

My project revolves around the game of League of Legends. League of Legends is known as the biggest Esport video game around the world. Players are able to play a ranked game mode that allows players to play competitively and earn a higher rank to prove their skill. The highest you can reach is Challenger which is the top 0.018% of players in North America (there are multiple regions in the world). The concept of the game is simple: kill minions/players to get gold, buy items to upgrade your character, collect objectives to boost your team, destroy towers that lead to the enemy's base and eventually destroy the enemy's nexus to win the game. Even though the concept could be simple, a lot of these things can be perfected in ways and can impact the game, but how much? There are two teams that are randomly chosen for players, red side and blue side, does this impact it as well? The dataset I have chosen has statistics from over 26000 Challenger games that include: objectives collected, the side the players are on, champions selected (there are over 100 champions a player can choose from), and minion kill counts. Objectives include, dragons and barons (buffs the team that has slain that specific objective), towers destroyed, and more. The main focus of this project is to see how much these topics can affect a game of League Of Legends and how players can gain an advantage to win their games. The dataset is split up into 50 data points that either have red in front of them or blue in front of them. For example we have blueFirstDragon and redFirstDragon. The code will focus on scoring each datapoint on a scale and compare each datapoint to one another. It will then compare the scores to whether or not a team has attained victory. The code should analyze the graph to see which would be higher and say blueFirstDragon is higher, the blue will get a score and red will not. This is seen within the main_test that we conduct on our dataset. The next test I decided to do is focused on objectives and how much they matter to the game. It will compare each objective and compare it to the total games won for each side to see how much they contribute to each game that is won. Weights do not come into effect for each field as every single field mentioned can contribute to winning equally. The output for the main test should show a tally in terms of which side racked up more points than the other. The reason why this is important is because there has been a long discussion on how one side is better to play on than the other. The code will look into each specific objective about the game and come to a conclusion on which side tends to win more than the other based on these tallies. Of course, each game is different and there will always be outliers within games that cause something different to happen, but these are general trends within the 26000 games that are highly ranked. The output for the test for objectives will show how each objective plays into each winrate. We take a specific objective and take the total of that specific objective and divide it by the amount of wins for the specific side. We then can compare it to the other side doing the same thing and see the percentage difference. I used chatgpt to help me measure some of the things within my project such as making sure I had all equal matches for blue and red along with different ideas for test cases and how I can make them most effective.