Hackathon 02

August 30th, 2020

Team #12
LaughingOutLoad (LoL)

1. Problem description

Problem description

Goal: predict the outcomes of matches of the video game *League of Legends*

Inputs:

- year, season, game length, teams
- gold over time for each player (in each team)
- player/monster/tower kills + time

2. Workflow

2.1 Data preparation

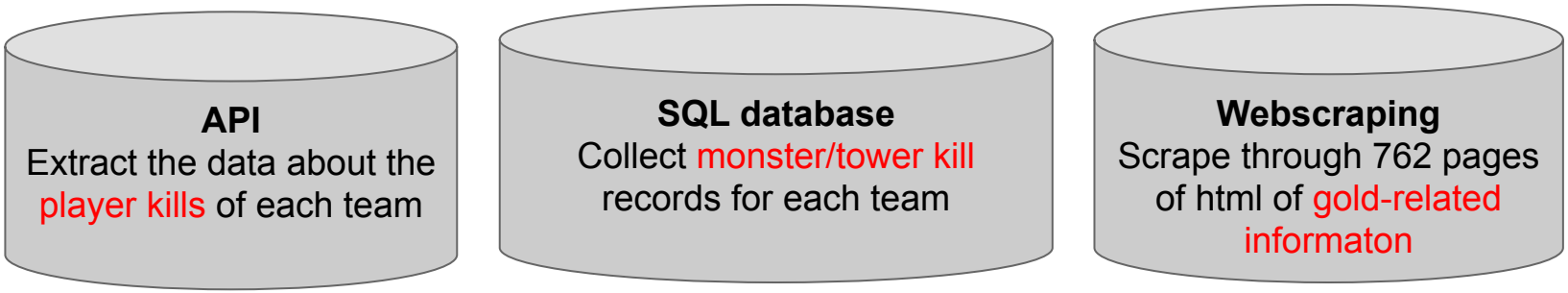
First EDA (exploratory data analysis)

- All data is in tabular format and are connected by game_id number
- No data is missing (confirmed by @Miguel-devops-demigod)*
- Most variables are player- or team-related (focus on team differences)

*no liability for sharing false demigod-related information

Data acquisition

Augment train & test data from 3 data sources:

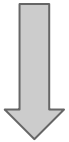


Then → Tidy up all dataframes to have one row per game

Feature engineering

Player kills data

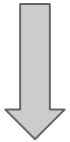
Determine total players killed per each team



Calculate difference between the two teams

Monster/tower kills data

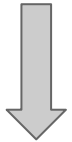
Determine total monsters killed and towers destroyed per each team



Calculate difference between the two teams

Gold data

Determine total gold per team at minute 10 (latest one)

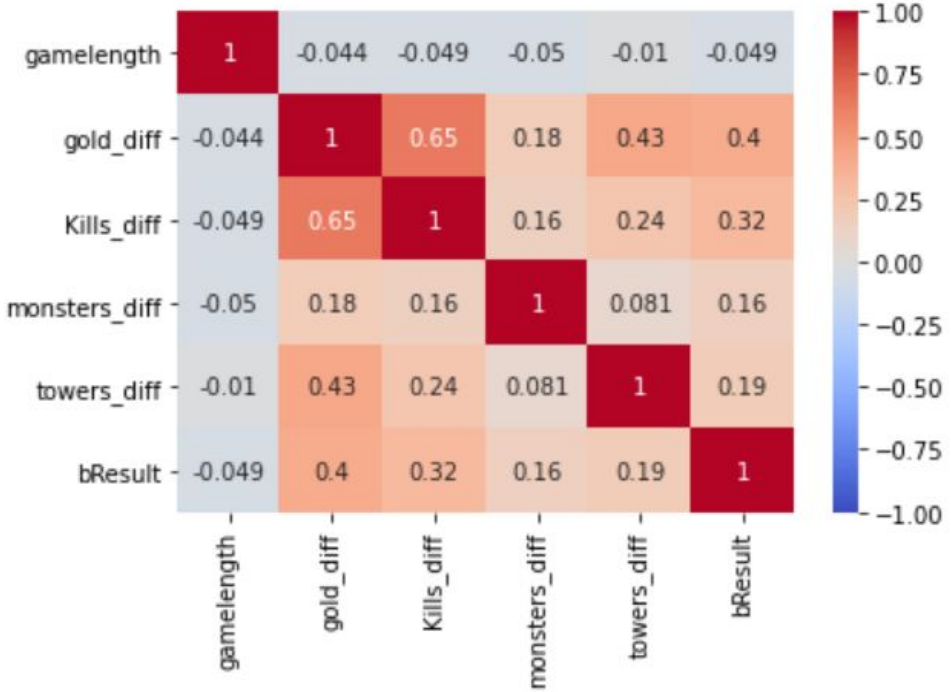


Calculate difference between the two teams

Some EDA on the complete data

Our difference features all are positively correlated with the labels

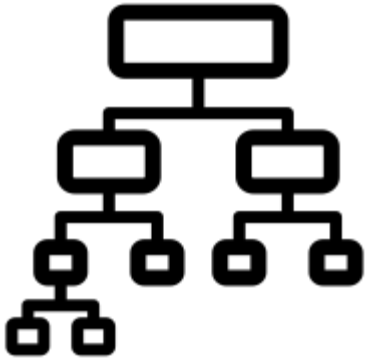
The game length seems uncorrelated with everything



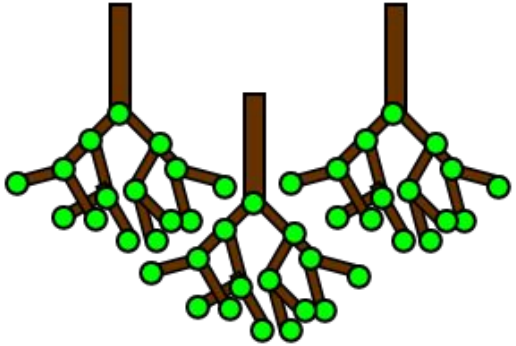
2.2 Model selection

Model selection (1/2)

Logistic regression



Decision tree



Random Forests

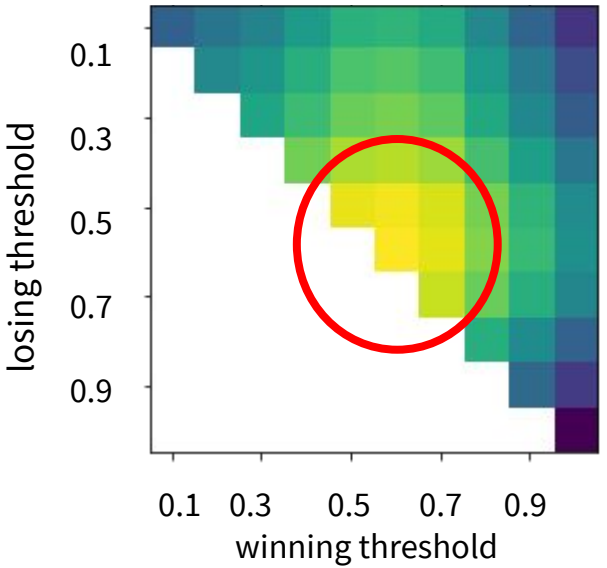
Model selection (2/2)

Hyperparameter tuning (trees)

- criterion
- max_features
- max_depth
- number of estimators → Random Forest only

Manual parameter optimization

Treshold tuning



2.3 Results and discussion

Results and discussion

- Logistic regression performed best (3rd place yeah! 🎉)
- Decision tree & random forest greatly underperformed (bad train-test split?)
- Manual hyperparameter tuning not ideal (gotta level up our game! 🔥💪)
- Could have explored temporal patterns (and not only do counts/sums)

3. Future Work

Future work

- Forget it’s Sunday and try to rest
- Remind ourselves that hackathons often implies some stress
- This is meant for learning, not competing nor proving ourselves
- Last: Don’t cry

The End!

Over and Out!