Home-Field Advantage - How Big Do the Fans Play a Factor?
UVA Data Science Case Study

Prompt: The Green Bay packers are in a bit of trouble. The team is overall struggling this year, currently being 5-8 and 3rd in their division, when they were 13-4 and tied for the best record in the NFL last season. The owner the Packers has made you the lead data scientist to discover factors that might have associations with winning. You point out that at this point in the 2022 season, the team is only 3-3 in home games. In the 2021 season, the team was a perfect 8-0 when playing at Lambeau Field. The noticeable difference in home winning gets the owner thinking about what can be attributed to it, and how to go about it. The team is focusing on winning as many home games as possible, in order to keep as many fans coming as possible, and build a strong home-field advantage. Primarily, the owner wants to see if the fans and their tendencies have an effect on winning. After all, it must be easier to win at home if you have a group of passionate, rowdy, extreme fans, right? Previous researchers have mixed results on the effects of fan influence on home games, with [some saying it has very little effect](#), and [others claiming it has a large degree of influence](#). Regardless, you have been provided with two sets of data – one on 2021 NFL standings, with overall, home, and road game records, and one with tweets belonging to fans of NFL teams, with sentiment scores.

Deliverable: Your job for this project is to provide an analysis for the relationship between fanbase twitter sentiment and home-field advantage of NFL teams. As you are preparing your results of the owner of the Packers, you are to create a slideshow you would present to them on the findings/suggestions. The contents can include graphical and numerical summaries, or anything data-driven that adds to your argument. For further details, see rubric CS-NFL. Materials can be found at [here](#).