

For this project, I would like to aid game developers in evaluating character balances for online multiplayer arena-based games. Often, games will have large character disparities in which some will be extremely powerful and others will be far too weak. This is undesirable for both the developers, because players prefer games where they can play a character without fear of being at a disadvantage, so I would like to evaluate character balances by monitoring win-rates and pick-rates. Specifically, I will be working with data from a game called Battlerite.

Battlerite is a quick team-based arena game with many characters for players to choose from. Once the players pick their character of choice, they are randomly paired into teams and enter an arena with the objective of defeating the other team in combat. The first team to win 3 total rounds, wins the match. The game has two main formats, casual and ranked; and two game modes, two-verse-two and three-verse-three, which I will abbreviate as 2v2 and 3v3 accordingly.

The formats and game modes result in very different styles of play. The casual format is for players who want to play for fun or try out new characters. The ranked format, on the other hand, is a more serious test of skill where players try to climb through the ranks from Bronze, Silver, Gold, Platinum, Champion, and up to Grand Champion. The 2v2 game mode is more dependent on individual player skill, while the 3v3 game mode is more dependent on teamwork.

Because of the different playstyles within the game, the problem of character balances relies heavily on the format, casual or ranked, and game mode, 2v2 or 3v3. I will evaluate each character's win-rate and pick-rate overall, by format, and by game mode. This will allow

developers to see which characters have advantages or disadvantages for each format and each game mode. I will then create several time-series plot examples to evaluate how win-rates and pick-rates for characters change over time. This allows developers to implement balance changes and monitor the difference in win-rates and pick-rates over time.

To achieve this, I will pull match data using Battlerite's API, then store the data in a DataFrame with columns to determine the winner as well as which characters, formats, and game modes were played.