NFL Big Data Bowl 2021 Project Paper

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STAT 445: Statistical Machine Learning

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Motivation

The topic we chose to study is how the defender position in the NFL impacts the result of a play. The motivation for this project comes from the importance of defensive strategies in the outcome of NFL plays. The number of defenders in the box is a gametime decision that significantly impacts the result of a play. Specifically, the focus of this project is to see whether an increase in the number of defenders in the box causes a decrease in yards gained. The significance of this study is the insights the findings can provide to coaches on balancing their defensive playbook between rushing and coverage plays. For example, having more pass-rushers on the play could put pressure on the quarterback but leave downfield open for receivers. On the other hand, not having enough pass-rushers gives the quarterback more time to get the pass off, potentially leaving options open downfield, or leaving the middle vulnerable to a run play. Being able to understand the relationship between defender position and result of play would create a quantifiable measurement that could assist coaches and coordinators in game.

Our motivation for this project comes from a passion for analytics and football. We share an understanding of the game but being able to dive deeper and find measurable insights from game data creates a different tier of knowledge. Sports analytics is in the middle of an uprising and our project aims to be a part of it.

Methodology

Insert Methodology Here

Conclusions

Insert Conclusions Here

References

The National Football League. 2021. NFL Big Data Bowl 2021. Retrieved Oct 29, 2024, from https://www.kaggle.com/competitions/nfl-big-data-bowl-2021/data

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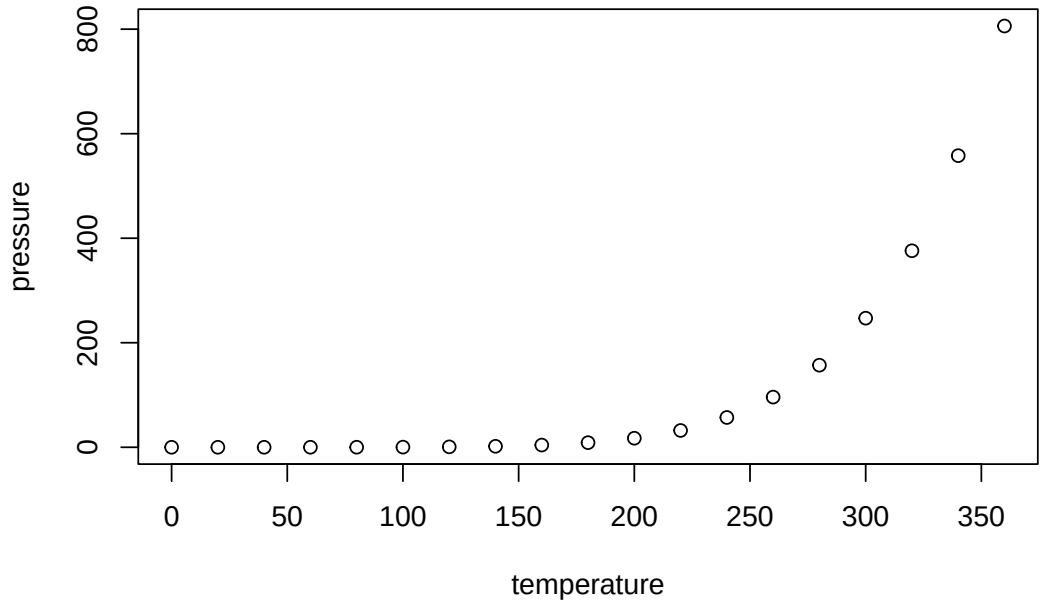
Including Plots

You can also embed plots, for example:



Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.