

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 :)

If you are unable to implement these yourself, you can opt to use scikit-learn implementations instead. Writing your own will count positively.

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

1. What games did I exclude/include for analysis?
2. What hero is the most picked?
3. What hero has the highest win rate?
4. Is there an advantage to playing Dire or R radiant?
 - a. What hero is most affected by the side?
5. What hero has the highest impact on the game? (Define impact yourself).
6. What hero has the longest games?
7. What hero has the shortest games?
8. What pair of heroes are the best together?
9. What hero is hardest countered by another hero?
10. What hero is the best if it is not countered by its TOP 5 counters (if not countered it will win type of hero)
11. Give 2 heroes that a team safely can first pick.

12. How can Molde Dotaklubb use the webpage to improve?

Webpage considerations:

1. Can multiple users access the website at the same time?
2. Can it assist me in drafting and not just predict the winner?
3. Can it assist me in finding a similar hero if the one I wanted to pick was banned or taken for the other team?

Delivery

The project must be presented and delivered before the deadline.

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.