

## Assignment #2: Interactive Visualization Exercise

### Write up

#### **Introduction:**

Pro players are admired for their first serves, but only a few players recognize the importance of having a solid second serve in tennis. The tennis second serve is hit when a player misses the first serve, leaving them one chance to hit a serve before a double fault is given. Here, we are given a few statistical attributes of all the matches of last 10 Australian open tournament. I have come up with a short analysis of the data provided to us. I observed that a few cells in the csv file provided were null and hence I have replaced the null cells with the mean values of the rest of the data available. In my previous assignment, I had come with a story based on *second serve points*, and here I want to extend that analysis with aces, doubles and break points.

#### **Attributes chosen, and the design chosen:**

I have not taken into consideration every attribute given. I found the combination of aces, doubles, second serve points and break points capable for analysing the data of Australian open matches. For the player serving, their aim is to produce an ace or, force their opponent into an outright error, as this could make the difference between winning and losing. Unlike the first serve, second serve is inherently a stroke that is under immediate pressure. If you miss it, the point is lost, and your opponent didn't even have to do anything. In men's professional tennis, with its powerful deliveries and short points, the serve is even more crucial.

We always hear that a player has struggles in a match because he has struggled to get a high percentage of his first serves in the court. However, what the statistics show is that elite players like Rafael Nadal, Novak Djokovic, Roger Federer and Andy Murray, have very low first serve percentage. This would suggest that simply ensuring that you struggle and get first serves in the court is not a solid for success. The big serves of the men's game here, according to the data, tend to show up relatively low on this list – they go for big aces with their first serves and then concentrate on attaining high percentage serves on their second serve.

Winning the second point and breaking the serve can change the game. The trend of winning with high second serve points, breaking more serve, having more aces and returning more serves eventually help the player to win the game, and this is clearly visible from the visualization that I have provided. Successfully returning the serve is arguably the most important part of winning in tennis.

In a competitive tennis match against a good server, a break point is the moment you have been waiting for, the opportunity to win a game while your opponent is serving. It is often more difficult to win a game when your opponent serves because a good server has several advantages. First, the server may hit such a good shot that you can't return. Additionally, a well-placed serve can leave you out of position for your next shot. So, here the importance of returning the serve is captured. In addition to the practical advantage of simply winning a game, a break point may offer the opportunity to gain a psychological edge on your opponent. If your opponent is a strong server, he may be counting on holding all the serves. Breaking the serve can upset his plan and throw him off the game, because

he is now under pressure to try to break your serve if he hopes to win the set. Hence, they say, if you win the break point, you win the game.

Returning well is more important than serve speed. Failing to return a serve is as much like hitting a double fault. Players must gain control of a point while returning the serve to determine the direction of the point and take away the opponent's biggest weapons.

According to my analysis from this visualization, we can say that a player should fight from the very beginning. Start with putting on an ace. If got failure, have high second serve percentage. This boosts your confidence and challenges the opponent. In case of a good server, make your return powerful. When ever you get chance, break the serve points of your opponent, this will give you a clear win for sure. With all these analysis, we should remember that it was an analysis over the trend and not that what made the winner to win the match. Because with each game, unpredictability is involved and how the players perform. Everyone is there to win but we all know that there can be only one winner.