**College Football: The Decline of Defense**

**Is college football defense going the way of the dinosaur?**

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**Description:**

The NCAA is interested in how college football games are changing over time to determine if changes are needed to increase its popularity and excitement. The NCAA wants to start by determining the direction of defense in college football and its effect on excitement of the game. We have been contracted to analyze the last ten years of college football data to determine if the importance of defense is decreasing.

**Research Questions to Answer:**

* Has defense become less important to the game?
  + Have average points per game increased over time?
  + Have the number of turnovers per game decreased over time?
  + Have the total yards per game increased over time?
* Has the excitement of college football increased?
  + Has the excitement index shown an upward trend over time?

**Hypothesis:**

If a game demonstrates more defense, then the game is less exciting.

**Dataset to be Used:**

College Football Data API

**Task Breakdown:**

* Initial data research
* Calculate average points scored per game from 2011 to 2020
* Calculate average turnovers per game from 2011 to 2020
* Calculate average total yards per game from 2011 to 2020
* Graph all four sets of data by year
  + Create linear regression
  + State r-value and the strength of relationship
  + Hypothesis testing
* Discuss data limitations
* Create PowerPoint