**Project Report –**

**2023 LoL Worlds Winner Prediction**

# **[GitHub URL]**

[SzeWaiHo/UCDPA-SzeWaiHo (github.com)](https://github.com/SzeWaiHo/UCDPA-SzeWaiHo)

# **[Abstract]**

This project surrounds an esports game – League of Legends (will be referred to as ‘LoL’ in code and report).

The aim is to predict the next team to win 2023 LoL Worlds tournament.

The game consists of two teams with two sides (blue and red) with the winning objective being to kill the opponent’s towers and inhibitors – and ultimately their nexus. During the game, the players can kill their opponents, achieve objectives such as killing dragons and barons. These factors will be further explored below.

The stages of the Worlds tournament is as follows:

1. Teams will compete within their regions

The top teams (winner and runner ups - #1, #2, #3) of each region will participate in the Swiss Stage

1. Low ranked teams (#4, #5) will compete in the PlayIns Stage for a chance to compete in the Swiss Stage

The Swiss Round has pre-determined quotas per region: such as 4 teams participating from Korea (KR)

1. In the Swiss Round, 8 teams will be qualified to enter the Knockout (Final) Stage
2. Teams will play Quarterfinals, Semifinals and Finals in the Knockout Stage.

The winner will be determined in the Finals of the Knockout Stage.

As an example and to demonstrate visualization skills, I drafted the 2022 Stages below:

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In 2023, there are 22 regional teams pre-determined to enter the Swiss Round

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Usually, to rate the performance of teams/players, we can use Elo Rating (similar to chess, but can adjust parameters for esports). However, I decided to create my own parameters and models to analyse the performance of teams and regions.

# **[Introduction]**

I chose this project as there is a lot of data statistics online in which I can perform the functions I’ve learned in DataCamp. It would also be interesting to analyse for modelling and considering for machine learning.

# **[Dataset]**

Most of my dataset is imported data from Leaguepedia (<https://lol.fandom.com>)

This is done by importing through API:

**Scoreboard Games Data**

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This dataset gives detailed information for each match played in the listed leagues (including but not limited to the Worlds Tournament). This helps me analyse each team and different factors that may help them win.

**Teams/Regions Data**

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This dataset the team name, the team name abbreviation and their region for each team in the listed leagues. This helps me analyse each team and each region.

\*I make some manual adjustments that aren’t updated in Leaguepedia which I won’t include in this report but are noted in the Jupyter Notebook.

# **[Implementation Process]**

DATA MANIPULATION

First, I import the packages needed and initialize some factors.

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Then, I import the data through API and make minor adjustments.

I convert the datasets to pandas dataframes for data manipulation.

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Next, I merge the scoreboard and team datasets to find out which teams and regions won each match:

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For my custom model later, I need to find out if the winning team of each match was on the blue or red side:

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ANALYSIS– 2011 – 2022 WORLDS TOURNAMENT

I want to find the winners of the matches in the Worlds Tournament only.

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matches

# [Results]

(Include the charts and describe them)

# [Insights]

(Point out at least 5 insights in bullet points)

# [References]

(Include any references if required)

[Introduction - Harvard Style Guide - LibGuides at UCD Library](https://libguides.ucd.ie/harvardstyle)

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