IKT 110 - Project Description:
Molde Dotaklubb

Version 1:
Changelog:

Goal:

Molde Dotaklubb has tasked us with improving their capabilities for analysis in the drafting phase. And has thus requested an interactive webpage that can help them improve.

As such the project's goal is to implement the ML part of a web page designed for doing predictive analytics of dota2 games and deploy the fully functional web page. A project report should be delivered along with the web page; see below for the report's specs.

For LoL players replace heroes with champion as you read this project

The underlying ML algorithm should be one we have covered in class:

Logistic Regression
Linear Regression
2 layer MLP
Or Fortuna :)

Feel free to use the scikit-learn implementations of these if you want to.

The following 11 questions should also be answered in the report:

1. What hero is the most picked?
2. What hero has the highest win rate?
3. Is there an advantage to playing Dire or Radiant?
    a. What hero is most affected by the side?
4. What hero has the highest impact on the game? (Define impact yourself).
5. What hero has the longest games?
6. What hero has the shortest games?
7. What pair of heroes are the best together?
8. What hero is hardest countered by another hero?
9. What hero is the best if it is not countered by its TOP 5 counters (if not countered it will win type of hero)
10. What team (of 5 heroes) is the strongest (Define best yourself)?
11. How can Molde Dotaklubb use the webpage to improve?

Delivery

The project must be presented and delivered before the 15th of December.
Make a zip file containing the following:

- The project report (in pdf format).
- The code.

Data

The training data can be found at the following link:
https://www.dropbox.com/s/kcj58n5rxf8pm5q/dota_games.zip?dl=0

It contains statistics from a lot of dota2 games, the json format is specified here:
https://wiki.teamfortress.com/wiki/WebAPI/GetMatchDetails

The translation from hero id's to names can be found in "heroes.json" located in /data in the code zip.

Code

On Canvas you can find a basic framework for the web site in the zip file dota_web.zip.

See README.md (in zip) for how to run the project.

Project report

The project report should be a technical, informal description of what you have done and the result. Do not spend a lot of time on making the report "pretty."
Remember: Use a bullet list rather than try to make the text flow nicely :)
The idea is that when you are presenting the project, you should use the project report as a cheat sheet to answer the most critical details.

The format of the report should be in pdf. See report_outline.pdf on canvas for an outline on how the report should be formatted.

Presentation

The project is not deemed delivered until the oral presentation is finished.

The presentation should contain two parts: One technical, and one directed at Molde Dotaklubb on how they can use this tool to improve their drafting skills. (answering the above questions).

FINALLY: Don't give hero id’s in the rapport/presentations. Please use hero names instead.

HINT:
Use gzip in python to read the file directly, instead of unzipping it.