



League of Legends Champion Recommender

Hello!

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- Second year Data Science major at UCSD
- Always loved video games and have played ever since I can remember



What champion should I choose if I want to start learning a new champion?

1.

What is League of Legends?

For those who don't know.

League of Legends is an MOBA

- ▷ A MOBA is a “Multiplayer Online Battle Arena” where players can battle it out
- ▷ League of Legends (aka LoL) has 180 Million monthly players in 2022
- ▷ There are currently 159 playable characters (champions) in LoL



How does LoL work?

- ▷ A map with 2 sides and 3 lanes
- ▷ Per team, players are allocated:
 - Top - 1 player
 - Middle - 1 player
 - Bot - 2 players
- ▷ Also, a jungler who roams around the map trying to assist the “laners” and get advantages to win the game.



How does LoL work?

CONT.

In each lane, minions periodically spawn and walk to down the lanes to face each other.

Enemy minions can be killed for extra gold and experience. With experience, you can unlock and/or enhance abilities of your champion. Gold can be spent at the shop in the spawn to buy items. These items significantly increase stats (health, damage, healing, etc.) depending on what items you buy.





2.

How/what data did I collect?

How did I collect the data?

- ▷ To the notebooks!

Some problems with data collection

Keeping the datastream running

Having to figure out good sleep times so it didn't take too long, but I also did not overload the Riot API.

```
time.sleep(1.2)
if _ % 50 == 0:
    print(f"finished summoner id at index {_}")
print(f'Finished processing rank: {rank}')
time.sleep(60)
```

SLOW data collection

It took me around 6-7 days of constant overnight data collection to get the data I needed.

✓ 455m 17.5s ✓ 354m 56.9s

Incorrect data collection

I had a general direction of what I wanted to do, but I didn't know exactly. So I collected data 3 times before I got it "right".

```
data
├── old_data
├── top3
├── {} champions.json
├── euw_bronze_top5_champ_mastery.csv
├── euw_diamond_top5_champ_mastery.csv
├── euw_gold_top5_champ_mastery.csv
├── euw_platinum_top5_champ_mastery.csv
```

3.

What is the graph Schema?

(To TigerGraph!)

4.

What is does the dashboard
look like?

(To my heroku dashboard!)

What problems did I have making/hosting the dashboard?

- ▷ I have rarely used plotly and especially not plotly dash so it was a learning curve.
- ▷ Formatting would sometimes not work as intended because items were nested in “interesting ways”.
- ▷ I was loading a text file for champion names so I had to circumvent that on Heroku
- ▷ The dashboard kept crashing initially due to using dbc.Col
 - Not exactly sure why, but I removed them in the root and it worked

5.

Other potential uses?

Other uses for Tiger Graph in League of Legends?

Analyzing Matchups

Since there are many different matchups in LoL, it's hard for new players to understand them. It would be helpful to give them and even lower rank players hints based on how higher rank players would play the matchup.

Analyze Team Synergy

Each champion in LoL has different strengths and weaknesses at different points in the game. Some champions work better together than others, with some making up for what others lack.

Analyze most efficient items/runes

Having the most efficient rune combination as well as items could make or break getting the kill needed or surviving at a critical moment in the game. It's arguably one of the most difficult yet critical parts of the game for newcomers to learn.