Kaggle Assignment 2

CSCI 527 Spring 2017 Competition 2

Due: 03/26/17, 11:59 PM CT

Metadata

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6. Programming Language : **R**
7. Screenshot of best performing submission:

Technique

1. Data preprocessing
    a. Converting numerical comma separated values into factors to ensure modelling functions treat them correctly.
    b. Shuffling rows to prevent bias due to too many consecutive same values.
2. Data mining
    a. The **Decision Tree** algorithm using **C5.0** that was implemented in the R programming language in package "**C50**" was used.
    b. Model was obtained from all 379251 rows of training dataset and applied on 468120 test dataset rows.
3. Data post-processing
    a. Function **predict()** with argument **type="prob"** gives vector with probabilities for both **FALSE** and **TRUE** events. Hence, only the probabilities for the **TRUE** event were extracted from the given vector.

Innovations (Trials & Errors)

1. C.50, Rpart and custom Association Rules were applied to create predictive models from the given training set.
2. For creating custom Association Rules, player statistics were studied and used as obtained from champion analytics service Pickban at http://champions.pickban.com/.
3. Association rules achieved the least score on Kaggle leaderboard. Rpart performed better than association rules. C5.0 performed the best. Hence, other models were dropped and C5.0 was retained.

References

1. Johnson, C. (2014, August 29). Decision Trees in R using the C50 Package | Retrieved from http://connor-johnson.com/2014/08/29/decision-trees-in-r-using-the-c50-package/.
2. League of Legends Champions | Retrieved from http://champions.pickban.com/.