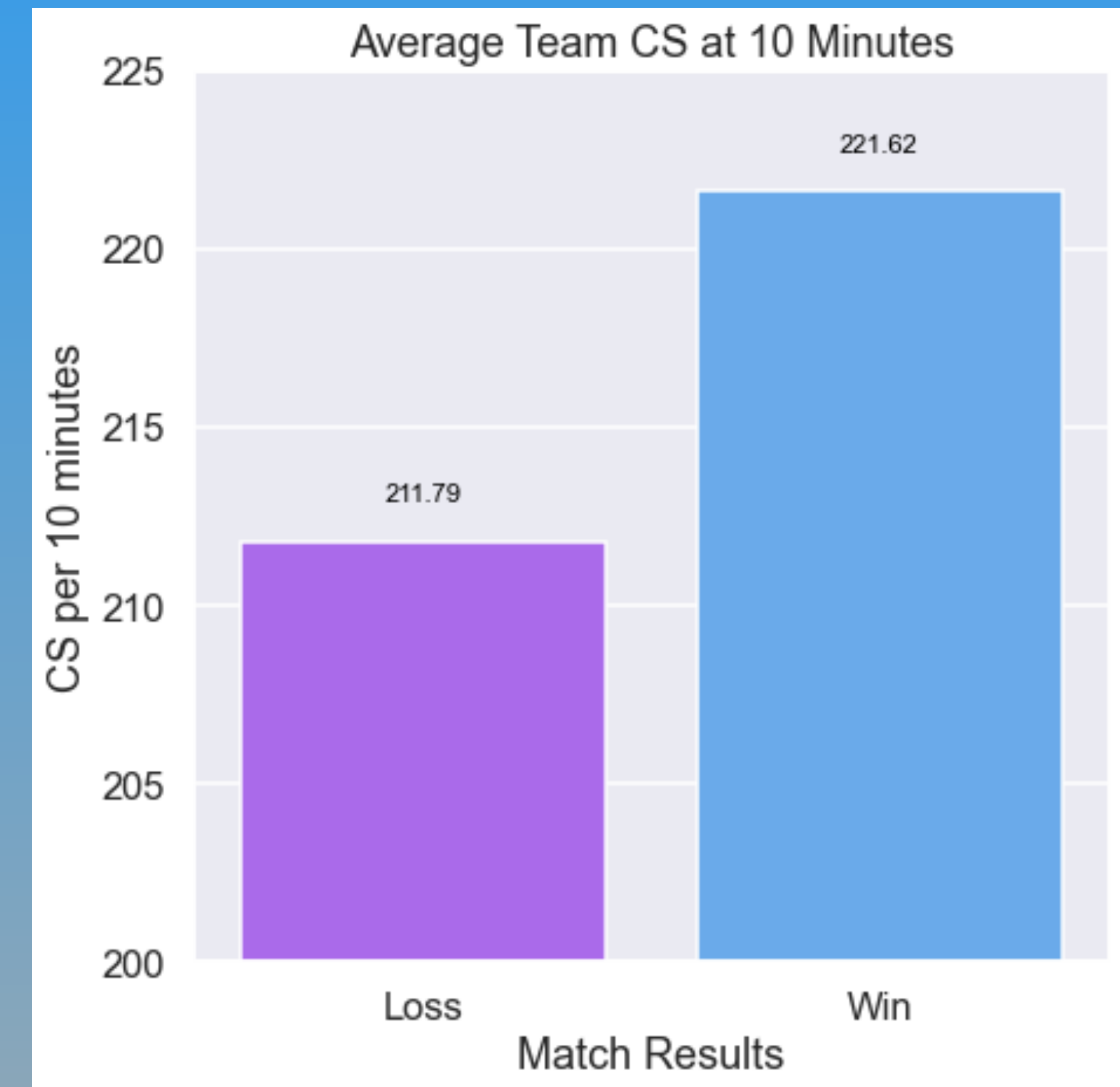
# Summary

- Jungler needs to have great map awareness to capitalize on early game kills, since this has the highest impact on the outcome

- All lanes should run drills to maximize number of minions killed

- Support should practice maintaining map control in bottom lane to secure Dragon

# Further Analysis

- Whether we can find additional features outside of the scope of the selected dataset to improve the predictive capability of our models.

- Analyze data collected at the end of each match to identify what elements of the game led to a quicker vs. slower victory so that we can adjust the team strategy mid-game to increase the odds of winning.

- Collect data on specific to CLOUD9's actual performance to analyze and identify what areas need to be targeted.

- You can find an in-depth analysis and all resources on my GitHub:

  https://github.com/ds-papes/