

Maximizing CLOUD9 League of Legends Win Rate



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Business Problem

- CLOUD9's League of Legends team needs to prepare for the upcoming season, and we want to determine what aspects of the game and what roles to focus on in order to maximize the chances of winning.

Roles

- Top Lane: Usually on the durable side or have a way of quickly escaping danger due to being exposed to enemy ambushes (known as 'ganks') as the lane is long, lacks hiding spots, and has very few escape routes.
- Jungle: Favors high mobility Champions so they can quickly move between lanes assisting their teammates while clearing jungle creeps.
- Mid Lane: Traditionally will pick high damage Champions; this ensures they can kill enemies quickly when they move around the map, but are exposed to both sides of the map.



Roles

- ADC: Very vulnerable early in the match, but with help from the Support, they become the highest damage dealers in the game.
- Support: Provide vision around the map, save players in danger, and help start fights when they see winning opportunities. They often sacrifice their own life and money to strengthen their teammates.



Data Overview

- Dataset includes data from high ranking (Diamond I to Master) competitive matches.
- 9,879 Observations.
- Data includes characteristics at 10 minutes from start of each 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.
- Dragon: AKA Drake. This powerful neutral monster grants various permanent effects and buffs when killed by a team.
- Herald: A monster that spawns on the eighth minute. Grants a buff that allows the user to spawn the Herald for your team to help push towers and lanes.

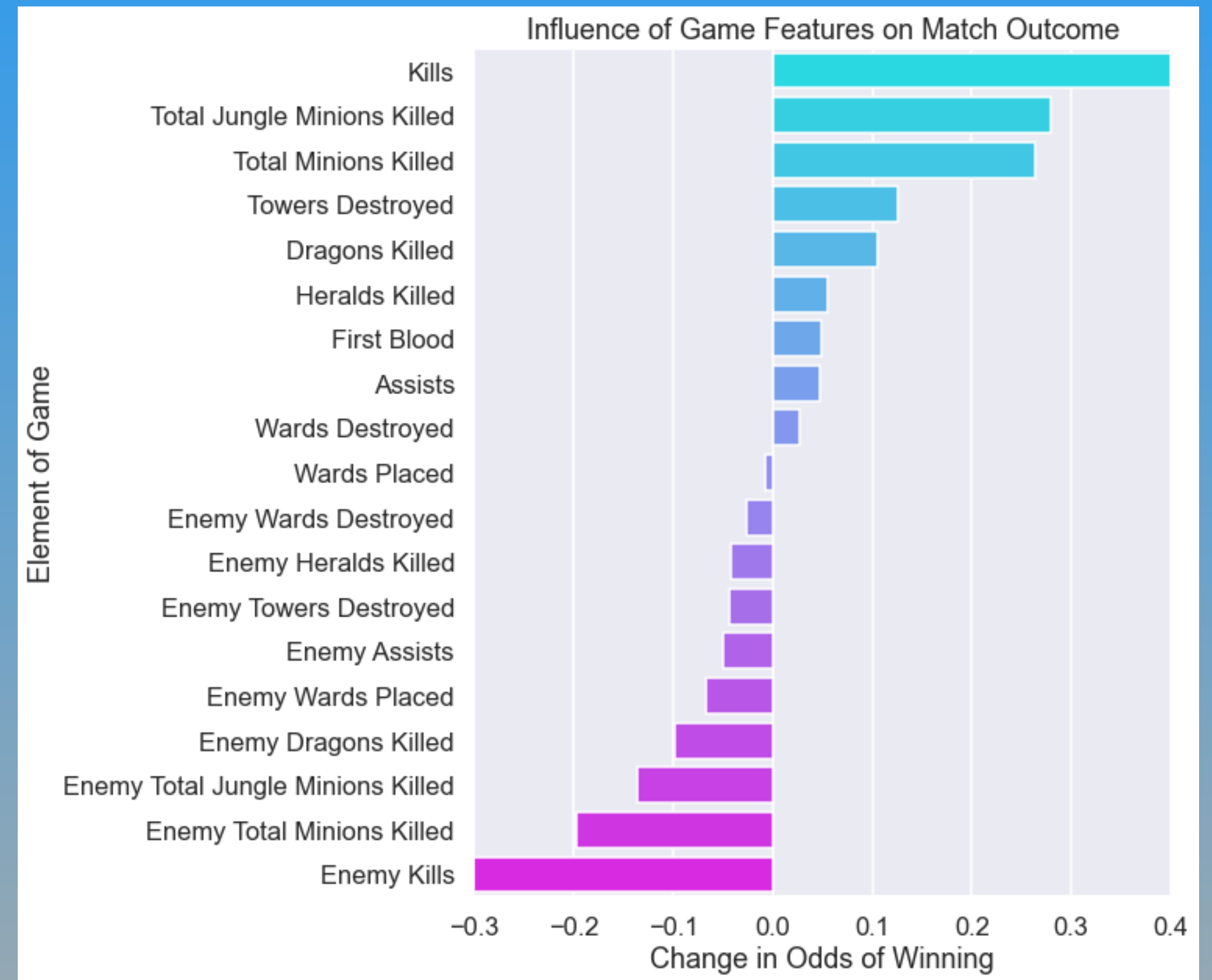
Important Terms

- Tower: A structure that blocks the enemy's path to the base. They take high damage and fire at opponents within a certain radius.
- Minions: Non-player characters (NPCs) that give experience upon death and gold to the player who scores the last hit.
- Jungle Minions: NPC that belong to NO TEAM. They give gold, experience and temporary buffs when killed by players.
- Gank: A surprise attack on an enemy champion usually coordinated and executed by the jungler or a roaming laner as well as the laner receiving the gank. Early gank attempts often try to catch the enemy champion off guard and kill them before they can reach the safety of their tower or teammates.

What Factors Most Influenced
the Outcomes of Matches?

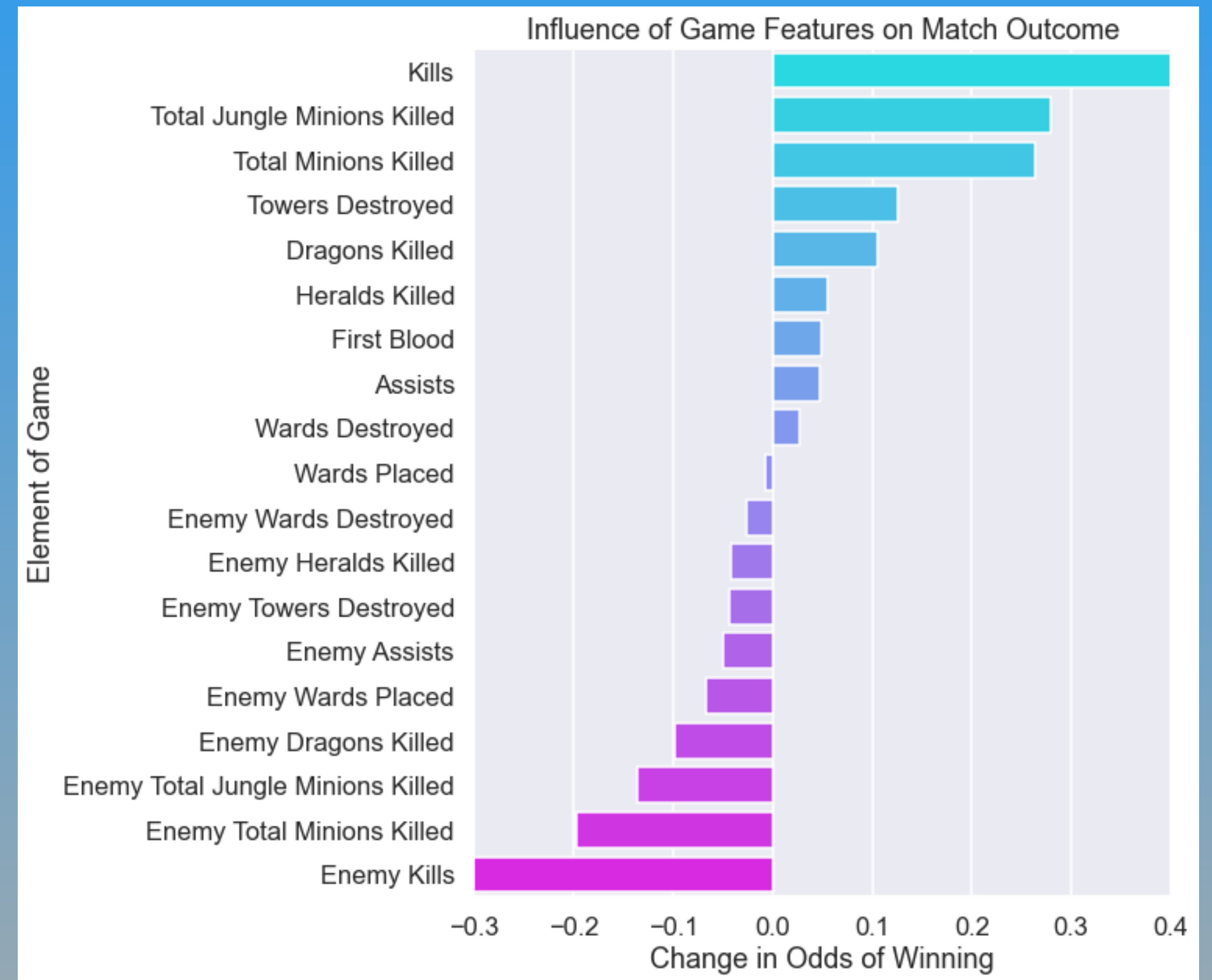
Most Important Attributes

- Champion Kills
- Assists
- Lane Minion Kills
- Jungle Minion Kills
- Dragons



Least Important Attributes

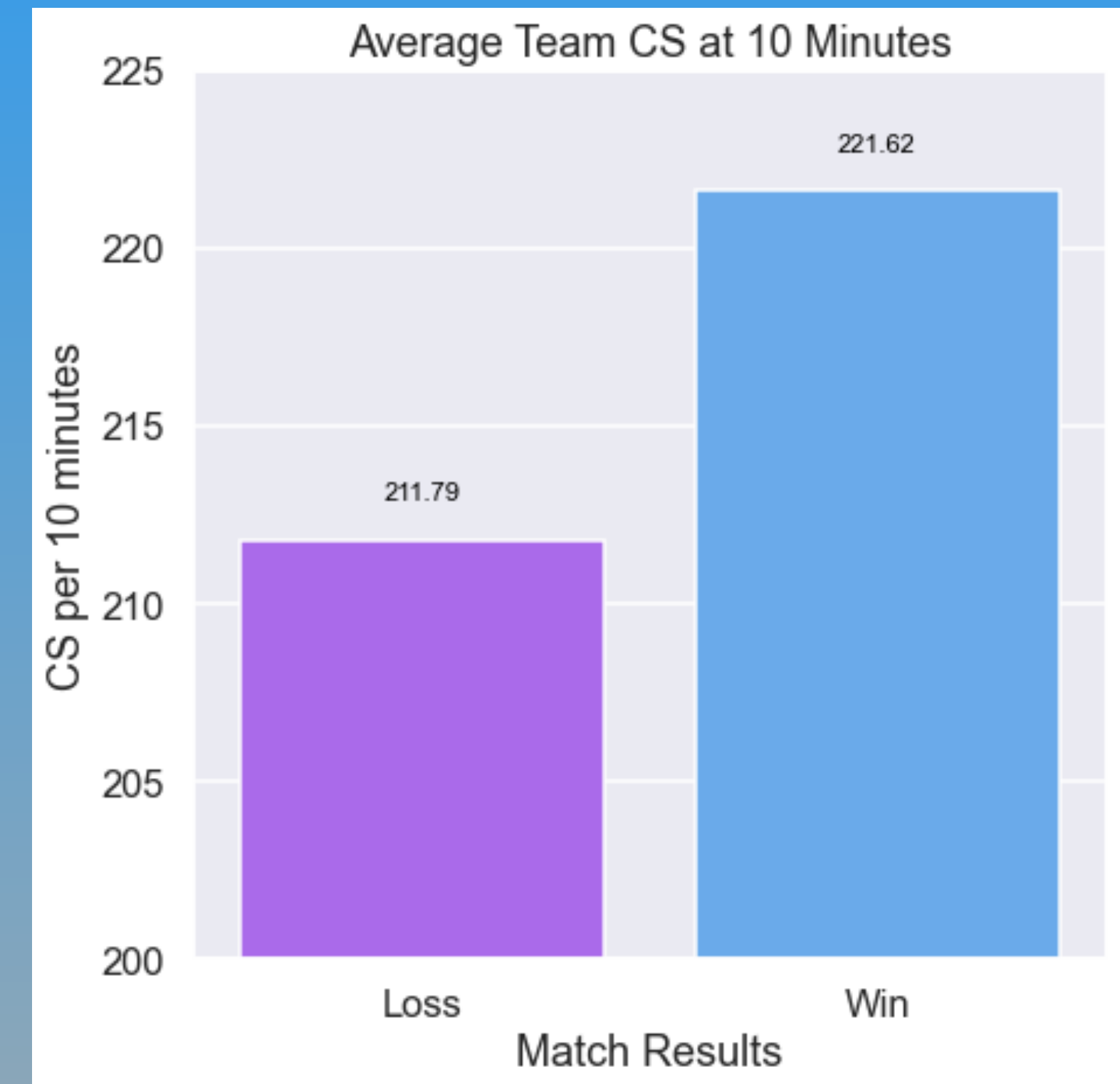
- Vision Wards
- Towers Destroyed
- Heralds
- First Blood



What Should Training/Drills
Focus On?

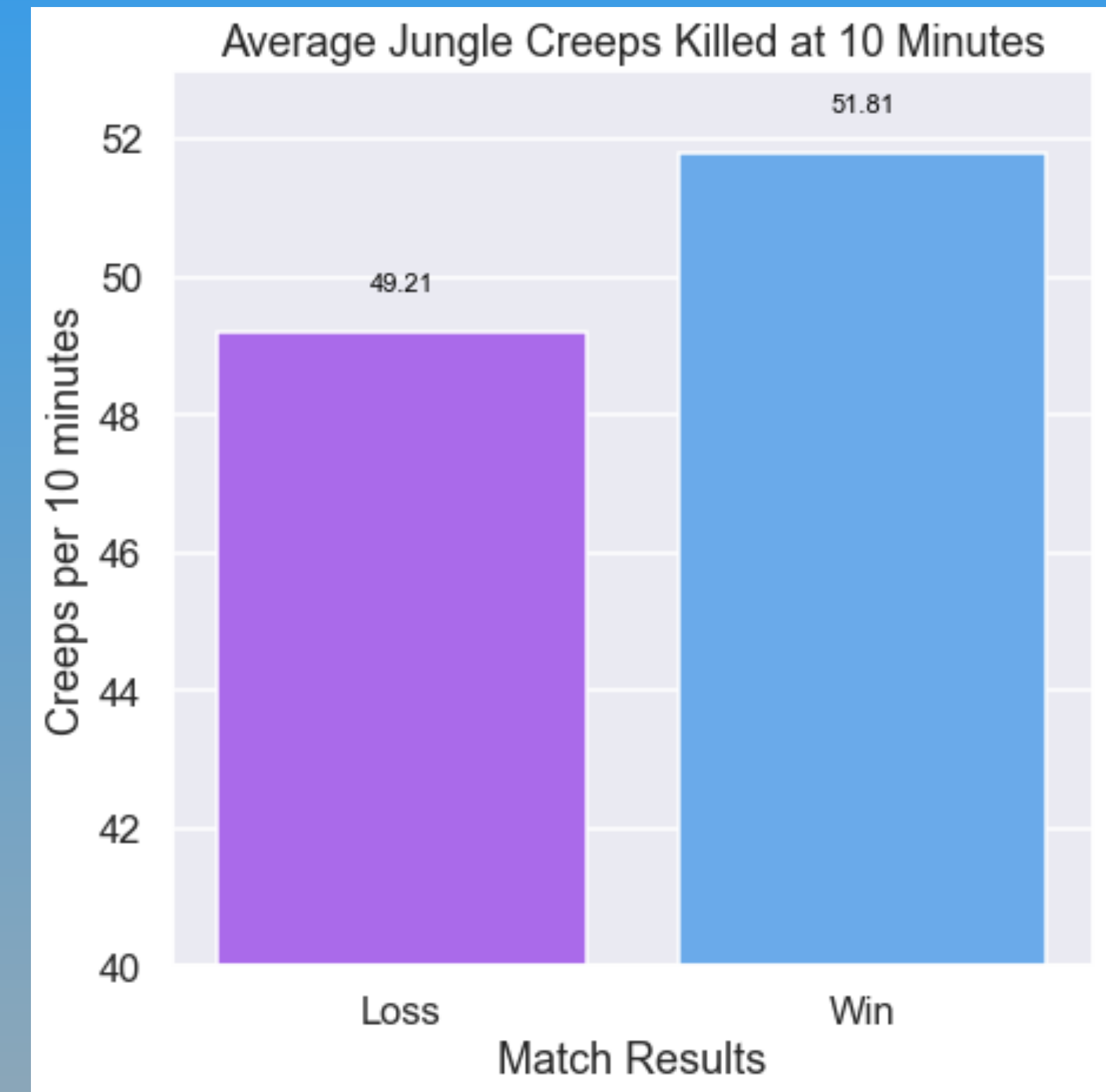
Lane Roles

1. Last hitting drills to maximize total minions killed in first 10 minutes of match.
 - At least 74 Minions per Lane
2. Bottom lane needs to practice maintaining map control and being ready to secure dragon when it spawns.



Jungler Role

1. Optimize Jungle clearing path to maximize gank potential and secure champion kills.
2. Maximize number of jungle creeps killed.



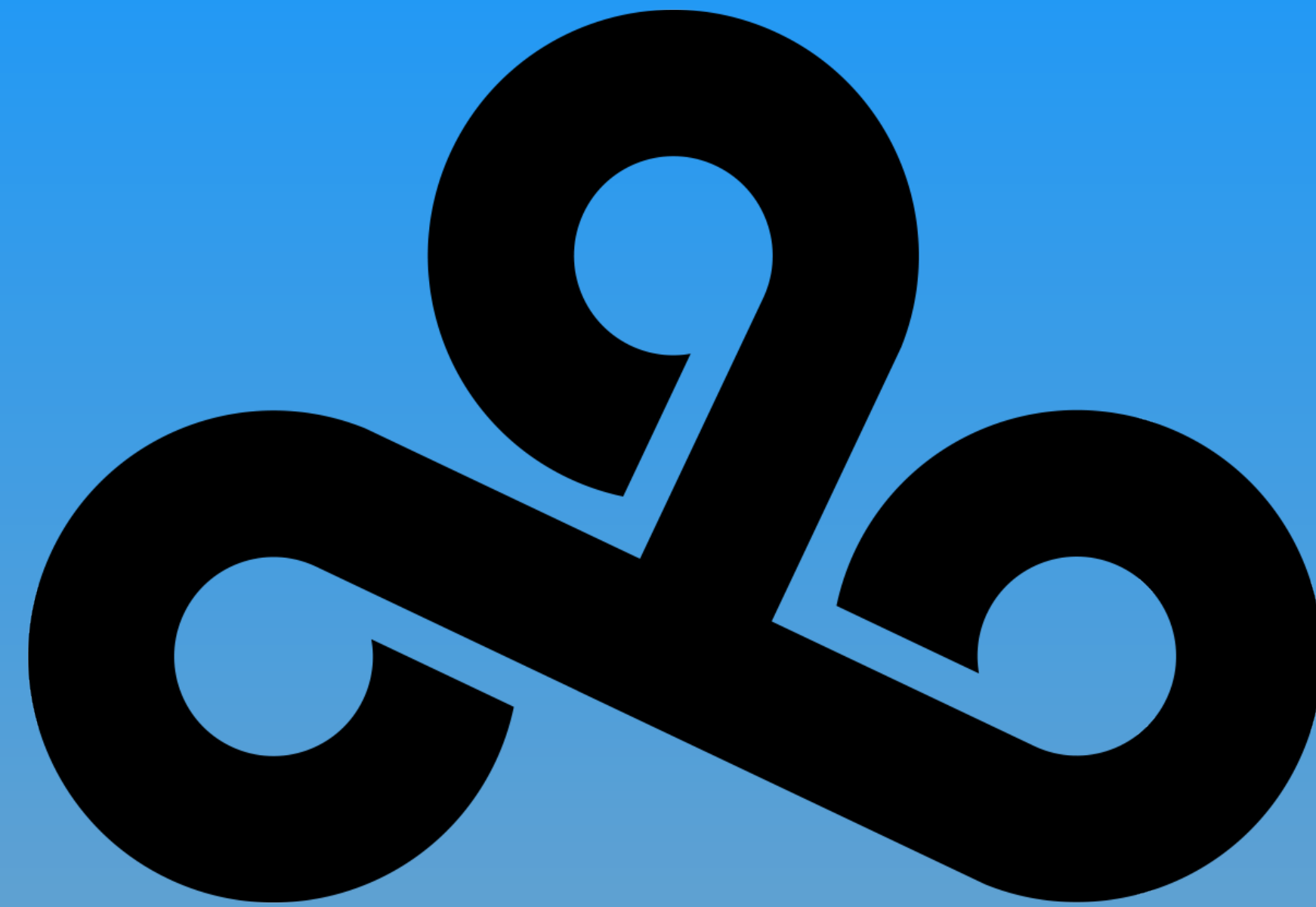
Summary

- Jungler needs to have great map awareness to capitalize on early game kills and assists, since these have 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.

*Thank
you!*



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

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