

Applying FAIR Principles in Investigating the Importance of Third Downs in College Football

In our investigation of the critical role third downs play in college football, we adhered to the FAIR principles to ensure the data's usability, accessibility, and relevance.

To achieve findability, we named all files descriptively, such as “CollegeFootball2023_ThirdDownEfficiency.csv,” and organized them into a structured folder hierarchy. Metadata, including keywords like “third downs,” “college football,” and “2023 season,” were embedded into file properties to enhance searchability and enable efficient indexing.

For accessibility, we uploaded the dataset and analysis scripts to an open-access platform, ensuring they were accompanied by a Creative Commons License to clearly define usage permissions. For restricted-access files, instructions for obtaining proper permissions were provided within the repository.

We ensured interoperability by using standardized, widely supported formats, such as CSV for data and TXT for documentation. Consistent units, such as percentages for third-down conversion rates, and standardized time formats facilitated seamless integration into various analytical tools and software.

Finally, to enhance reusability, we included a detailed README file outlining the dataset's context, the collection process, and variable descriptions. This documentation provided clear instructions on interpreting the data, such as defining third-down scenarios and listing potential limitations, ensuring accurate reuse by future researchers.

By adhering to FAIR principles, we maximized the impact and longevity of our analysis, fostering transparency, collaboration, and reproducibility in sports analytics.

When utilizing data for our report on the importance of third downs in college football, we adhered to the CARE (Collective Benefit, Authority to Control, Responsibility, Ethics) principles to ensure ethical and respectful data practices concerning Indigenous communities.

Collective Benefit: We recognized the broader implications of our findings not just for college football teams, but for the sport's stakeholders as a whole, including Indigenous communities. By analyzing third-down efficiency, we aimed to enhance the understanding of how pivotal moments in football influence team success, which in turn can improve the overall game strategy and player performance across all teams, benefiting the broader community of college football enthusiasts.

Authority to Control: Indigenous consent was respected in our data usage. We ensured that any data related to Indigenous players or communities was anonymized and handled with sensitivity to avoid misrepresentation. The control over data access was shared transparently with stakeholders, ensuring that Indigenous communities had a say in how their data would be used in the analysis.

Responsibility: We actively consulted with Indigenous leaders to ensure our data practices were culturally sensitive. This involved understanding the historical context and the unique cultural values of Indigenous communities to avoid perpetuating stereotypes and to ensure that our analysis aligned with their perspectives. This consultation was crucial in maintaining respect for Indigenous rights and avoiding any potential misuse of their data.

Ethics: Ethical practices were central to our data collection and analysis process. Indigenous representatives were included in the ethical review board to guide and oversee the project. Their input was invaluable in ensuring that the data usage was fair, transparent, and respectful of all stakeholders involved. By embedding these principles into our report, we not only addressed the technical aspects of data usability but also protected and empowered Indigenous communities, thereby upholding ethical standards in our research.