

Comparison on Atlanta Falcon Winning Rate, Franchise Value, and Georgia GDP

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- State the region and the domain category that your data sets are about (e.g., Chaohu, China and sports or athletics).

Atlanta, Georgia, United States and sports or athletics

- Create a research question about the domain category and region that you identified.

Discover the potential correlation among the following values from 2002-2019: 1) Atlanta Falcon regular season winning rate 2) Atlanta Falcon franchise value 3) Georgia GDP (Total) 4) Georgia GDP (in the industry: Performing Arts, Spectator Sports, Museums, and Related Activities)

- Provide at least two links to publicly accessible datasets. These could be links to files such as CSV or Excel files, or links to websites which might have data in tabular form, such as Wikipedia pages.

1. [Atlanta Falcons Regular Season Winning Records](#)
2. [Atlanta Falcons Franchise Value Since 2006](#)
3. [Georgia State GDP](#)

- Use an image which addresses your research question.
addition to addressing your research question, this visual should address Cairo's principles of truthfulness, functionality, beauty, and insightfulness.

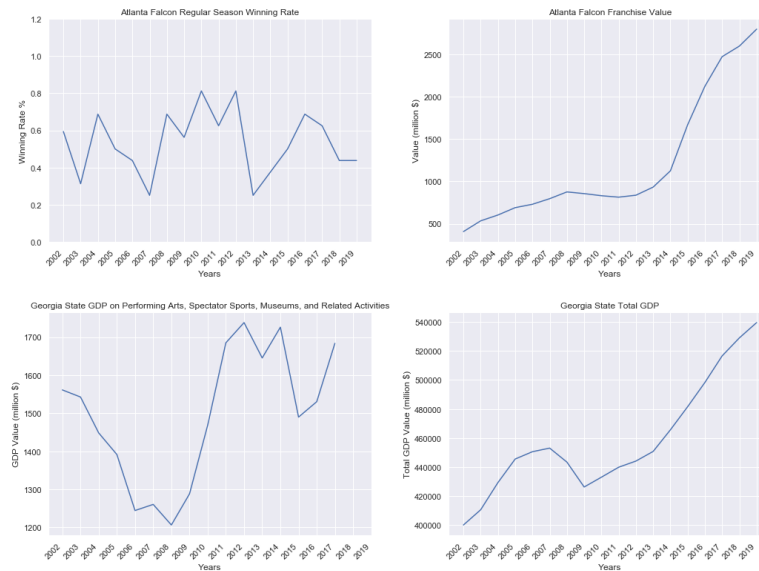
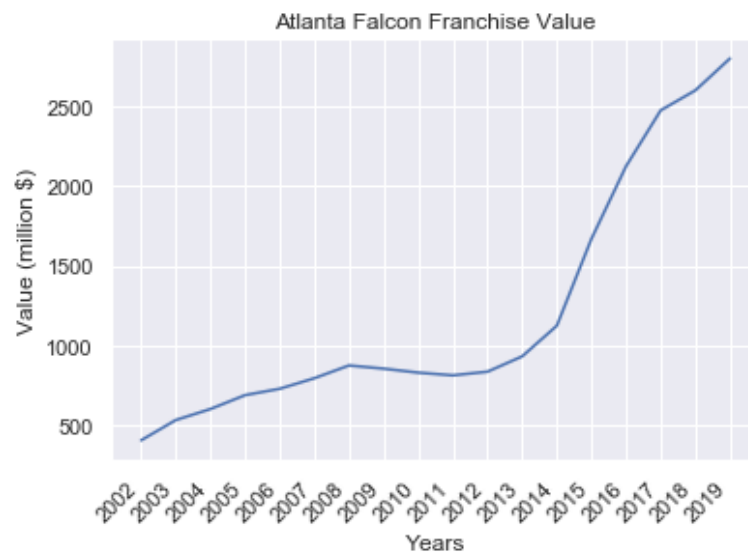
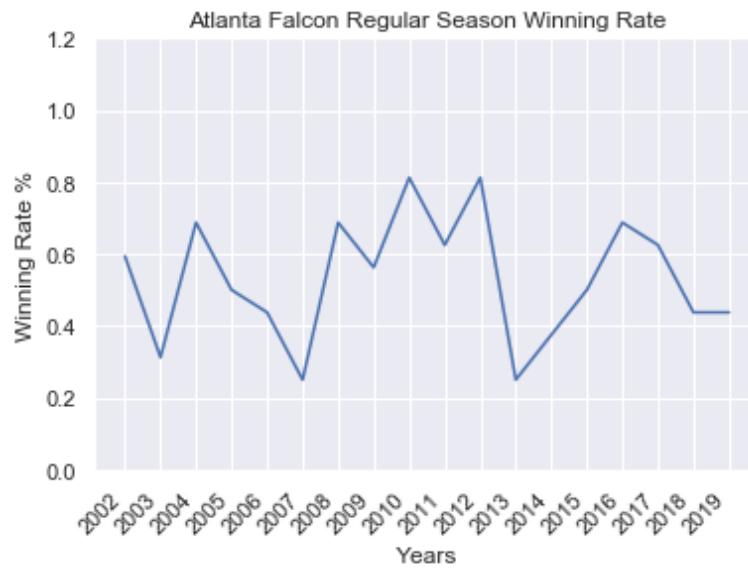
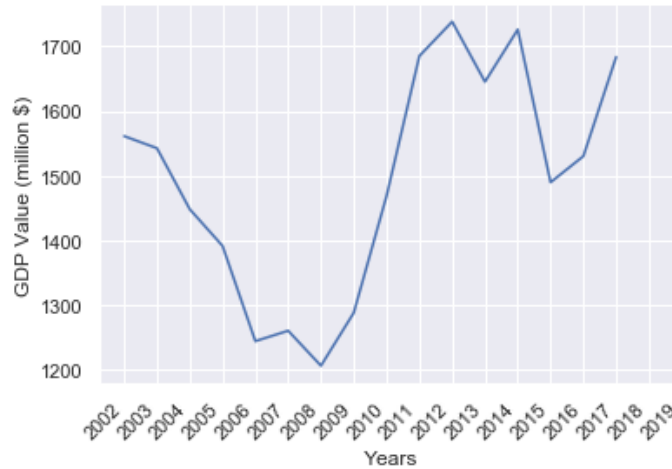


Figure 1: These are the plots of the historical data of the four subjects in concern. Winning rate is calculated by $(\text{wins} + 0.5\text{ties}) / (\text{wins} + \text{ties} + \text{losses})$.

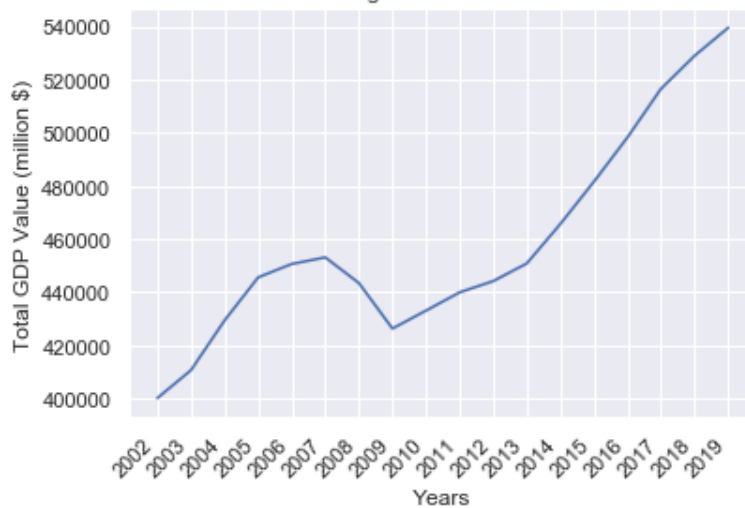
The subplots are as follows.



Georgia State GDP on Performing Arts, Spectator Sports, Museums, and Related Activities



Georgia State Total GDP



- Provide a short (1-2 paragraphs) justification of how your visual addresses your research question.

Supposedly, we can see from the plots that Winning rate is not correlated to any of the other three even though the franchise value of the club has been monotonically increasing. This indicate that in a competitive sports fields, the value of the club does not necessarily predict of its performance.

And we can observe a strong correlation between Atlanta Falcon's fran-

chise value and Georgia's overall GDP. Though we cannot infer causality from similarity of the trends, we should find this finding reasonable.

Looking at the two bottom image, we can observe the two curves reach their global and local minimums respectively at around year 2008, which is the year of the outbreak of the financial crisis. But when we examine the bottom-left plot, the decrease had already started quite before 2008, the reason behind which might worth further investigation.

- **As this assignment is for the whole course, you must incorporate and defend the principles discussed in the first week, specifically, Cairo's principles of truth, beauty, function, and insight.**

For each of the following prompts, please provide a response that links each principle to one or more elements of your visual.

- Describe your design choices for your visual in regards to Cairo's principle of truthfulness.
- Describe your design choices for your visual in regards to Cairo's principle of beauty.
- Describe your design choices for your visual in regards to Cairo's principle of functionality.
- Describe your design choices for your visual in regards to Cairo's principle of insightfulness.

1. Truthfulness. I respect the original data. For example, even though I cannot find the Georgia GDP on sports industry alone and only find the current category, I don't arbitrarily narrow the scope of the statistic.
2. Beauty. I chose Seaborn as my plotting API. Size of the subplots are adjusted to appropriate ratio. The gap between subplots was fit for comfortable visual presentation.
3. Functionality. The four subplots clearly demonstrate the information as the research question concerns. The top-right and bottom-right plots were intentionally put vertically aligned for intuitive comparison.
4. Insightfulness. I cannot assert but hope the plot could provide meaningful knowledge to readers on the comparison of the trends on the three subjects related to Atlanta Falcon football club and Georgia.