Research Project Proposal

1) Clear description of the topic:

DOTA 2 is an online Moba (Multiplayer online battle arena) game that is played between 2 teams consisting of 5 players. Each Player chooses from over 115 heroes. The main objective of the game is to destroy the enemy teams "Ancient". This project will try to predict the winning team based on the draft (hero selection) before the game is actually played.

We plan to get the data from “Valves official DOTA 2 Web api” and create a dataset of 150,000 recent matches and train the models using techniques like CNN (convolutional neural network) and logistic regression to find the best model for the above stated problem.

2) Background research of related work:

We have done background research for our project which is as follows:

[1] The paper which we will be using prompts us with the knowledge that they were able to predict the winning team with the accuracy of 59.8% which we find relative to our project.

[2]The book sheds light on machine learning approaches that can be used to select algorithms for the model.

[3] The research paper that we will be referring suggests about what type of features we should select for the model.

3) Data sources:

1) We will be taking our dataset from the most recent public matches played in DOTA 2 through dota2api (wrapper & parser for official dota 2 web api) [3]

2) We will be using a dataset from kaggle.com [4]

4) What algorithms are being used and code sources.

We will be using the following algorithms:

1. Navie Bayes Algorithm
2. CNN(convolutional neural network)
3. Logistic Regression

4) References:

[1]<https://arxiv.org/abs/1701.03162>

[2]https://link.springer.com/chapter/10.1007/978-3-319-52920-2\_3

[3]http://jmcauley.ucsd.edu/cse255/projects/fa15/018.pdf

[4]https://www.kaggle.com/devinanzelmo/dota-2-matches

[5]<https://dota2api.readthedocs.io/en/latest/>

6) Who is in the group?

We are a team of two.

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