

# League of Legends Classification Analysis

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# Project Summary

- Esports - League of Legends for Cloud9
- Player Coach/Analyst
- Extract valuable information from high level player data
- Which objectives should our team be taking across the map?
- Priorities? “Avoids”?

# What we already know

A screenshot from a League of Legends match between TSM and C9. The top scoreboard shows TSM with 0 kills, 15.1k gold, 9 kills, and 1 death, while C9 has 11.9k gold and 0 kills. Blue arrows point to TSM's gold and C9's gold, while red arrows point to TSM's deaths and C9's kills. A green arrow points to TSM's kills. In the center, a Dr. Mundo bot is leveling up (+21 gold, LEVEL UP!). The bottom left shows a player's stats (6/5/1344, 484/521, 134/0/370, 0.79/53) and the Honda logo. The bottom center features a table titled "2018 LCS SUMMER SPLIT" with player statistics. The bottom right shows a mini-map.

Rank	Player	K/D/A	CS	Team	Score	Champion	Win Rate
0		0/0/0	0		27		0/0
0 <sup>2</sup>		0/0/0	29		15		1/4/0
0 <sup>2</sup>		3/0/5	54		44		0/0/0
0 <sup>2</sup>		0/0/0	26		37		0/0/0
0 <sup>2</sup>		6/1/3	25		14		0/5/0

# What we already know



# Data Info & Features

- Gold
- Kills/Deaths/Assists (KDA ratio)
- Experience
- Wards Placed
- Wards Destroyed
- First Blood
- Towers
- Dragons
- Rift Herald
- Minions
- Monsters

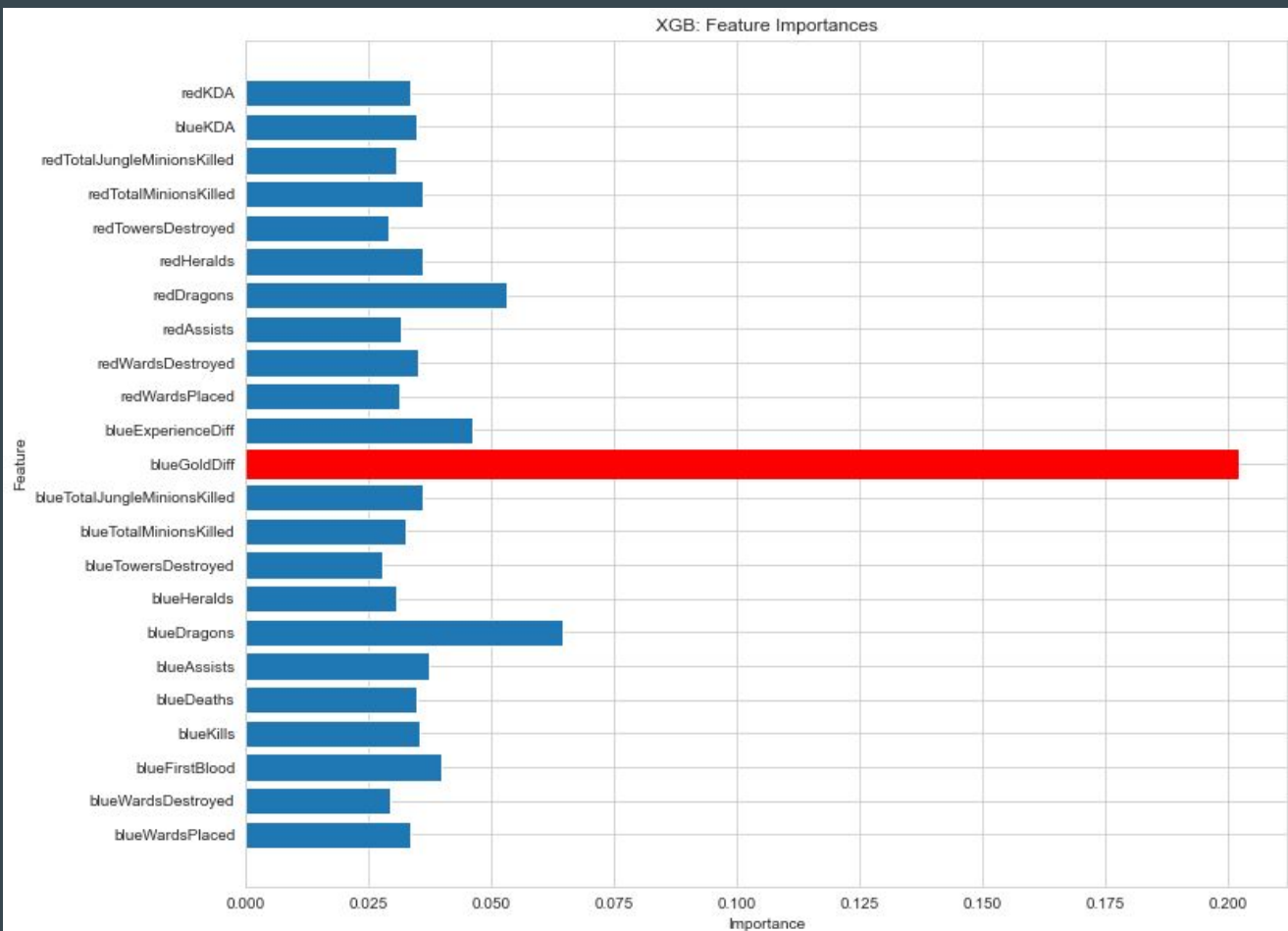
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\*Taken from ~10,000 games

# Classification Models

- What does “Classification Model” mean?
- Predict the outcome based on in-game metrics at exactly 10 minutes
- Data taken from 10,000 games between the top 1% of players
- Feature Importances

# Model - XGBoost Classifier



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Top Features:

1. Dragons
2. Experience

Bottom Features:

1. Towers
2. Wards Placed
3. Heralds

70.7% accuracy  
(F1-score)



# Conclusions and Results

**GOLD = WIN**

What objectives should we prioritize during the first 10 minutes of a game?

- **Experience and Dragons**

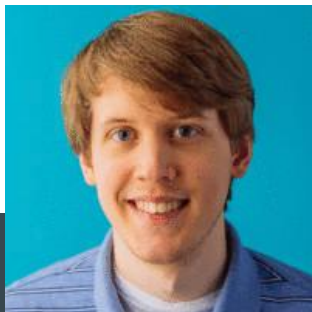
What should we ignore/let the enemy team take instead?

- **Rift Heralds and Towers**

# Future Work

- Datasets beyond 10 minute mark (15+, 20+min?)
- Team compositions are considered (Playing for “late game”/falling off)
- Types of dragons (Air, Earth, Fire, Ocean)
- 150+ characters(Champions)
- Each can purchase different sets of items
- How good is this item on a certain champion?
- What's the expected win % for just picking a single specific champion?
- How good is this champion with other certain champions on the same team?

# Thank You!



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