

# CSE578 – DATA VISUALIZATION

## Assignment 1

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The data provided for this assignment consists of Men's Australian Open Final matches. It can be observed that the player with the most notable presence in this dataset is Serbian player Novak Djokovic. It was interesting to observe that out of the five appearances that he makes, four were against Englishman Andy Murray – all of which were won by the former. What could explain these results, and Andy's failure to dominate Djokovic despite several opportunities to do so (we can already eliminate the age factor here since it is the same for both, and hence they are equally athletic)?

The answer lies in the data: the visualization provides a good evidence for the difference in the playing-styles of both these players. The characteristics used in the graphic are return, double, fast-serve speed and aces. While Novak does not always start strong – mostly clocking speeds lower than Andy Murray and consequently lesser aces than him (since speed and aces are often correlational as also seen in the visualization) – he is significantly better at returning, so much that it helps offset Andy's aggressive approach to starting a set. It can also be noted that this aggressive approach is also detrimental to Murray as he incurs a large number of double faults compared to Djokovic, which can be attributed to the high serve-speeds which may impair the accuracy of the aim to some extent. On the other hand, Novak's speed allows him to be precise in the service and avoid losing points to double faults, while also returning the serves at a good rate (which may be suggestive of a good reach and flexibility) which ultimately helps him win the game.

The rationale behind the design is that the representations of Djokovic and Murray are consistent with the conclusion from the data, and the colors used are light in shade since the bar graph fills-up significant space and a sharp color is not required here. The background has been obtained from an image which had Nadal present opposite to Djokovic, who has been Photoshopped out of the frame to make way for the foreground. Green, which is intuitively indicative of something positive has been used to indicate which side performed better for a particular attribute, and light-orange has been used for the negative connotation. Yellow lies almost in the middle of the spectrum of these colors and would provide for an appropriate representation of an equally well performance from both the sides. To avoid confusion, the bar is also extended and bent on the right indicating Andy Murray's performance (good/bad/equal) for every attribute for each match. The compliment of these would give the same for Novak Djokovic.