***Due at end of this week 11:59 pm 20th Nov Name\_\_\_****Brian****\_\_\_\_\_\_\_\_\_\_\_\_\_***

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| * **Introduction** |  |
| * + **Aim** which is clearly identifiable – what is your research question? | What will be the champion for League of Legends world finals? |
| * + Describes the context of the research. | League of Legends is a famous strategy game, typically 5 players per team, competing against another team of 5. The main goal is to destroy the enemy team's Nexus (the base of a team). The standard game is played on a map called "Summoner's Rift," which has three lanes (top, middle, and bottom), a jungle area with neutral monsters, and bases for each team at opposite corners of the map. Along with the game, a professional world final competition is held every year where the best teams from each regional round attend. It used Swiss round mechanism that made each game ornamental. Moreover, Weibo Gaming (WBG, a team) as the No.4 seed from China region had shockingly entered the final round.  In this paper, we will use the historical data for each match the team had and calculate the predict the probability of winning the match for each team by features like kill-death ratio, gold per minute and so on. |
| * + Includes **rationale** -why the topic has been chosen? | These surprising results are examples of uncertainties that’s different from what people expect. This made the prediction of match results with mathematical approach interesting. |
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| * **Data collection** |  |
| * + Method of data collection.(Where you get your data?) | [Teams playing in Worlds Main Event 2023 - win rate, KDA, match history and more (gol.gg)](https://gol.gg/teams/list/season-ALL/split-ALL/tournament-Worlds%20Main%20Event%202023/) |
| * + Original data set. | N\*M (N for number of matches, M for the number of features) |
| * + Bibliography- if you search online to get your data. |  |
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| * **Mathematical content** |  |
| * + Name of Math content you are going to use– Like: Trig Modeling using Sine/Cosine is better than Trig | Poisson distribution  Logistic regression  Derivatives and the Chain Rule  Partial Derivatives & The Gradient  Basic Vector Operations  Independent Probability |
| * + Appropriate graphs/tables are included to help answer the question of interest. | - Table of dataset  - Confusion matrix of the dataset     * Dataset bar chart * Poisson distribution plot * Competition matching (e.g.)     [LoL Esports](https://lolesports.com/article/state-of-the-game-lol-esports-in-2023/blt5d3bca31d1b39e0c) |
| * + Calculation in the field of what you have learned so far. |  |
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| * **List of sources** |  |
| * + Bibliography – Reference papers or websites you have used or going to use. | Cox, D. R. (1958). The Regression Analysis of Binary Sequences. *Journal of the Royal Statistical Society. Series B (Methodological)*, *20*(2), 215–242. http://www.jstor.org/stable/2983890 |