

Visualization Project

NC State Women's tennis has used the CIZR software (CIZR.com) since 2018 to tag and create stat reports for individual matches during the season. The stats summary for each match produces 17 metrics that are tagged and linked back to the match film. In its current form, all matches are individual entities which coaches and players then review using the software.

Having accurate stats that we can present to the players helps drive development plans that are used to guide practice and schedule decisions. Highlighting deficits as well as sparking objective conversations about what is happening during competition. For the majority of tennis players, college is their first opportunity to see match film and stats of themselves.

Goals of the project:

Cizr CSV

1. Create a cumulative stats profile for each eligible NC State player based on the 17 metrics. Visualize key metric averages for both season and career. Eligible players will have appeared in a minimum of 7 completed matches or have logged over 700 points on film.
2. Create a team leaderboard for each stat to help visualize which players are stronger in each area based on averages in each metric.
3. Create a plus/minus ratio for each player. Using Bill Jacobsen Aggressive error margin formula $((\text{Aces} + \text{Winners} + \text{Forced Errors}) - (\text{double faults} + \text{unforced errors}))$
4. Develop a First serve performance rating metric. Using Craig O'Shannessy formula of first serve percentage multiplied by the decimal of first serve win percentage. For example 65% first serve percentage x .70 (70%) first serve win percentage equals 45.5.
5. Visualize the relationship between key metrics in wins vs losses. What are the averages for NC State players in sets won vs loss for the following stats:
 - Unforced errors
 - First Serve percentage
 - Forced errors
 - Double faults per second serve

Excel File

6. Using the NC State WTA points excel sheet, visualize NC State women's tennis performance relative to our recruiting competition for calendar year 2023-24.
7. Visualize top 10 WTA performance by team, singles, doubles and individual players and their respective teams.