**Running the LOL Match Predictor LSTM Model (3 Options)**

**1- Skip downloading the match data and use a sample file with 551 matches using our reduced model (Recommended):**

This option will skip pulling information from the RIOT API entirely. Instead, you will process and train a model using 551 sample timelines. These timelines are in the Matches0.json file.

Run the following batch script from the SourceCode folder:

ReducedModel.bat

Python ModelEvaluatorReduced.py

* The ModelEvaluatorReduced.py call will print the accuracy of the model against the testing set

**2- Skip downloading the match data and use a sample file with 551 matches using our reduced model with specific towers (Recommended, if Desired):**

This option will skip pulling information from the RIOT API entirely. Instead, you will process and train a model using 551 sample timelines. These timelines are in the Matches0.json file. This model is slightly more expansive from the reduced model, as the model knows exactly which towers are destroyed. This did not make an apparent impact on the model.

Run the following batch script from the SourceCode folder:

ReducedModelTowers.bat

Python ModelEvaluatorTowers.py

* The ModelEvaluatorReducedTowers.py call will print the accuracy of the model against the testing set

**3 – Run the entire project using our complex model on the entire dataset (not recommended):**

In order to run the entire project from start to finish, you must first get a RIOT API key

A RIOT API Key can be found by going to <https://developer.riotgames.com>

* You must create an account
* Click on you username in the top right and click the “dashboard” drop-down
* Scroll down and generate an API key
* Copy this API key and pass it to the batch script as specified
* Note that API keys only last for so many hours. If it terminates while the program is downloading data, you will have to start the process over
* After running, you should see Matches1.json, Matches2.json, Matches3.json, and Matches4.json. After the combiner runs, you will have an aggregate Matches.json file, which contains all the sampled timelines

Run the following batch script from the SourceCode folder (will take several hours):

ComplexModel.bat <API Key from RIOT API>

python ModelEvaluator.py

* The ModelEvaluator.py call will print the accuracy of the model against the testing set

Since the workflow is obfuscated by batch scripts, our files are called in this order:

1. FetchMatchIds.py – Gets all unique match Ids from the top 300 players in North America
2. GetMatchTimeData.py – Gets timeline data and puts it in json.
3. MatchJsonCombiner.py -Used to combine json from GetMatchTimeData.py (Not used in scripts)
4. MatchTimelinePreProcessor.py – Converts raw timeline data into inputs fit for model
5. ModelTraining.py – Trains a model and saves it, along with the testing set/training set indexes
6. ModelEvaluator.py – Evaluates the model, printing total correct predictions / total predictions

\* For the three models, there is MatchTimelinePreProcessor (complex), MatchTimelinePreProcessorReduced (Reduced), MatchTimelinePreProcessorTowers (Reduced with specific Towers). Look for files ending with Towers or Reduced if you want to follow a specific model’s workflow closely. MatchTimeLinePreProcessor, ModelTraining, and ModelEvaluator can have either Tower or Reduce appended to them to indicate they are part of the Reduced or Tower model instead of the complex model.

\* If you have decided to take the time to download the entire dataset by running option 3, you can run the reduced model and reduced model with towers over the entire dataset by making the following changes and running the model’s respective batch script:

In MatchTimelinePreProcessorReduced.py, line 52: Change “Matches0.json” to “Matches.json”

In MatchTimelinePreProcessorTowers.py, line 97: Change “Matches0.json” to “Matches.json”