Machine Learning Project Plan

1. What is the application area?

   The application area of my project is videogames and esports.

2. What is your goal with respect to the application area, and why do you think that machine learning will help to achieve it?

   My goal in this project is to explore how different variables in the game affect the outcome my own ranked games in League of Legends for Season 12. I believe that I can use machine learning to achieve this goal because this idea is a classification task for whether the match is a win or loss. The variables (features) I will be exploring can include game duration, gold earned, KDA (kill deaths assists ratio), damage dealt, and more.

3. Where will you get your data?

   I will be retrieving my data from the Riot API, accessible to the community. I will be using a package called Cassiopeia to easily pull and work with the data from the Riot API.

4. What form(s) of machine learning will you use?

   I will be using different classification models provided by scikit-learn to train my data.

5. What alternatives will you investigate, and why?

   I may investigate a pro player's games and see how different the results compare to my own match data. Since I am limiting myself to a single role in the game, I can use another player's data to see how the model trains and classifies.

6. How will you analyze and report your results?

The easiest way to analyze and report my results is finding the accuracy score for a particular model. I will also be analyzing how different features affect the results.

7. How will you know if you have succeeded?

   I will know if I have succeeded if I successfully train my model and see any changes in the accuracy score using different sets of features.

8. What might the implications of your results be for machine learning theory, for some specific application area, and/or for society?

   The results of the project can give some insight on further using machine learning in esports to analyze players and game data in a certain game state. This may allow for more specialized models for analyzing games.