HackUSU 2025 – Data Science for USU Football: Quick Overview

# Competition Overview

## Objective

College football is entering a transformative era of the sport with new dynamics and strategies at play. USU Football is seeking to leverage the creativity and talent of the next generation of Data Scientists, Engineers, Software Developers, and generally curious minds to uncover hidden insights to improve their competitive edge.

To that end, we would like for you to propose innovative questions and insights related to Utah State University football recruiting and retention, using provided datasets plus any publicly available data. This may include things like understanding which recruiting pipelines perform best or what factors predict transfers in or out of the program. You are encouraged to be creative in your approach to these problems though and present unique yet meaningful questions and analyses that provide guidance around those questions.

An second area of interest is an exploration into the impact of strategy vs historical player performance on wins and losses. Given Pro Football Focus (PFF) College data, we would like to understand how effective player performance is at predicting game outcomes and what role does team strategy play. You are welcome to leverage any and all data from verifiable sources.

**Format & Deliverables**

* **Open-Ended Analysis:** Teams choose a track, refine a question, then conduct data-driven exploration.
* **Submission:** A concise written summary or presentation plus any supporting code/visualizations.
* **Judging Criteria:** Creativity, methodological rigor, clarity of findings, and real-world applicability for USU Football.

## Data

Below are some publicly available data sources that can serve as a starting point or supplement:

1. **CollegeFootballData.com**
   * Offers an API with FBS data including game results, team stats, drive charts, play-by-play, recruiting rankings, etc.
   * <https://collegefootballdata.com/>
2. **Sports-Reference (College Football)**
   * Contains historical NCAA stats and season-level team/player data.
   * https://www.sports-reference.com/cfb/
3. **247Sports Recruiting**
   * For recruiting rankings, player star ratings, player profiles, class rankings.
   * <https://247sports.com/>
4. **ESPN College Football Statistics**
   * Basic team and player stats (rushing yards, passing yards, etc.).
   * https://www.espn.com/college-football/
5. **NCAA.org**
   * Official statistics and data on academic progress, graduation rates, and some limited performance data.
   * <http://www.ncaa.org/>
6. **Kaggle Datasets**
   * Search “college football,” “NCAA,” “sports analytics” for user-uploaded data sets.
   * https://www.kaggle.com/datasets
7. **Pro-Football-Reference (NFL)**
   * While focused on NFL, can be helpful for exploring advanced analytics or comparing college-to-pro transitions.
   * <https://www.pro-football-reference.com/>

**Good luck, and thank you for contributing your insights to USU Football!**