

Title	オンラインゲームDota2の勝敗予測のためのチーム特徴に関する研究
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In recent years, online games have developed rapidly. One of the most famous online games type among them is MOBA.

Multiplayer online battle arena (MOBA) is a kind of Action Real-Time Strategy game(ARTS). Each player controls a hero with unique abilities in the game. The hero grows by killing neutral creatures or enemy heroes, and the team that destroys the enemy base first wins.

Dota2 is a MOBA game with the highest prize money in the world. There are ten players participating in one dota2 game. These ten players are divided into two teams to fight each other. The team that destroys the opponent's base first wins.

In dota2 competitions, predicting the outcome of the game is very important. With accurate win-loss predictions, professional players can train more efficiently.

In past outcome win-loss prediction studies, researchers have focused on hero combinations. But didn't get good results. In the dota2 game, each player has heroes that are good or bad, so players and teams should be considered when predicting the outcome. In this paper, we focus on the features of teams, and propose a method for generating features of teams.

The proposed feature generation method is divided into two parts. The first part is the feature generation method based on the player's performance, and the second part is the team economic feature generation method based on the player economy. Based on the features generated by these two methods, we used three machine learning models of Naive Bayes, Random Forest and XGBoost for training. The result is 82% for Naive Bayes, 95% for Random Forest, and 98% for XGBoost. The results allow us to predict the outcome of a match with a fairly accurate degree of player and team performance.