

CSYE 7200  
Final Presentation

**DESTINY**

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# Short Intro

- 2 Teams
- 2 Spells Each Champion
- 5 Abilities Each Champion
- 10 Champions in Battle
- Kill / Death / Assistant
- Level In Ranked Game



# Game Analysis

The result of a game will be influenced by many factors

- First tower
- First kill
- Baron kills
- Drake kills
- etc.

**Champions Pick** is the only factor that influence the result of the game before it starts

# Data Source

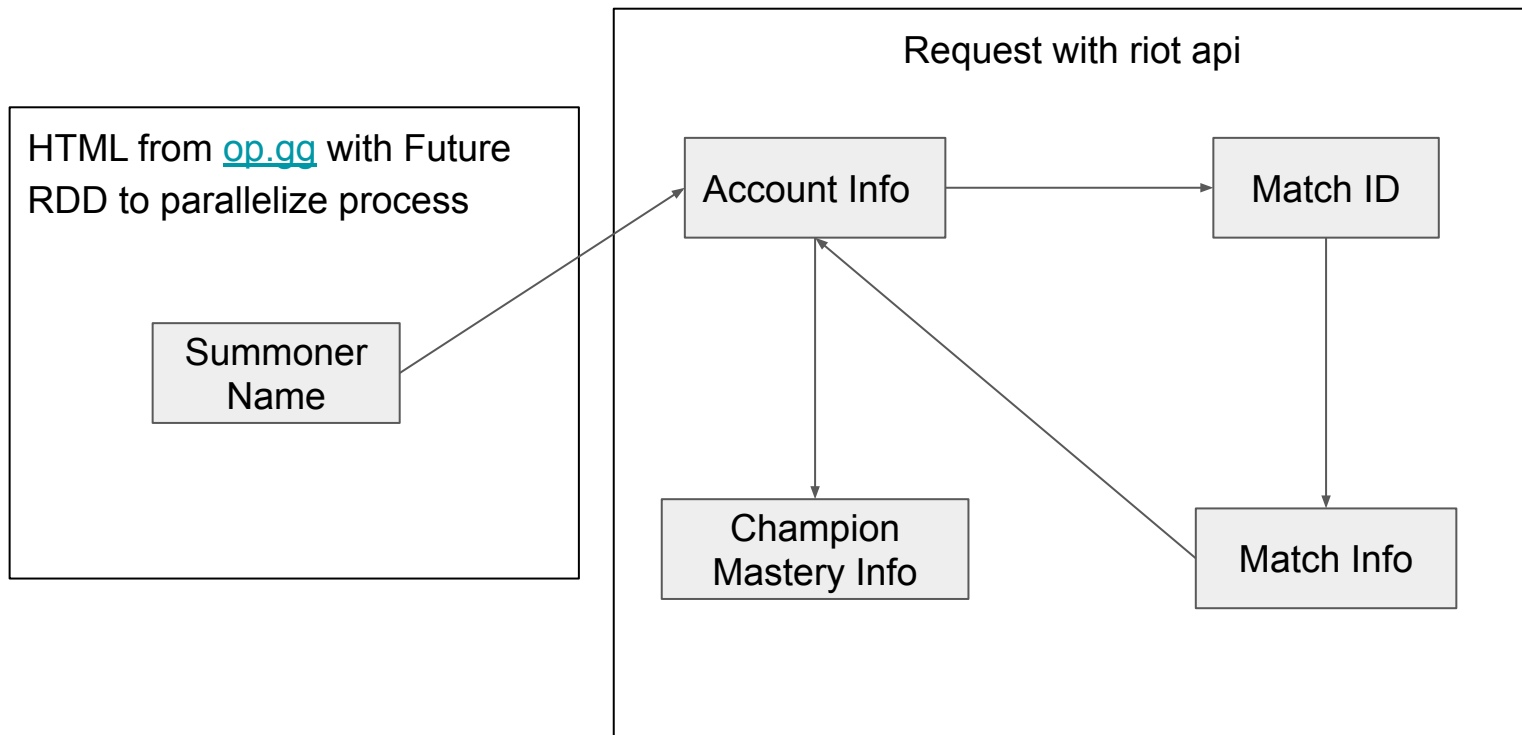
Collect Summoners Name from [na.opgg.com](https://na.opgg.com)

Collect data from official Riot API: <https://developer.riotgames.com/api-methods/>

Including:

- Summoner Account Info (Encrypted Account ID)
- Summoner Champion Mastery
- Match Info (Champions and Results)
- Ability Attributes (Passive, 4 Abilities on damage, displacement etc.)

# Data Source



# Data Collected

Before Data Cleaning:

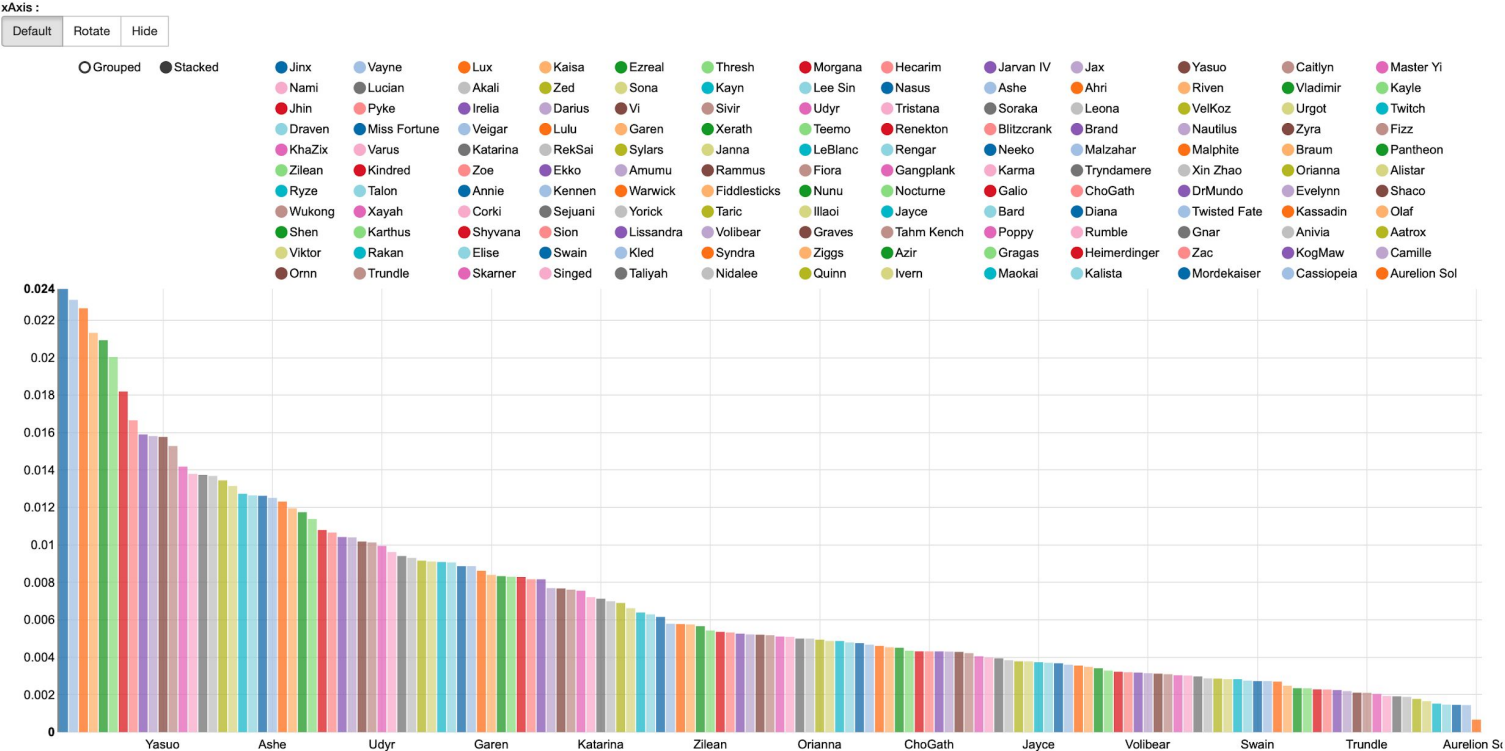
- Match Info: 100,000+
- Account Info: 10,000+
- Champion Mastery: 100,000+

After Data Cleaning:

- Match Info: 60,000+

# Data Analysis

## Pick Rate



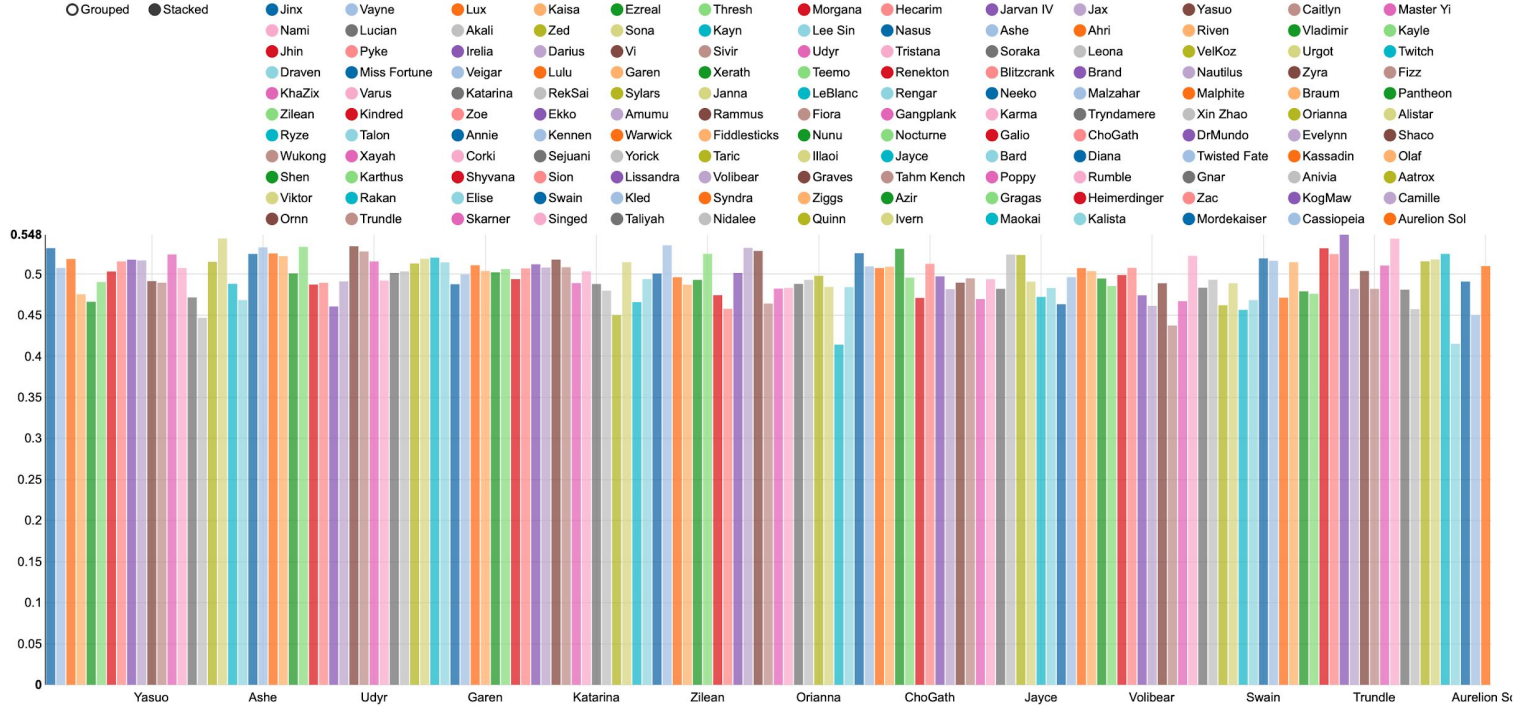
# Data Analysis

## Win Rate - ordered by pick rate

xAxis :

Default Rotate Hide

○ Grouped ● Stacked





# Prediction

## Methodology

- Spark MLlib, Spark SQL DataFrame
- ANN

## Model Analysis & Accuracy

- Layers: 500 -> 200 -> 100 -> 70 -> 30 -> 15 -> 2
- With 60,986 rows of data
- Highest accuracy: 0.61

# API & Function

Given 9 champions, system can give the champion that is with the highest win rate

E.g.

Input: 150,0,157,29,161 V.S. 75,203,7,110,43



Recommendation: (39,0.7225301178126661)

# API & Function

Given any number of champions, system will give recommendations on champion pick. (based on Genetic Algorithm)

E.g.

Input:

150,0,0,29,0 V.S. 75,0,7,0,43



Recommendation:

150,20,157,29,161 V.S. 75,203,7,110,43

# Input & Output

Input:

```
Map("Win_TOP"->0,"Win_JUG"->2,"Win_MID"->0,"Win_BOT"->15,  
    "Win_SUP"->16,"Fail_TOP"->23,"Fail_JUG"->0,"Fail_MID"->13,  
    "Fail_BOT"->22,"Fail_SUP"->25)
```

Output:

id	count
53	1
54	1
61	55
114	43

# Acceptance Criteria

- ✓ Users getting one user case responses in 2 seconds
- ✗ Model updating time through Spark and Zeppelin within 20 min
- ✓ Accuracy of predication on winning rate of the winner higher than 60%

**DESTINY**

End

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