Package ‘cfbfastR’

October 27, 2021

Title Functions to Access College Football Play by Play Data

Version 1.6.4

Description An R package for working with College Football Data. It is an R API wrapper around <https://collegefootballdata.com/> made available by the package development team. It provides users the capability to access a plethora of endpoints, and supplement that data with additional information (Expected Points Added/Win Probability added).

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BugReports https://github.com/saiemgilani/cfbfastR/issues

Depends R (>= 4.0.0)

Imports cli (>= 3.0.0), dplyr, furrr, future, glue, httr, janitor, jsonlite, magrittr, mgcv (>= 1.8-33), nnet, progressr (>= 0.6.0), purrr (>= 0.3.0), rlang, stringi, stringr (>= 1.3.0), tibble (>= 3.0), tidyr (>= 1.0.0), xgboost (>= 1.1)

Suggests crayon (>= 1.3.4), curl, DBI, ggplot2, ggrepel, qs (>= 0.25.1), rmarkdown, RSQLite, stats, testthat, usethis (>= 1.6.0)

Encoding UTF-8

LazyData true

RoxygenNote 7.1.2

NeedsCompilation no

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Date/Publication 2021-10-27 12:30:02 UTC

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**CFBD Betting Lines Endpoint Overview**

**Description**

Get betting lines information for games

```r
cfbd_betting_lines(year = 2018, week = 12, team = "Florida State")
```

# 7 OTs LSU at TAMU

```r
cfbd_betting_lines(year = 2018, week = 13, team = "Texas A&M", conference = "SEC")
```
Usage

cfbd_betting_lines(
    game_id = NULL,
    year = NULL,
    week = NULL,
    season_type = "regular",
    team = NULL,
    home_team = NULL,
    away_team = NULL,
    conference = NULL,
    line_provider = NULL
)

Arguments

game_id (Integer optional): Game ID filter for querying a single game Can be found using the cfbd_game_info() function
year (Integer required): Year, 4 digit format(YYYY)
week (Integer optional): Week - values from 1-15, 1-14 for seasons pre-playoff (i.e. 2013 or earlier)
season_type (String default regular): Select Season Type: regular or postseason
team (String optional): D-I Team
home_team (String optional): Home D-I Team
away_team (String optional): Away D-I Team
conference (String optional): Conference abbreviation - Select a valid FBS conference
line_provider (String optional): Select Line Provider - Caesars, consensus, numberfire, or teamrankings

Value

Betting information for games with the following columns:

game_id:integer. Unique game identifier - game_id.
season:integer. Season parameter.
season_type:character. Season Type (regular, postseason, both)
week:integer. Week, values from 1-15, 1-14 for seasons pre-playoff (i.e. 2013 or earlier).
home_team:character. Home D-I Team.
home_score:integer. Home Score.
away_team:character. Away D-I Team.
away_conference:character. Away D-I Conference.
away_score:integer. Away Score.

provider:character. Line provider.

spread:character. Spread for the game.

formatted_spread:character. Formatted spread for the game.

spread_open:character. Opening spread for the game.

over_under:character. Over/Under for the game.

over_under_open:character. Opening over/under for the game.

home_moneyline:character. Home team moneyline.

away_moneyline:character. Away team moneyline.

Examples

cfdb_betting_lines(year = 2018, week = 12, team = "Florida State")
# 7 OTs LSU at TAMU
cfdb_betting_lines(year = 2018, week = 13, team = "Texas A&M", conference = "SEC")

Description

Get calendar of weeks by season.

Usage

cfdb_calendar(year)

Arguments

year (Integer required): Year, 4 digit format (YYYY)

Value

cfdb_calendar() - A data frame with 5 variables:

season: character. Calendar season.

week: integer. Calendar game week.

season_type: character Season type of calendar week.

first_game_start: character. First game start time of the calendar week.

last_game_start: character. Last game start time of the calendar week.
Examples

```r
cfbd_calendar(2019)
```

---

**cfbd_coaches**  
**CFBD Coaches Endpoint Overview**

**Description**

**Coach information search** A coach search function which provides coaching records and school history for a given coach.

```r
cfbd_coaches(first = "Nick", last = "Saban", team = "alabama")
```

**Usage**

```r
cfbd_coaches(
  first = NULL,
  last = NULL,
  team = NULL,
  year = NULL,
  min_year = NULL,
  max_year = NULL
)
```

**Arguments**

- `first` *(String optional):* First name for the coach you are trying to look up
- `last` *(String optional):* Last name for the coach you are trying to look up
- `team` *(String optional):* Team - Select a valid team, D1 football
- `year` *(Integer optional):* Year, 4 digit format (YYYY).
- `min_year` *(Integer optional):* Minimum Year filter (inclusive), 4 digit format (YYYY).
- `max_year` *(Integer optional):* Maximum Year filter (inclusive), 4 digit format (YYYY).

**Value**

- `first_name`:character. First name of coach.
- `last_name`:character. Last name of coach.
- `hire_date`:character. Hire date of coach.
- `school`:character. School of coach.
- `year`:integer. Season of record.
- `games`:integer. Games as coach.
- `wins`:integer. Wins for the season.
**losses**: integer. Losses for the season.
**ties**: integer. Ties for the season.
**preseason_rank**: integer. Preseason rank for the school of coach.
**postseason_rank**: integer. Postseason rank for the school of coach.
**srs**: character. Simple Rating System adjustment for team.
**sp_overall**: character. Bill Connelly’s SP+ overall for team.
**sp_offense**: character. Bill Connelly’s SP+ offense for team.
**sp_defense**: character. Bill Connelly’s SP+ defense for team.

Examples

```r
cfbd_coaches(first = "Nick", last = "Saban", team = "alabama")
```

---

**cfbd_conferences**

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<tr>
<th>Description</th>
<th>CFBD Conferences Endpoint Overview</th>
</tr>
</thead>
</table>

**Get college football conference information** Pulls all college football conferences and returns as data frame You can call this function simply with:

```r
cfbd_conferences()
```

**Usage**

```r
cfbd_conferences()
```

**Value**

```r
cfbd_conferences() - A data frame with 94 rows and 5 variables:
```

- **conference_id**: Referencing conference id.
- **name**: Conference name.
- **long_name**: Long name for Conference.
- **abbreviation**: Conference abbreviation.
- **classification**: Conference classification (fbs,fcs,ii,iii) ...

**Examples**

```r
cfbd_conferences()
```
Get list of NFL teams:

cfbd_draft_teams()  

Get list of NFL positions for mapping to collegiate:

cfbd_draft_positions()  

Get list of NFL Draft picks:

cfbd_draft_picks(year = 2020, college = "Texas")

cfbd_draft_picks(nfl_team = "Cincinnati")

Get list of NFL draft picks

cfbd_draft_picks(year = NULL,  
nfl_team = NULL,  
college = NULL,  
conference = NULL,  
position = NULL  
)
cfbd_draft_picks

Arguments

year  
(Integer required): NFL draft class, 4 digit format (YYYY)

nfl_team  
(String): NFL drafting team, see cfbd_draft_teams() for valid selections.

college  
(String): NFL draftee college team, see cfbd_team_info() for valid selections.

conference  
(String): NFL draftee college team conference, see cfbd_conferences() for valid selections.

position  
(String): NFL position abbreviation, see cfbd_draft_positions() for valid selections.

Value

cfbd_draft_picks() - A data frame with 23 variables:

college_athlete_id: integer. College athlete referencing id.
nfl_athlete_id: integer NFL athlete referencing id.
college_id: integer College team referencing id.
college_team: character College team name.
college_conference: character Conference of college team.
nfl_team: character NFL team name of drafted player.
year: integer. NFL draft class year.
overall: integer. Overall draft pick number.
round: integer. Round of NFL draft the draftee was picked in.
pick: integer. Pick number of the NFL draftee within the round they were picked in.
name: character. NFL draftee name.
position: character. NFL draftee position.
height: double. NFL draftee height.
weight: integer. NFL draftee weight.
pre_draft_ranking: integer Pre-draft ranking (ESPN).
pre_draft_position_ranking: integer Pre-draft position ranking (ESPN).
pre_draft_grade: double. Pre-draft scouts grade (ESPN).
hometown_info_city: character. Hometown of the NFL draftee.
hometown_info_state_province: character. Hometown state of the NFL draftee.
hometown_info_country: character. Hometown country of the NFL draftee.
hometown_info_latitude: character. Hometown latitude of the NFL draftee.
hometown_info_longitude: character. Hometown longitude of the NFL draftee.
hometown_info_county_fips: character. Hometown FIPS code of the NFL draftee.
Examples

cfdb_draft_picks(year = 2020)

```r
### **ROBERTOOOOOOOOOOOOOOOOOO**
cfdb_draft_picks(year = 2016, position = "PK")
```

---

cfdb_draft_positions  Get list of NFL positions

Description

Get list of NFL positions

Usage

cfdb_draft_positions()

Value

cfdb_draft_positions() - A data frame with 2 variables:

- position_name: character. NFL Position group name.
- position_abbreviation: integer NFL position group abbreviation.

Examples

cfdb_draft_positions()

---

cfdb_draft_teams  Get list of NFL teams

Description

Get list of NFL teams

Usage

cfdb_draft_teams()
**Value**

`cfbd_draft_teams()` - A data frame with 4 variables:

- **nfl_location**: character. NFL team location (city).
- **nfl_nickname**: integer. NFL team nickname (mascot).
- **nfl_display_name**: integer. NFL team display name (usually more neat/complete).
- **nfl_logo**: character. URL for NFL team logo.

**Examples**

```r
cfbd_draft_teams()
```

---

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<td><strong>Get college football game drives</strong></td>
</tr>
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<td><code>cfbd_drives(2018, week = 1, team = &quot;TCU&quot;)</code></td>
<td></td>
</tr>
<tr>
<td><code>cfbd_drives(2018, team = &quot;Texas A&amp;M&quot;, defense_conference = &quot;SEC&quot;)</code></td>
<td></td>
</tr>
</tbody>
</table>

**Arguments**

- **year** *(Integer required): Year, 4 digit format (YYYY)*
- **season_type** *(String default regular): Select Season Type: regular, postseason, or both*
- **week** *(Integer optional): Week - values from 1-15, 1-14 for seasons pre-playoff, i.e. 2013 or earlier*
- **team** *(String optional): D-I Team*
- **offense_team** *(String optional): Offense D-I Team*
- **defense_team** *(String optional): Defense D-I Team*
- **conference** *(String optional): DI Conference abbreviation - Select a valid FBS conference Conference abbreviations P5: ACC, B12, B1G, SEC, PAC Conference abbreviations G5 and FBS Independents: CUSA, MAC, MWC, Ind, SBC, AAC*
- **offense_conference** *(String optional): Offense DI Conference abbreviation - Select a valid FBS conference Conference abbreviations P5: ACC, B12, B1G, SEC, PAC Conference abbreviations G5 and FBS Independents: CUSA, MAC, MWC, Ind, SBC, AAC*
defense_conference

(String optional): Defense DI Conference abbreviation - Select a valid FBS conference
Conference abbreviations P5: ACC, B12, B1G, SEC, PAC
Conference abbreviations G5 and FBS Independents: CUSA, MAC, MWC, Ind, SBC, AAC

Value

cfbd_drives() - A data frame with 23 variables as follows:

offense:character. Drive offense.
offense_conference:character. Drive offense's conference.
defense:character. Drive defense.
defense_conference:character. Drive defense's conference.
game_id:integer. Unique game identifier - game_id.
drive_id:character. Unique drive identifier - drive_id.
drive_number:integer. Drive number in game.
score:logical. Drive ends in a score.
start_period:integer. Period (or Quarter) in which the drive starts.
start_yardline:integer. Yard line at the drive start.
start_yards_to_goal:integer. Yards-to-Goal at the drive start.
end_period:integer. Period (or Quarter) in which the drive ends.
end_yardline:integer. Yard line at drive end.
end_yards_to_goal:integer. Yards-to-Goal at drive end.
plays:integer. Number of drive plays.
yards:integer. Total drive yards.
drive_result:character. Result of the drive description.
is_home_offense:logical. Flag for if the offense on the field is the home offense
start_offense_score:numeric. Offense score at the start of the drive.
start_defense_score:numeric. Defense score at the start of the drive.
end_offense_score:numeric. Offense score at the end of the drive.
end_defense_score:numeric. Defense score at the end of the drive.
time_minutes_start:integer. Minutes at drive start.
time_seconds_start:integer. Seconds at drive start.
time_minutes_end:integer. Minutes at drive end.
time_seconds_end:integer. Seconds at drive end.
time_minutes_elapsed:double. Minutes elapsed during drive.
time_seconds_elapsed:integer. Seconds elapsed during drive.
Examples

cfbd_drives(2018, week = 1, team = "TCU")

cfbd_drives(2018, team = "Texas A&M", defense_conference = "SEC")

cfbd_games CFBD Games Endpoint Overview

Description
Get results, statistics and information for games

cfbd_game_box_advanced(): Get game advanced box score information.
cfbd_game_player_stats(): Get results information from games.
cfbd_game_team_stats(): Get team statistics by game.
cfbd_game_info(): Get results information from games.
cfbd_game_weather(): Get weather from games.
cfbd_game_records(): Get team records by year.
cfbd_calendar(): Get calendar of weeks by season.
cfbd_game_media(): Get game media information (TV, radio, etc).

Details
Get game advanced box score information:

cfbd_game_box_advanced(game_id = 401114233)

Get player statistics by game:

cfbd_game_player_stats(2018, week = 15, conference = "Ind")

cfbd_game_player_stats(2013, week = 1, team = "Florida State", category = "passing")

Get team records by year:

cfbd_game_records(2018, team = "Notre Dame")

cfbd_game_records(2013, team = "Florida State")

Get team statistics by game:

cfbd_game_team_stats(2019, team = "LSU")

cfbd_game_team_stats(2013, team = "Florida State")
Get results information from games.:

cfbd_game_info(2018, week = 1)

cfbd_game_info(2018, week = 7, conference = "Ind")

# 7 OTs LSU @ TAMU
cfbd_game_info(2018, week = 13, team = "Texas A&M", quarter_scores = TRUE)

### **Get weather from games.**
```r
cfbd_game_weather(2018, week = 1)
cfbd_game_info(2018, week = 7, conference = "Ind")
```

Get calendar of weeks by season.:

cfbd_calendar(2019)

Get game media information (TV, radio, etc.).:

cfbd_game_media(2019, week = 4, conference = "ACC")

---

### cfbd_game_box_advanced

Get game advanced box score information.

---

**Description**

Get game advanced box score information.

**Usage**

cfbd_game_box_advanced(game_id, long = FALSE)

**Arguments**

- **game_id** *(Integer required)*: Game ID filter for querying a single game Can be found using the cfbd_game_info() function
- **long** *(Logical default FALSE)*: Return the data in a long format.

**Value**

cfbd_game_box_advanced() - A data frame with 2 rows and 69 variables:

- team: *character*. Team name.
- plays: *double*. Number of plays.
- ppa_overall_total: *double*. Predicted points added (PPA) overall total.
- ppa_overall_quarter1: *double*. Predicted points added (PPA) overall Q1.
ppa_overall_quarter2: double. Predicted points added (PPA) overall Q2.
ppa_overall_quarter3: double. Predicted points added (PPA) overall Q3.
ppa_overall_quarter4: double. Predicted points added (PPA) overall Q4.
ppa_passing_total: double. Passing predicted points added (PPA) total.
ppa_passing_quarter1: double. Passing predicted points added (PPA) Q1.
ppa_passing_quarter2: double. Passing predicted points added (PPA) Q2.
ppa_passing_quarter3: double. Passing predicted points added (PPA) Q3.
ppa_passing_quarter4: double. Passing predicted points added (PPA) Q4.
ppa_rushing_total: double. Rushing predicted points added (PPA) total.
ppa_rushing_quarter1: double. Rushing predicted points added (PPA) Q1.
ppa_rushing_quarter2: double. Rushing predicted points added (PPA) Q2.
ppa_rushing_quarter3: double. Rushing predicted points added (PPA) Q3.
ppa_rushing_quarter4: double. Rushing predicted points added (PPA) Q4.
cumulative_ppa_plays: double. Cumulative predicted points added (PPA) added total.
cumulative_ppa_overall_total: double. Cumulative predicted points added (PPA) total.
cumulative_ppa_overall_quarter1: double. Cumulative predicted points added (PPA) Q1.
cumulative_ppa_overall_quarter2: double. Cumulative predicted points added (PPA) Q2.
cumulative_ppa_overall_quarter3: double. Cumulative predicted points added (PPA) Q3.
cumulative_ppa_overall_quarter4: double. Cumulative predicted points added (PPA) Q4.
cumulative_ppa_passing_total: double. Cumulative passing predicted points added (PPA) total.
cumulative_ppa_passing_quarter1: double. Cumulative passing predicted points added (PPA) Q1.
cumulative_ppa_passing_quarter2: double. Cumulative passing predicted points added (PPA) Q2.
cumulative_ppa_passing_quarter3: double. Cumulative passing predicted points added (PPA) Q3.
cumulative_ppa_passing_quarter4: double. Cumulative passing predicted points added (PPA) Q4.
cumulative_ppa_rushing_total: double. Cumulative rushing predicted points added (PPA) total.
cumulative_ppa_rushing_quarter1: double. Cumulative rushing predicted points added (PPA) Q1.
cumulative_ppa_rushing_quarter2: double. Cumulative rushing predicted points added (PPA) Q2.
cumulative_ppa_rushing_quarter3: double. Cumulative rushing predicted points added (PPA) Q3.
cumulative_ppa_rushing_quarter4: double. Cumulative rushing predicted points added (PPA) Q4.
success_rates_overall_total: double. Success rates overall total.
success_rates_overall_quarter1: double. Success rates overall Q1.
success_rates_overall_quarter3: double. Success rates overall Q3.
success_rates_standard_downs_total: double. Success rates standard downs total.
success_rates_passing_downs_total: double. Success rates passing downs total.
success_rates_passing_downs_quarter1: double. Success rates passing downs Q1.
success_rates_passing_downs_quarter2: double. Success rates passing downs Q2.
success_rates_passing_downs_quarter3: double. Success rates passing downs Q3.
explosiveness_overall_total: double. Explosiveness rates overall total.
explosiveness_overall_quarter1: double. Explosiveness rates overall Q1.
explosiveness_overall_quarter2: double. Explosiveness rates overall Q2.
explosiveness_overall_quarter3: double. Explosiveness rates overall Q3.
rushing_power_success: double. Rushing power success rate.
rushing_stuff_rate: double. Rushing stuff rate.
rushing_line_yds: double. Rushing offensive line yards.
rushing_line_yds_avg: double. Rushing line yards average.
rushing_second_lvl_yds: double. Rushing second-level yards.
rushing_second_lvl_yds_avg: double. Average second level yards per rush.
rushing_open_field_yds: double. Rushing open field yards.
rushing_open_field_yds_avg: double. Average rushing open field yards average.
havoc_total: double. Total havoc rate.
havoc_front_seven: double. Front-7 players havoc rate.
havoc_db: double. Defensive back players havoc rate.
scoring_opps_opportunities: double. Number of scoring opportunities.
scoring_opps_points: double. Points on scoring opportunity drives.
scoring_opps_pts_per_opp: double. Points per scoring opportunity drives.
field_pos_avg_start: double. Average starting field position.
field_pos_avg_starting_predicted_pts: double. Average starting predicted points (PP) for the average starting field position.

Examples

cfdb_game_box_advanced(game_id = 401114233)
Description

Get results information from games.

Usage

```r
cfbd_game_info(
  year,
  week = NULL,
  season_type = "regular",
  team = NULL,
  home_team = NULL,
  away_team = NULL,
  conference = NULL,
  game_id = NULL,
  quarter_scores = FALSE
)
```

Arguments

- **year** (`Integer` required): Year, 4 digit format(YYYY)
- **week** (`Integer` optional): Week - values from 1-15, 1-14 for seasons pre-playoff (i.e. 2013 or earlier)
- **season_type** (`String` default regular): Select Season Type: regular, postseason, or both
- **team** (`String` optional): D-I Team
- **home_team** (`String` optional): Home D-I Team
- **away_team** (`String` optional): Away D-I Team
- **conference** (`String` optional): Conference abbreviation - Select a valid FBS conference
  - Conference abbreviations P5: ACC, B12, B1G, SEC, PAC
  - Conference abbreviations G5 and FBS Independents: CUSA, MAC, MWC, Ind, SBC, AAC
- **game_id** (`Integer` optional): Game ID filter for querying a single game
- **quarter_scores** (`Logical` default FALSE): This is a parameter to return the list columns that give the score at each quarter: home_line_scores and away_line_scores.
  - I have defaulted the parameter to false so that you will not have to go to the trouble of dropping it.
Value

cfbd_game_info() - A data frame with 22 variables:

game_id: integer. Referencing game id.
season: integer. Season of the game.
week: integer. Game week.
season_type: character. Season type of the game.
start_date: character. Game date.
start_time_tbd: logical. TRUE/FALSE flag for if the game’s start time is to be determined.
neutral_site: logical. TRUE/FALSE flag for the game taking place at a neutral site.
conference_game: logical. TRUE/FALSE flag for this game qualifying as a conference game.
attendance: integer. Reported attendance at the game.
venue_id: integer. Referencing venue id.
venue: character. Venue name.
home_id: integer. Home team referencing id.
home_team: character. Home team name.
home_points: integer. Home team points.
home_post_win_prob: character. Home team post-game win probability.
home_pregame_elo: character. Home team pre-game ELO rating.
home_postgame_elo: character. Home team post-game ELO rating.
away_id: integer. Away team referencing id.
away_team: character. Away team name.
away_conference: character. Away team conference.
away_points: integer. Away team points.
away_post_win_prob: character. Away team post-game win probability.
away_pregame_elo: character. Away team pre-game ELO rating.
away_postgame_elo: character. Away team post-game ELO rating.
excitement_index: character. Game excitement index.
highlights: character. Game highlight urls.
notes: character. Game notes.

Examples

cfbd_game_info(2018, week = 1)
cfbd_game_info(2018, week = 7, conference = "Ind")
# 7 OTs LSU @ TAMU
cfbd_game_info(2018, week = 13, team = "Texas A&M", quarter_scores = TRUE)
cfbd_game_media

Get game media information (TV, radio, etc).

Description

Get game media information (TV, radio, etc).

Usage

```r
cfbd_game_media(
  year,
  week = NULL,
  season_type = "both",
  team = NULL,
  conference = NULL,
  media_type = NULL
)
```

Arguments

- **year** *(Integer required)*: Year, 4 digit format *(YYYY)*
- **week** *(Integer optional)*: Week, values from 1-15, 1-14 for seasons pre-playoff (i.e. 2013 or earlier)
- **season_type** *(String default both)*: Select Season Type, regular, postseason, or both
- **team** *(String optional)*: D-I Team
- **conference** *(String optional)*: Conference abbreviation - Select a valid FBS conference
  - Conference abbreviations P5: ACC, B12, B1G, SEC, PAC
  - Conference abbreviations G5 and FBS Independents: CUSA, MAC, MWC, Ind, SBC, AAC
- **media_type** *(String optional)*: Media type filter: tv, radio, web, ppv, or mobile

Value

- `cfbd_game_media()` - A data frame with 13 variables:
  - **game_id**: integer. Referencing game id.
  - **season**: integer. Season of the game.
  - **week**: integer. Game week.
  - **season_type**: character. Season type of the game.
  - **start_time**: character. Game start time.
  - **is_start_time_tbd**: logical. TRUE/FALSE flag for if the start time is still to be determined.
  - **home_team**: character. Home team of the game.
  - **home_conference**: character. Conference of the home team.
away_team: character. Away team of the game.
away_conference: character. Conference of the away team.
tv: list. TV broadcast networks.
web: list. Web viewing platforms carrying the game.

Examples

cfbd_game_media(2019, week = 4, conference = "ACC")

Argument Description

Get player statistics by game

Usage

cfbd_game_player_stats(
  year,
  week = NULL,
  season_type = "regular",
  team = NULL,
  conference = NULL,
  category = NULL,
  game_id = NULL
)

Arguments

year (Integer required): Year, 4 digit format(YYYY)
week (Integer optional): Week - values from 1-15, 1-14 for seasons pre-playoff (i.e. 2013 or earlier)
season_type (String default regular): Select Season Type: regular or postseason
team (String optional): D-I Team
conference (String optional): Conference abbreviation - Select a valid FBS conference

Conference abbreviations P5: ACC, B12, B1G, SEC, PAC
Conference abbreviations G5 and FBS Independents: CUSA, MAC, MWC, Ind, SBC, AAC
category (String optional): Category filter (e.g defensive)
Offense: passing, receiving, rushing
Defense: defensive, fumbles, interceptions
Special Teams: punting, puntReturns, kicking, kickReturns

game_id (Integer optional): Game ID filter for querying a single game Can be found using the cfbd_game_info() function

Value
cfbd_game_player_stats() - A data frame with 32 variables:
game_id: integer. Referencing game id.
team: character. Team name.
conference: character. Conference of the team.
home_away: character. Flag for if the team was the home or away team.
points: integer. Team points.
category: character. Statistic category.
athlete_id: character. Athlete referencing id.
name: character. Player name.
c_att: character. Completions - Pass attempts.
yds: double. Statistic yardage.
avg: double. Average per statistic.
td: double. Touchdowns scored.
int: double. Interceptions thrown.
qbr: double. Quarterback rating.
car: double. Number of rushing carries.
long: double. Longest carry/reception of the game.
rec: double. Number of pass receptions.
no: double. Player number.
fg: character. Field goal attempts in the game.
pct: double. Field goal percentage in the game.
xp: character. Extra points kicked in the game.
pts: double. Total kicking points in the game.
tb: double. Touchbacks (for kicking) in the game.
in_20: double. Punts inside the 20 yardline in the game.
fum: double. Player fumbles in the game.
lost: double. Player fumbles lost in the game.
tot: double. Total tackles in the game.
solo: double. Solo tackles in the game.
sacks: double. Total sacks in the game.
tfl: double. Total tackles for loss in the game.
pd: double. Total passes defensed in the game.
qb_hur: double. Total quarterback hurries in the game.
Examples

cfbd_game_player_stats(year = 2020, week = 15, team = "Alabama")
cfbd_game_player_stats(2013, week = 1, team = "Florida State", category = "passing")

cfbd_game_records Get team records by year

Description
Get team records by year

Usage

cfbd_game_records(year, team = NULL, conference = NULL)

Arguments

year  (Integer optional): Year, 4 digit format (YYYY)
team  (String optional): Team - Select a valid team, D1 football
conference  (String optional): DI Conference abbreviation - Select a valid FBS conference
Conference abbreviations P5: ACC, B12, B1G, SEC, PAC
Conference abbreviations G5 and FBS Independents: CUSA, MAC, MWC, Ind, SBC, AAC

Value

cfbd_game_records() - A data frame with 21 variables:

year: integer. Season of the games.
team: character. Team name.
conference: character. Conference of the team.
division: character. Division in the conference of the team.
expected_wins: numeric. Expected number of wins based on post-game win probability.
total_games: integer. Total number of games played.
total_wins: integer. Total wins.
total_losses: integer. Total losses.
total_ties: integer. Total ties.
conference_wins: integer. Total conference wins.
conference_losses: integer. Total conference losses.
conference_ties: integer. Total conference ties.
home_games: integer. Total home games.
home_wins: integer. Total home wins.
home_losses: integer. Total home losses.
home_ties: integer. Total home ties.
away_games: integer. Total away games.
away_wins: integer. Total away wins.
away_losses: integer. Total away losses.
away_ties: integer. Total away ties.

Examples

```r
cfbd_game_records(2018, team = "Notre Dame")

cfbd_game_records(2013, team = "Florida State")
```

cfbd_game_team_stats  Get team statistics by game

Description

Get team statistics by game

Usage

```r
cfbd_game_team_stats(
  year,
  week = NULL,
  season_type = "regular",
  team = NULL,
  conference = NULL,
  game_id = NULL,
  rows_per_team = 1
)
```

Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>year</td>
<td>(Integer required): Year, 4 digit format (YYYY)</td>
</tr>
<tr>
<td>week</td>
<td>(Integer optional): Week - values range from 1-15, 1-14 for seasons pre-playoff, i.e. 2013 or earlier</td>
</tr>
<tr>
<td>season_type</td>
<td>(String default: regular): Select Season Type - regular, postseason, or both</td>
</tr>
<tr>
<td>team</td>
<td>(String optional): D-I Team</td>
</tr>
</tbody>
</table>
conference  (String optional): Conference abbreviation - Select a valid FBS conference
Conference abbreviations P5: ACC, B12, B1G, SEC, PAC
Conference abbreviations G5 and FBS Independents: CUSA, MAC, MWC, Ind, SBC, AAC

game_id  (Integer optional): Game ID filter for querying a single game
Can be found using the cfbd_game_info() function

rows_per_team  (Integer default 1): Both Teams for each game on one or two row(s), Options: 1 or 2

Value

cfbd_game_team_stats() - A data frame with 78 variables:

game_id: integer. Referencing game id.
school: character. Team name.
conference: character. Conference of the team.
home_away: character. Home/Away Flag.
points: integer. Team points.
total_yards: character. Team total yards.
net_passing_yards: character. Team net passing yards.
completion_attempts: character. Team completion attempts.
passing_tds: character. Team passing touchdowns.
yards_per_pass: character. Team game yards per pass.
passes_intercepted: character. Team passes intercepted.
interception_yards: character. Interception yards.
interception_tds: character. Interceptions returned for a touchdown.
rushing_attempts: character. Team rushing attempts. see also: ESTABLISH IT.
rushing_yards: character. Team rushing yards.
rush_tds: character. Team rushing touchdowns.
yards_per_rush_attempt: character. Team yards per rush attempt.
first_downs: character. First downs earned by the team.
third_down_eff: character. Third down efficiency.
fourth_down_eff: character. Fourth down efficiency.
punt_returns: character. Team punt returns.
punt_return_yards: character. Team punt return yards.
punt_return_tds: character. Team punt return touchdowns.
kick_return_yards: character. Team kick return yards.
kick_return_tds: character. Team kick return touchdowns.
kick_returns: character. Team kick returns.
kicking_points: character. Team points from kicking the ball.
fumbles_recovered: character. Team fumbles recovered.
fumbles_lost: character. Team fumbles lost.
total_fumbles: character. Team total fumbles.
tackles: character. Team tackles.
tackles_for_loss: character. Team tackles for a loss.
sacks: character. Team sacks.
qb_hurries: character. Team QB hurries.
interceptions: character. Team interceptions.
passes_deflected: character. Team passes deflected.
turnovers: character. Team turnovers.
defensive_tds: character. Team defensive touchdowns.
total_penalties_yards: character. Team total penalty yards.
possession_time: character. Team time of possession.
conference_allowed: character. Conference of the opponent team.
home_away_allowed: character. Flag for if the opponent was the home or away team.
points_allowed: integer. Points for the opponent.
total_yards_allowed: character. Opponent total yards.
net_passing_yards_allowed: character. Opponent net passing yards.
completion_attempts_allowed: character. Opponent completion attempts.
passing_tds_allowed: character. Opponent passing TDs.
yards_per_pass_allowed: character. Opponent yards per pass allowed.
passes_intercepted_allowed: character. Opponent passes intercepted.
interception_yards_allowed: character. Opponent interception yards.
interception_tds_allowed: character. Opponent interception TDs.
rushing_attempts_allowed: character. Opponent rushing attempts.
rushing_yards_allowed: character. Opponent rushing yards.
rush_tds_allowed: character. Opponent rushing touchdowns.
yards_per_rush_attempt_allowed: character. Opponent rushing yards per attempt.
first_downs_allowed: character. Opponent first downs.
third_down_eff_allowed: character. Opponent third down efficiency.
fourth_down_eff_allowed: character. Opponent fourth down efficiency.
punt_returns_allowed: character. Opponent punt returns.
punt_return_yards_allowed: character. Opponent punt return yards.
punt_return_tds_allowed: character. Opponent punt return touchdowns.
kick_return_yards_allowed: character. Opponent kick return yards.
kick_return_tds_allowed: character. Opponent kick return touchdowns.
kick_returns_allowed: character. Opponent kick returns.
kicking_points_allowed: character. Opponent points from kicking.
fumbles_recovered_allowed: character. Opponent fumbles recovered.
fumbles_lost_allowed: character. Opponent fumbles lost.
total_fumbles_allowed: character. Opponent total number of fumbles.
tackles_allowed: character. Opponent tackles.
tackles_for_loss_allowed: character. Opponent tackles for loss.
sacks_allowed: character. Opponent sacks.
qb_hurries_allowed: character. Opponent quarterback hurries.
interceptions_allowed: character. Opponent interceptions.
passes_deflected_allowed: character. Opponent passes deflected.
turnovers_allowed: character. Opponent turnovers.
defensive_tds_allowed: character. Opponent defensive touchdowns.
total_penalties_yards_allowed: character. Opponent total penalty yards.
possession_time_allowed: character. Opponent time of possession.

Examples

cfbd_game_team_stats(2019, team = "LSU")
cfbd_game_team_stats(2013, team = "Florida State")

---

cfbd_game_weather        Get weather from games.

Description

Get weather from games.

Usage

cfbd_game_weather(
  year,
  week = NULL,
  season_type = "regular",
  team = NULL,
  conference = NULL
)
Arguments

- **year** *(Integer required): Year, 4 digit format (YYYY) *
- **week** *(Integer optional): Week - values from 1-15, 1-14 for seasons pre-playoff (i.e. 2013 or earlier) *
- **season_type** *(String default regular): Select Season Type: regular, postseason, or both *
- **team** *(String optional): D-I Team *
- **conference** *(String optional): Conference abbreviation - Select a valid FBS conference Conference abbreviations P5: ACC, B12, B1G, SEC, PAC Conference abbreviations G5 and FBS Independents: CUSA, MAC, MWC, Ind, SBC, AAC *

Value

**cfbd_game_weather()** - A data frame with 23 variables:

- **game_id**: integer. Referencing game id.
- **season**: integer. Season of the game.
- **week**: integer. Game week.
- **season_type**: character. Season type of the game.
- **start_date**: character. Game date.
- **start_time_tbd**: logical. TRUE/FALSE flag for if the game’s start time is to be determined.
- **game_indoors**: logical. TRUE/FALSE flag for if the game is indoors
- **home_team**: character. Home team name.
- **home_conference**: character. Home team conference.
- **away_team**: character. Away team name.
- **away_conference**: character. Away team conference.
- **venue_id**: integer. Referencing venue id.
- **venue**: character. Venue name.
- **temperature**: integer. Temperature.
- **dew_point**: integer. Dew Point.
- **humidity**: integer. Humidity.
- **precipitation**: integer. Precipitation.
- **snowfall**: integer. Snowfall.
- **wind_direction**: integer. Wind direction.
- **wind_speed**: integer. Wind Speed.
- **pressure**: integer. Pressure.
- **weather_condition_code**: integer. Weather condition code.
- **weather_condition**: character. Weather condition.
cfbd_metrics

CFBD Metrics Endpoint Overview

Description

cfbd_metrics_ppa_games(): Get team game averages for predicted points added (PPA).
cfbd_metrics_ppa_players_games(): Get player game averages for predicted points added (PPA).
cfbd_metrics_ppa_players_season(): Get player season averages for predicted points added (PPA).
cfbd_metrics_ppa_predicted(): Calculate predicted points using Down and Distance.
cfbd_metrics_ppa_teams(): Get team averages for predicted points added (PPA).
cfbd_metrics_wp_pregame(): Get pre-game win probability data from CFBD API.
cfbd_metrics_wp(): Get win probability chart data from CFBD API.

Get team game averages for predicted points added (PPA):

cfbd_metrics_ppa_games(year = 2019, team = "TCU")

Get player game averages for predicted points added (PPA):

cfbd_metrics_ppa_players_games(year = 2019, week = 3, team = "TCU")

Get player season averages for predicted points added (PPA):

cfbd_metrics_ppa_players_season(year = 2019, team = "TCU")

Get team averages for predicted points added (PPA):

cfbd_metrics_ppa_teams(year = 2019, team = "TCU")

Get pre-game and post-game win probability data from CFBD API:

cfbd_metrics_wp_pregame(year = 2019, week = 9, team = "Texas A&M")
cfbd_metrics_wp(game_id = 401012356)

Calculate predicted points using down and distance:

cfbd_metrics_ppa_predicted(down = 1, distance = 10)
cfbd_metrics_ppa_games

Get team game averages for predicted points added (PPA)

Description

Get team game averages for predicted points added (PPA)

Usage

```r
cfbd_metrics_ppa_games(
  year,
  week = NULL,
  team = NULL,
  conference = NULL,
  excl_garbage_time = FALSE
)
```

Arguments

- **year** *(Integer required): Year, 4 digit format (YYYY)*
- **week** *(Integer optional): Week - values range from 1-15, 1-14 for seasons pre-playoff, i.e. 2013 or earlier*
- **team** *(String optional): D-I Team*
- **conference** *(String optional): Conference abbreviation - Select a valid FBS conference
  Conference abbreviations P5: ACC, B12, B1G, SEC, PAC
  Conference abbreviations G5 and FBS Independents: CUSA, MAC, MWC, Ind, SBC, AAC*
- **excl_garbage_time** *(Logical default FALSE): Select whether to exclude Garbage Time (TRUE or FALSE)*

Value

- **cfbd_metrics_ppa_games()** - A data frame with 18 variables:
  - **game_id**: integer. Referencing game id.
  - **season**: integer. Season of the game.
  - **week**: integer. Game week of the season.
  - **conference**: character. Conference of the team.
  - **team**: character. Team name.
  - **opponent**: character. Team Opponent.
  - **off_overall**: character. Offense overall predicted points added (PPA).
off_passing: character. Offense passing predicted points added (PPA).
off_rushing: character. Offense rushing predicted points added (PPA).
off_first_down: character. Offense 1st down predicted points added (PPA).
off_second_down: character. Offense 2nd down predicted points added (PPA).
off_third_down: character. Offense 3rd down predicted points added (PPA).
def_overall: character. Defense overall predicted points added (PPA).
def_passing: character. Defense passing predicted points added (PPA).
def_rushing: character. Defense rushing predicted points added (PPA).
def_first_down: character. Defense 1st down predicted points added (PPA).
def_second_down: character. Defense 2nd down predicted points added (PPA).
def_third_down: character. Defense 3rd down predicted points added (PPA).

Examples

cfbd_metrics_ppa_players_games(year = 2019, team = "TCU")

---

Get player game averages for predicted points added (PPA)

Description

Get player game averages for predicted points added (PPA)

Usage

```r
cfbd_metrics_ppa_players_games(
    year = NULL,
    week = NULL,
    team = NULL,
    position = NULL,
    athlete_id = NULL,
    threshold = NULL,
    excl_garbage_time = FALSE
)```

Arguments

- **year** *(Integer required)*: Year, 4 digit format (YYYY)
- **week** *(Integer optional)*: Week - values range from 1-15, 1-14 for seasons pre-playoff, i.e. 2013 or earlier
- **team** *(String optional)*: D-I Team. Required if year not provided.
- **position** *(string optional)*: Position abbreviation of the player you are searching for. Position Group - options include:
  - Offense: QB, RB, FB, TE, OL, G, OT, C, WR
  - Defense: DB, CB, S, LB, DE, DT, NT, DL
  - Special Teams: K, P, LS, PK
- **athlete_id** *(Integer optional)*: Athlete ID filter for querying a single athlete
  Can be found using the `cfbd_player_info()` function.
- **threshold** *(Integer optional)*: Minimum threshold of plays.
- **excl_garbage_time** *(Logical default FALSE)*: Select whether to exclude Garbage Time (TRUE or FALSE)

Value

`cfbd_metrics_ppa_players_games()` - A data frame with 9 variables:

- **season**: integer. Season of the game.
- **week**: integer. Game week of the season.
- **name**: character. Athlete name.
- **position**: character. Athlete position.
- **team**: character. Team name.
- **opponent**: character. Team Opponent name.
- **avg_PPA_all**: double. Average overall predicted points added (PPA).
- **avg_PPA_pass**: double. Average passing predicted points added (PPA).
- **avg_PPA_rush**: double. Average rushing predicted points added (PPA).

Examples

```r
cfbd_metrics_ppa_players_games(year = 2019, week = 3, team = "TCU")
```
cfbd_metrics_ppa_players_season

Get player season averages for predicted points added (PPA)

Description

Get player season averages for predicted points added (PPA)

Usage

```r
cfbd_metrics_ppa_players_season(  
  year = NULL,
  team = NULL,
  conference = NULL,
  position = NULL,
  athlete_id = NULL,
  threshold = NULL,
  excl_garbage_time = FALSE
)
```

Arguments

- **year** *(Integer required): Year, 4 digit format (YYYY)*
- **team** *(String optional): D-I Team*
- **conference** *(String optional): Conference abbreviation - S&P+ information by conference
  Conference abbreviations P5: ACC, B12, B1G, SEC, PAC
  Conference abbreviations G5 and FBS Independents: CUSA, MAC, MWC, Ind, SBC, AAC*
- **position** *(String optional): Position abbreviation of the player you are searching for.
  Position Group - options include:
  - Offense: QB, RB, FB, TE, OL, G, OT, C, WR
  - Defense: DB, CB, S, LB, DE, DT, NT, DL
  - Special Teams: K, P, LS, PK*
- **athlete_id** *(Integer optional): Athlete ID filter for querying a single athlete
  Can be found using the `cfbd_player_info()` function.*
- **threshold** *(Integer optional): Minimum threshold of plays.*
- **excl_garbage_time** *(Logical default FALSE): Select whether to exclude Garbage Time (TRUE or FALSE)*
Value

cfbd_metrics_ppa_players_season() - A data frame with 23 variables:

- season: integer. Season.
- athlete_id: character. Athlete referencing id.
- name: character. Athlete name.
- position: character. Athlete Position.
- team: character. Team name.
- countable_plays: integer. Number of plays which can be counted.
- avg_PPA_all: double. Average overall predicted points added (PPA).
- avg_PPA_pass: double. Average passing predicted points added (PPA).
- avg_PPA_rush: double. Average rushing predicted points added (PPA).
- avg_PPA_first_down: double. Average 1st down predicted points added (PPA).
- avg_PPA_second_down: double. Average 2nd down predicted points added (PPA).
- avg_PPA_third_down: double. Average 3rd down predicted points added (PPA).
- avg_PPA_standard_downs: double. Average standard down predicted points added (PPA).
- avg_PPA_passing_downs: double. Average passing down predicted points added (PPA).
- total_PPA_all: double. Total overall predicted points added (PPA).
- total_PPA_pass: double. Total passing predicted points added (PPA).
- total_PPA_rush: double. Total rushing predicted points added (PPA).
- total_PPA_first_down: double. Total 1st down predicted points added (PPA).
- total_PPA_second_down: double. Total 2nd down predicted points added (PPA).
- total_PPA_third_down: double. Total 3rd down predicted points added (PPA).
- total_PPA_standard_downs: double. Total standard down predicted points added (PPA).
- total_PPA_passing_downs: double. Total passing down predicted points added (PPA).

Examples

cfbd_metrics_ppa_players_season(year = 2019, team = "TCU")
cfbd_metrics_ppa_predicted

**Calculate predicted points using down and distance**

**Description**

Calculate predicted points using down and distance

**Usage**

`cfbd_metrics_ppa_predicted(down, distance)`

**Arguments**

- **down** *(Integer required): Down filter*
- **distance** *(Integer required): Distance filter*

**Value**

- `cfbd_metrics_ppa_predicted()`: A data frame with 2 variables:
  - **yard_line**: integer. Yards to goal
  - **predicted_points**: character. Predicted points at in that down-distance-yardline scenario

**Examples**

- `cfbd_metrics_ppa_predicted(down = 1, distance = 10)`
- `cfbd_metrics_ppa_predicted(down = 3, distance = 10)`

---

cfbd_metrics_ppa_teams

**Get team averages for predicted points added (PPA)**

**Description**

Get team averages for predicted points added (PPA)
Usage

cfbd_metrics_ppa_teams(
    year = NULL,
    team = NULL,
    conference = NULL,
    excl_garbage_time = FALSE
)

Arguments

year (Integer optional): Year, 4 digit format (YYYY)
team (String optional): D-I Team
conference (String optional): Conference name - select a valid FBS conference
Conference names P5: ACC, Big 12, Big Ten, SEC, Pac-12
Conference names G5 and FBS Independents: Conference USA, Mid-American,
Mountain West, FBS Independents, American Athletic

excl_garbage_time (Logical default FALSE): Select whether to exclude Garbage Time (TRUE or FALSE)

Value

cfbd_metrics_ppa_teams() - A data frame with 21 variables:

    season: integer.
    conference: character.
    team: character.
    off_overall: character. Offense overall predicted points added (PPA).
    off_passing: character. Offense passing predicted points added (PPA).
    off_rushing: character. Offense rushing predicted points added (PPA).
    off_first_down: character. Offense 1st down predicted points added (PPA).
    off_second_down: character. Offense 2nd down predicted points added (PPA).
    off_third_down: character. Offense 3rd down predicted points added (PPA).
    off_cumulative_total: character. Offense cumulative total predicted points added (PPA).
    off_cumulative_passing: character. Offense cumulative total passing predicted points added (PPA).
    off_cumulative_rushing: character. Offense cumulative total rushing predicted points added (PPA).
    def_overall: character. Defense overall predicted points added (PPA).
    def_passing: character. Defense passing predicted points added (PPA).
    def_rushing: character. Defense rushing predicted points added (PPA).
    def_first_down: character. Defense 1st down predicted points added (PPA).
def_second_down: character. Defense 2nd down predicted points added (PPA).
def_third_down: character. Defense 3rd down predicted points added (PPA).
def_cumulative_total: character. Defense cumulative total predicted points added (PPA).
def_cumulative_passing: character. Defense cumulative total passing predicted points added (PPA).
def_cumulative_rushing: character. Defense cumulative total rushing predicted points added (PPA).

Examples

cfbd_metrics_ppa_teams(year = 2019, team = "TCU")

---

cfbd_metrics_wp Get win probability chart data from API

Description

Get win probability chart data from API

Usage

cfbd_metrics_wp(game_id)

Arguments

game_id (Integer required): Game ID filter for querying a single game
Can be found using the cfbd_game_info() function

Value

cfbd_metrics_wp() - A data frame with 16 variables:

play_id: character. Play referencing id.
play_text: character. A text description of the play.
home_id: integer. Home team referencing id.
home: character. Home team name.
away_id: integer. Away team referencing id.
away: character. Away team name.
spread: character. Betting lines provider spread.
home_ball: logical. Home team has the ball.
home_score: integer. Home team score.
away_score: integer. Away team score.
down: integer. Down of the play.
distance: integer. Distance to the sticks (to 1st down marker of goal-line in goal-to-go situations).
home_win_prob: character. Home team win probability.
away_win_prob: double. Away team win probability.
play_number: integer. Game play number.
yard_line: integer. Yard line of the play (0-100 yards).

Examples

cfbd_metrics_wp(game_id = 401012356)

Description
Get pre-game win probability data from API

Usage

cfbd_metrics_wp_pregame(
  year = NULL,
  week = NULL,
  team = NULL,
  season_type = "regular"
)

Arguments

year (Integer optional): Year, 4 digit format (YYYY)
week (Integer optional): Week - values from 1-15, 1-14 for seasons pre-playoff, i.e. 2013 or earlier
team (String optional): D-I Team
season_type (String default regular): Select Season Type: regular or postseason
Value

`cfbd_metrics_wp_pregame()` - A data frame with 9 variables:

- **season**: integer. Season of game.
- **season_type**: character. Season type of game.
- **week**: integer. Game week of the season.
- **game_id**: integer. Referencing game id.
- **home_team**: character. Home team name.
- **away_team**: character. Away team name.
- **spread**: integer. Betting line provider spread.
- **home_win_prob**: double. Home win probability - pre-game prediction.
- **away_win_prob**: double. Away win probability - pre-game prediction.

Examples

```r
cfbd_metrics_wp_pregame(year = 2019, week = 9, team = "Texas A&M")
```

Description

Extract college football (D-I) play by play Data - for plays

Usage

```r
cfbd_pbp_data(
  year,
  season_type = "regular",
  week = 1,
  team = NULL,
  play_type = NULL,
  epa_wpa = FALSE,
  ...
)
```
Arguments

year
Select year, (example: 2018)

season_type
Select Season Type (regular, postseason, both)

week
Select week, this is optional (also numeric)

team
Select team name (example: Texas, Texas A&M, Clemson)

play_type
Select play type (example: see the cfbd_play_type_df)

epa_wpa
Logical parameter (TRUE/FALSE) to return the Expected Points Added/Win Probability Added variables

Additional arguments passed to an underlying function.

Value

A data frame with 351 variables:

season: double.
wk: double.
id_play: character.
game_id: integer.
game_play_number: double.
half_play_number: double.
pos_team: character.
def_pos_team: character.
half: integer.
period: integer.
clock.minutes: integer.
clock.seconds: integer.
play_type: character.
play_text: character.
down: double.
distance: double.
yards_to_goal: double.
yards_gained: double.
penalty_1st_conv: logical.
new_series: double.
change_of_pos_team: double.
lag_change_of_pos_team: double.
orig_play_type: character.
lead_play_type: character.
lag_play_type: character.
lag_play_type2: character .
lag_play_type3: character .
row: integer .
drive_play_number: double .
drive_event_number: double .
lag_play_text: character .
lag_play_text2: character .
lead_play_text: character .
firstD_by_kickoff: double .
firstD_by_poss: double .
firstD_by_penalty: double .
firstD_by_yards: double .
lag_first_by_penalty: double .
lag_first_by_penalty2: double .
lag_first_by_yards: double .
lag_first_by_yards2: double .
first_by_penalty: double .
first_by_yards: double .
play_after_turnover: double .
lag_change_of_poss: double .
lag_kickoff_play: double .
lag_punt: double .
lag_scoring_play: double .
lag_turnover_vec: double .
lag_downs_turnover: double .
lag_defense_score_play: double .
EPA: double .
ep_before: double .
ep_after: double .
wpa: double .
wp_before: double .
wp_after: double .
def_wp_before: double .
def_wp_after: double .
penalty_detail: character .
yds_penalty: double .
downs_turnover: double .
turnover: double.
pos_score_diff_start: double.
pos_score_pts: double.
pos_team_score: integer.
def_pos_team_score: integer.
log_ydstogo: double.
ExpScoreDiff: double.
ExpScoreDiff_Time_Ratio: double.
half_clock.minutes: double.
TimeSecsRem: double.
adj_TimeSecsRem: double.
Goal_To_Go: logical.
Under_two: logical.
home: character.
away: character.
home_wp_before: double.
away_wp_before: double.
home_wp_after: double.
away_wp_after: double.
end_of_half: double.
pos_team_receives_2H_kickoff: double.
lead_pos_team: character.
lag_pos_team: character.
Under_three: logical.
down_end: integer.
distance_end: double.
log_ydstogo_end: double.
yards_to_goal_end: double.
TimeSecsRem_end: double.
Goal_To_Go_end: logical.
Under_two_end: logical.
def_EPA: double.
offense_score_play: double.
defense_score_play: double.
ppa: character.
yard_line: integer.
scoing: logical.
pos_team_timeouts_rem_before: double.
def_pos_team_timeouts_rem_before: double.
pos_team_timeouts: integer.
def_pos_team_timeouts: integer.
pos_score_diff: integer.
pos_score_diff_start_end: double.
offense_play: character.
defense_play: character.
offense_receives_2H_kickoff: double.
change_of_poss: double.
score_pts: double.
score_diff_start: double.
score_diff: integer.
offense_score: integer.
defense_score: integer.
offense_conference: character.
defense_conference: character.
off_timeout_called: double.
def_timeout_called: double.
offense_timeouts: integer.
defense_timeouts: integer.
off_timeouts_rem_before: double.
def_timeouts_rem_before: double.
rusher_player_name: character.
yds_rushed: double.
passer_player_name: character.
receiver_player_name: character.
yds_receiving: double.
yds_sacked: double.
sack_players: character.
sack_player_name: character.
sack_player_name2: character.
pass_breakup_player_name: character.
interception_player_name: character.
yds_int_return: double.
fumble_player_name: character.
fumble_forced_player_name: character.
fumble_recovered_player_name: character.
yds_fumble_return: double.
punter_player_name: character.
yds_punted: double.
punt_returner_player_name: character.
yds_punt_return: double.
yds_punt_gained: double.
punt_block_player_name: character.
punt_block_return_player_name: character.
fg_kicker_player_name: character.
yds_fg: double.
fg_block_player_name: character.
fg_return_player_name: character.
kickoff_player_name: character.
yds_kickoff: double.
kickoff_returner_player_name: character.
yds_kickoff_return: double.
new_id: double.
orig_drive_number: integer.
drive_number: integer.
drive_resultDetailed: character.
new_drive_pts: double.
drive_id: double.
drive_result: character.
drive_start_yards_to_goal: double.
drive_end_yards_to_goal: integer.
drive_yards: integer.
drive_scoring: double.
drive_pts: double.
drive_start_period: integer.
drive_end_period: integer.
drive_time_minutes_start: integer.
drive_time_seconds_start: integer.
drive_time_minutes_end: integer.
drive_time_seconds_end: integer.
drive_time_minutes_elapsed: integer.
drive_time_seconds_elapsed: integer.
drive_numbers: double.
number_of_drives: double.
pts_scored: double.
drive_result_detailed_flag: character.
drive_result2: character.
drive_num: double.
lag_drive_result_detailed: character.
lead_drive_result_detailed: character.
lag_new_drive_pts: double.
id_drive: character.
rush: double.
rush_td: double.
pass: double.
pass_td: double.
completion: double.
pass_attempt: double.
target: double.
sack_vec: double.
sack: double.
int: double.
int_td: double.
turnover_vec: double.
turnover_vec_lag: double.
turnover_indicator: double.
kickoff_play: double.
receives_2H_kickoff: double.
missing_yard_flag: logical.
scoring_play: double.


td_play: double.
touchdown: double.
safety: double.
fumble_vec: double.
kickoff_tb: double.
kickoff_onside: double.
kickoff_oob: double.
kickoff_fair_catch: double.
kickoff_downed: double.
kickoff_safety: double.
kick_play: double.
punt: double.
punt_play: double.
punt_tb: double.
punt_oob: double.
punt_fair_catch: double.
punt_downed: double.
punt_safety: double.
punt_blocked: double.
penalty_safety: double.
fg inds: double.
fg made: logical.
fg_make_prob: double.
home_EPA: double.
away_EPA: double.
home_EPA_rush: double.
away_EPA_rush: double.
home_EPA_pass: double.
away_EPA_pass: double.
total_home_EPA: double.
total_away_EPA: double.
total_home_EPA_rush: double.
total_away_EPA_rush: double.
total_home_EPA_pass: double.
total_away_EPA_pass: double.
net_home_EPA: double.
net_away_EPA: double.
net_home_EPA_rush: double.
net_away_EPA_rush: double.
net_home_EPA_pass: double.
net_away_EPA_pass: double.
success: double.
epa_success: double.
rz_play: double.
scoring_opp: double.
middle_8: logical.
stuffed_run: double .
spread: double .
formatted_spread: character .
No_Score_before: double .
FG_before: double .
Opp_FG_before: double .
Opp_Safety_before: double .
Opp_TD_before: double .
Safety_before: double .
TD_before: double .
No_Score_after: double .
FG_after: double .
Opp_FG_after: double .
Opp_Safety_after: double .
Opp_TD_after: double .
Safety_after: double .
TD_after: double .
penalty_flag: logical .
penalty_declined: logical .
penalty_no_play: logical .
penalty_offset: logical .
penalty_text: logical .
penalty_play_text: character .
lead_wp_before2: double .
wpa_half_end: double .
wpa_base: double .
wpa_base_nxt: double .
wpa_change: double .
wpa_change_nxt: double .
wpa_base_ind: double .
wpa_base_nxt_ind: double .
wpa_change_ind: double .
wpa_change_nxt_ind: double .
lead_wp_before: double .
lead_pos_team2: character .
lag_change_of_pos_team2: double .
lag_punt2: double .
lag_score_diff: double. 
lag_offense_play: character. 
lead_offense_play: character. 
lead_offense_play2: character. 
lag_pos_score_diff: double. 
lag_off_timeouts: double. 
lag_def_timeouts: double. 
lag_TimeSecsRem2: double. 
lag_TimeSecsRem: double. 
lead_TimeSecsRem: double. 
lead_TimeSecsRem2: double. 
lag_yards_to_goal2: integer. 
lag_yards_to_goal: integer. 
lead_yards_to_goal: double. 
lead_yards_to_goal2: integer. 
lag_down2: double. 
lag_down: double. 
lead_down: double. 
lead_down2: double. 
lead_distance: double. 
lead_distance2: integer. 
lead_play_type2: character. 
lead_play_type3: character. 
lag_ep_before3: double. 
lag_ep_before2: double. 
lag_ep_before: double. 
lead_ep_before: double. 
lead_ep_before2: double. 
lag_ep_after: double. 
lag_ep_after2: double. 
lag_ep_after3: double. 
lead_ep_after: double. 
lead_ep_after2: double. 
play_number: integer. 
over_under: double. 
event: double. 
game_event_number: double. 

game_row_number: integer.
half_event: double.
half_event_number: double.
half_row_number: integer.
lag_distance3: integer.
lag_distance2: integer.
lag_distance: integer.
lag_yards_gained3: integer.
lag_yards_gained2: integer.
lag_yards_gained: integer.
lead_yards_gained: integer.
lead_yards_gained2: integer.
lag_play_text3: character.
lead_play_text2: character.
lead_play_text3: character.
lag_change_of_poss2: double.
lag_change_of_poss3: double.
lag_change_of_pos_team3: double.
lag_kickoff_play2: double.
lag_kickoff_play3: double.
lag_punt3: double.
lag_scoring_play2: double.
lag_scoring_play3: double.
lag_turnover_vec2: double.
lag_turnover_vec3: double.
lag_downs_turnover2: double.
lag_downs_turnover3: double.
drive_event: double.
lag_first_by_penalty3: double.
lag_first_by_yards3: double.
CFBD Plays Endpoint Overview

Description

College football plays data

cfbd_plays(): CFBD’s college football play-by-play.
cfbd_play_stats_player(): Gets player info associated by play.
cfbd_play_stats_types(): Gets CFBD play stat types.
cfbd_play_types(): Gets CFBD play types.

Pull first 3 weeks of 2020 season using cfbd_plays():

```r
year_vector <- 2020
week_vector <- 1:3
weekly_year_df <- expand.grid(year = year_vector, week = week_vector)
tictoc::tic()
year_split <- split(weekly_year_df, weekly_year_df$year)
for (i in 1:length(year_split)) {
  i <- 1
  future::plan("multisession")
  progressr::with_progress({
    year_split[[i]] <- year_split[[i]] %>%
    dplyr::mutate(
      pbp = purrr::map2(
        .x = year,
        .y = week,
        cfbd_plays,
        season_type = "both"
      )
    )
  })
  Sys.sleep(1)
}
tictoc::toc()
year_split <- lapply(year_split, function(x) {
  x %>% tidyr::unnest(pbp, names_repair = "minimal")
})
all_years <- dplyr::bind_rows(year_split)
glimpse(all_years)
```

Gets player info associated by play:

cfbd_play_stats_player(game_id = 40110722)
 Gets CFBD play stat types:
  cfbd_play_stats_types()

 Gets CFBD play types:
  cfbd_play_types()

---

**cfbd_players**

### CFBD Players Endpoint Overview

**Description**

- `cfbd_player_info()`: Player information search.
- `cfbd_player_returning()`: Player returning production.
- `cfbd_player_usage()`: Player usage.

**Player information lookup:**

- `cfbd_player_info(search_term = "James", position = "DB", team = "Florida State", year = 2017)`
- `cfbd_player_info(search_term = "Lawrence", team = "Clemson")`

**Get player returning production:**

- `cfbd_player_returning(year = 2019, team = "Florida State")`

**Get player usage metrics:**

- `cfbd_player_usage(year = 2019, position = "WR", team = "Florida State")`

---

**cfbd_player_info**

### Player information lookup

**Description**

**Player information lookup**

**Usage**

- `cfbd_player_info(search_term, position = NULL, team = NULL, year = NULL)`
**Arguments**

- **search_term** *(String required):* Search term for the player you are trying to look up
- **position** *(string optional):* Position of the player you are searching for. Position Group - options include:
  - Offense: QB, RB, FB, TE, OL, G, OT, C, WR
  - Defense: DB, CB, S, LB, DE, DT, NT, DL
  - Special Teams: K, P, LS, PK
- **team** *(String optional):* Team - Select a valid team, D1 football
- **year** *(Integer optional):* Year, 4 digit format (YYYY). If left NULL, API default will only provide results for most recent year of final rosters: 2020

**Value**

cfbd_player_info() - A data frame with 12 variables:

- **athlete_id**:character. Unique player identifier athlete_id.
- **team**:character. Team of the player.
- **name**:character. Player name.
- **first_name**:character. Player first name.
- **last_name**:character. Player last name.
- **weight**:integer. Player weight.
- **height**:integer. Player height.
- **jersey**:integer. Player jersey number.
- **position**:character. Player position.
- **home_town**:character. Player home town.
- **team_color**:character. Player team color.
- **team_color_secondary**:character. Player team secondary color.

**Examples**

cfbd_player_info(search_term = "James", position = "DB", team = "Florida State", year = 2017)
cfbd_player_info(search_term = "Lawrence", team = "Clemson")
`cfbd_player_returning`  Get player returning production

Description
Get player returning production

Usage
`cfbd_player_returning(year = 2019, team = NULL, conference = NULL)`

Arguments
- `year` *(Integer required, default 2019): Year, 4 digit format (YYYY).*
- `team` *(String optional): Team - Select a valid team, D1 football.*
- `conference` *(String optional): Conference abbreviation - Select a valid FBS conference Conference abbreviations P5: ACC, B12, B1G, SEC, PAC Conference abbreviations G5 and FBS Independents: CUSA, MAC, MWC, Ind, SBC, AAC.*

Value
`cfbd_player_returning()` - A data frame with 15 variables:
- `season` *integer.* Returning player season.
- `team` *character.* Team name.
- `conference` *character.* Conference of team.
- `total_ppa` *double.* Total predicted points added returning.
- `total_passing_ppa` *double.* Total passing predicted points added returning.
- `total_receiving_ppa` *double.* Total receiving predicted points added returning.
- `total_rushing_ppa` *double.* Total rushing predicted points added returning.
- `percent_ppa` *double.* Percentage of prior year’s predicted points added returning.
- `percent_passing_ppa` *double.* Percentage of prior year’s passing predicted points added returning.
- `percent_receiving_ppa` *double.* Percentage of prior year’s receiving predicted points added returning.
- `percent_rushing_ppa` *double.* Percentage of prior year’s rushing predicted points added returning.
- `usage` *double.* .
- `passing_usage` *double.* .
- `receiving_usage` *double.* .
- `rushing_usage` *double.* .
Examples

cfbd_player_returning(year = 2019, team = "Florida State")

Description

Get player usage metrics

Usage

cfbd_player_usage(
    year = 2019,
    team = NULL,
    conference = NULL,
    position = NULL,
    athlete_id = NULL,
    excl_garbage_time = FALSE
)

Arguments

year \hspace{1cm} (Integer required, default 2019): Year, 4 digit format (YYYY).

team \hspace{1cm} (String optional): Team - Select a valid team, D1 football

conference \hspace{1cm} (String optional): Conference abbreviation - Select a valid FBS conference
Conference abbreviations P5: ACC, B12, B1G, SEC, PAC
Conference abbreviations G5 and FBS Independents: CUSA, MAC, MWC, Ind, SBC, AAC

position \hspace{1cm} (string optional): Position of the player you are searching for. Position Group - options include:

- Offense: QB, RB, FB, TE, OL, G, OT, C, WR
- Defense: DB, CB, S, LB, DE, DT, NT, DL
- Special Teams: K, P, LS, PK

athlete_id \hspace{1cm} (Integer optional): Athlete ID filter for querying a single athlete
Can be found using the \texttt{cfbd_player_info()} function.

excl_garbage_time \hspace{1cm} (Logical default FALSE): Select whether to exclude Garbage Time (TRUE/FALSE)
Value

`cfbd_player_usage()` - A data frame with 14 variables:

- **season**: integer. Player usage season.
- **athlete_id**: character. Referencing athlete id.
- **name**: character. Athlete name.
- **position**: character. Athlete position.
- **team**: character. Team name.
- **conference**: character. Conference of team.
- **usg_overall**: double. Player usage of overall offense.
- **usg_pass**: double. Player passing usage percentage.
- **usg_rush**: double. Player rushing usage percentage.
- **usg_1st_down**: double. Player first down usage percentage.
- **usg_2nd_down**: double. Player second down usage percentage.
- **usg_3rd_down**: double. Player third down usage percentage.
- **usg_standard_downs**: double. Player standard down usage percentage.
- **usg_passing_downs**: double. Player passing down usage percentage.

Examples

```r
cfbd_player_usage(year = 2019, position = "WR", team = "Florida State")
```

---

`cfbd_plays` Get college football play-by-play data.

Description

Get college football play-by-play data.

Usage

```r
cfbd_plays(
  year = 2020,
  season_type = "regular",
  week = 1,
  team = NULL,
  offense = NULL,
  defense = NULL,
  conference = NULL,
  offense_conference = NULL,
  defense_conference = NULL,
  play_type = NULL
)
```
cfbd_plays

Arguments

- **year**: Select year, (example: 2018)
- **season_type**: Select Season Type (regular, postseason, both)
- **week**: Select week, this is optional (also numeric)
- **team**: Select team name (example: Texas, Texas A&M, Clemson)
- **offense**: Select offense name (example: Texas, Texas A&M, Clemson)
- **defense**: Select defense name (example: Texas, Texas A&M, Clemson)
- **conference**: Select conference name (example: ACC, B1G, B12, SEC, PAC, MAC, MWC, CUSA, Ind, SBC, AAC, Western, MVIAA, SWC, PCC, Big 6, etc.)
- **offense_conference**: Select conference name (example: ACC, B1G, B12, SEC, PAC, MAC, MWC, CUSA, Ind, SBC, AAC, Western, MVIAA, SWC, PCC, Big 6, etc.)
- **defense_conference**: Select conference name (example: ACC, B1G, B12, SEC, PAC, MAC, MWC, CUSA, Ind, SBC, AAC, Western, MVIAA, SWC, PCC, Big 6, etc.)
- **play_type**: Select play type (example: see the cfbd_play_type_df)

Value

- **cfbd_plays()**: A data frame with 29 columns:
  - **play_id**: character. Referencing play id.
  - **offense**: character. Offense on the field.
  - **offense_conference**: character. Conference of the offense on the field.
  - **defense**: character. Defense on the field.
  - **defense_conference**: character. Conference of the defense on the field.
  - **home**: character. Home team.
  - **away**: character. Away team.
  - **offense_score**: integer. Offense's post-play score.
  - **defense_score**: integer. Defense's post-play score.
  - **game_id**: integer. Referencing game id.
  - **drive_id**: character. Referencing drive id.
  - **drive_number**: integer. Drive number in the game.
  - **play_number**: integer. Play number in the game.
  - **period**: integer. Game period (quarter).
  - **offense_timeouts**: integer. Timeouts for the offense at the end of the play.
  - **defense_timeouts**: integer. Timeouts for the defense at the end of the play.
  - **yard_line**: integer. Yard line (~0-50) of the play.
cfbd_plays

yards_to_goal: integer. Yards to the goal line (~0-100).
down: integer. Down of the play.
distance: integer. Distance to the sticks, i.e. 1st down or goal-line in goal-to-go situations.
scoring: logical. Scoring play flag.
yards_gained: integer. Yards net gained by the offense on the play.
play_type: character. Categorical label of the type of the play.
play_text: character. A text description of the play.
ppa: character. Predicted Points Added (calculated by CFBD).
clock.minutes: integer. Minutes left on the clock.
clock.seconds: integer. Seconds left on the clock.

Examples

```r
## Not run:
year_vector <- 2020
week_vector <- 1:3
weekly_year_df <- expand.grid(year = year_vector, week = week_vector)
tictoc::tic()
year_split <- split(weekly_year_df, weekly_year_df$year)
for (i in 1:length(year_split)) {
  i <- 1
  future::plan("multisession")
  progressr::with_progress({
    year_split[[i]] <- year_split[[i]] %>%
      dplyr::mutate(
        pbp = purrr::map2(
          .x = year,
          .y = week,
          cfbd_plays,
          season_type = "both"
        )
      )
  })
}
tictoc::toc()
year_split <- lapply(year_split, function(x) {
  x %>% tidyr::unnest(pbp, names_repair = "minimal")
})
all_years <- dplyr::bind_rows(year_split)
glimpse(all_years)

## End(Not run)
```
**cfbd_play_stats_player**

**Gets player info associated by play**

**Description**

*Gets player info associated by play*

**Usage**

```r
cfbd_play_stats_player(
    year = NULL,
    week = NULL,
    team = NULL,
    game_id = NULL,
    athlete_id = NULL,
    stat_type_id = NULL,
    season_type = "regular"
)
```

**Arguments**

- **year** *(Integer optional): Year, 4 digit format (YYYY)*
- **week** *(Integer optional): Week - values from 1-15, 1-14 for seasons pre-playoff, i.e. 2013 or earlier*
- **team** *(String optional): D-I Team*
- **game_id** *(Integer optional): Game ID filter for querying a single game Can be found using the cfbd_game_info() function*
- **athlete_id** *(Integer optional): Athlete ID filter for querying a single athlete Can be found using the cfbd_player_info() function.*
- **stat_type_id** *(Integer optional): Stat Type ID filter for querying a single stat type Can be found using the cfbd_play_stats_types() function*
- **season_type** *(String default regular): Select Season Type: regular, postseason, or both*

**Value**

`cfbd_play_stats_player()` - A data frame with 54 variables:

- **play_id**: character. Referencing play id.
- **game_id**: integer. Referencing game id.
- **season**: integer. Season of the play.
- **week**: integer. Week of the play.
- **opponent**: character. Opponent of the offense on the play.
- **team_score**: integer. Offense team score.
opponent_score: **integer**. Defense team score.
drive_id: **character**. Referencing drive id.
period: **integer**. Game period (quarter) of the play.
yards_to_goal: **integer**. Yards to the goal line (-0-100).
down: **integer**. Down of the play.
distance: **integer**. Distance to the sticks, i.e. 1st down or goal-line in goal-to-go situations.
reception_player_id: **character**. Pass receiver player reference id.
reception_player: **character**. Pass receiver player name.
reception_yds: **integer**. Reception yards.
completion_player_id: **character**. Passing player reference id.
completion_player: **character**. Passing player name.
completion_yds: **integer**. Passing yards.
rush_player_id: **character**. Rushing player reference id.
rush_player: **character**. Rushing player name.
rush_yds: **integer**. Rushing yards.
interception_player_id: **character**. Intercepting player reference id.
interception_player: **character**. Intercepting player name.
interception_stat: **integer**. Intercepting stat.
interception_thrown_player_id: **character**. Interception passing player reference id.
interception_thrown_player: **character**. Interception passing player name.
interception_thrown_stat: **integer**. Interception thrown stat.
touchdown_player_id: **character**. Touchdown scoring player reference id.
touchdown_player: **character**. Touchdown scoring player name.
touchdown_stat: **integer**. Touchdown scoring stat.
incompletion_player_id: **character**. Incomplete receiver player reference id.
incompletion_player: **character**. Incomplete receiver player name.
incompletion_stat: **integer**. Incomplete stat.
target_player_id: **character**. Targeted receiver player reference id.
target_player: **character**. Targeted receiver player name.
target_stat: **integer**. Target stat.
fumbleRecovered_player_id: **logical**. Fumble recovering player reference id.
fumbleRecovered_player: **logical**. Fumble recovering player name.
fumbleRecovered_stat: **logical**. Fumble recovering stat.
fumbleForced_player_id: **logical**. Fumble forcing player reference id.
fumbleForced_player: **logical**. Fumble forcing player name.
fumbleForced_stat: **logical**. Fumble forcing stat.
fumble_player_id: **logical**. Fumbling player reference id.
Examples

cfbd_play_stats_player(game_id = 401110722)

---

cfbd_play_stats_types  Get college football mapping for play stats types

Description

Get college football mapping for play stats types

Usage

cfbd_play_stats_types()

Value

cfbd_play_stats_types() - A data frame with 22 rows and 2 variables:

play_stat_type_id: integer  Referencing play stat type ID.
name: character  Type of play stats.

Examples

cfbd_play_stats_types()
## cfbd_play_types

**Get college football mapping for play types**

**Description**

Get college football mapping for play types

**Usage**

```r
cfbd_play_types()
```

**Value**

`cfbd_play_types()` - A data frame with 48 rows and 3 variables:

- **play_type_id**: integer  Referencing play type id.
- **text**: character  play type description.
- **abbreviation**: character  play type abbreviation used for function call

## cfbd_rankings

**Get historical Coaches and AP poll data**

**Description**

Get historical Coaches and AP poll data

**Usage**

```r
cfbd_rankings(year, week = NULL, season_type = "regular")
```

**Arguments**

- **year**  
  
  *(Integer required): Year, 4 digit format (YYYY)*

- **week**  
  
  *(Integer optional): Week, values from 1-15, 1-14 for seasons pre-playoff (i.e. 2013 or earlier)*

- **season_type**  
  
  *(String default regular): Season type - regular or postseason*
Value

cfbd_rankings() - A data frame with 9 variables:

- **season**: integer. Rankings season.
- **season_type**: character. Season type of rankings.
- **week**: integer. Week of rankings.
- **poll**: character. Name of the poll.
- **rank**: integer. Rank in the poll.
- **school**: character. Team name.
- **conference**: character. Conference of the team.
- **first_place_votes**: integer. Number of first place votes.
- **points**: integer. Total poll points.

Examples

cfbd_rankings(year = 2019, week = 12)
cfbd_rankings(year = 2018, week = 14)
cfbd_rankings(year = 2013, season_type = "postseason")

---

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<th>cfbd_ratings</th>
<th>CFBD Ratings and Rankings Endpoints Overview</th>
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Description

cfbd_rankings(): Gets Historical CFB poll rankings at a specific week.
cfbd_ratings_sp(): Get SP historical rating data.
cfbd_ratings_sp_conference(): Get SP conference-level historical rating data.
cfbd_ratings_srs(): Get SRS historical rating data.

**Get historical Coaches and AP poll data:**
cfbd_rankings(year = 2019, week = 12)
cfbd_rankings(year = 2018, week = 14)
cfbd_rankings(year = 2013, season_type = "postseason")

**Get SP historical rating data:**
At least one of year or team must be specified for the function to run
Get conference level SP historical rating data:

cfbd_ratings_sp_conf(year = 2019)

Get SRS historical rating data:

At least one of year or team must be specified for the function to run

cfbd_ratings_srs(year = 2019, team = "Texas")

Get Elo historical rating data:

Acquire the CFBD calculated elo ratings data by team, year, week, and conference

cfbd_ratings_elo(year = 2019, team = "Texas")
Value

cfbd_ratings_elo() - A data frame with 6 variables:

year: integer. Season of the SRS rating.
team: character. Team name.
conference: character. Conference of the team.
division: logical. Division in the conference for the team.
rating: double. Simple Rating System (SRS) rating.
ranking: integer. Simple Rating System ranking within the group returned.

Examples

cfbd_ratings_elo(year = 2019, team = "Texas")
cfbd_ratings_elo(year = 2018, conference = "SEC")

cfbd_ratings_sp

Get SP historical rating data

Description

At least one of year or team must be specified for the function to run

Usage

cfbd_ratings_sp(year = NULL, team = NULL)

Arguments

year (Integer optional): Year, 4 digit format (YYYY)
team (String optional): D-I Team

Value

cfbd_ratings_sp() - A data frame with 26 variables:

year: integer. Season of the ratings.
team: character. Team name.
conference: character. Conference of the team.
rating: double. SP+ rating.
ranking: integer. Ranking in the SP+ ratings.
second_order_wins: logical. Total second-order wins - Not available for recent seasons.
sos: logical. Strength of schedule - Not available for recent seasons.
offense_ranking: integer. Overall offense ranking.
offense_rating: double. Overall offense rating.
offense_success: logical. Offense success rating - Not available for recent seasons.
offense_explosiveness: logical. Offense explosiveness rating - Not available for recent seasons.
offense_rushing: logical. Offense rushing rating - Not available for recent seasons.
offense_passing: logical. Offense passing rating - Not available for recent seasons.
offense_standard_downs: logical. Offense standard downs rating - Not available for recent seasons.
offense_passing_downs: logical. Offensive passing downs rating - Not available for recent seasons.
offense_run_rate: logical. Offense rushing rate - Not available for recent seasons.
offense_pace: logical. Offense pace factor - Not available for recent seasons.
defense_ranking: integer. Overall defense ranking.
defense_rating: double. Overall defense rating.
defense_explosiveness: logical. Defense explosiveness rating - Not available for recent seasons.
defense_rushing: logical. Defense rushing rating - Not available for recent seasons.
defense_passing: logical. Defense passing rating - Not available for recent seasons.
defense_passing_downs: logical. Defensive passing downs rating - Not available for recent seasons.
defense_havoc_total: logical. Total defensive havoc rate - Not available for recent seasons.
defense_havoc_front_seven: logical. Defense havoc rate from front 7 players - Not available for recent seasons.
defense_havoc_db: logical. Defense havoc rate from defensive backs - Not available for recent seasons.
special_teams_rating: double. Special teams rating.

Examples

```r
cfbd_ratings_sp(year = 2018)
cfbd_ratings_sp(team = "Texas A&M")
cfbd_ratings_sp(year = 2019, team = "Texas")
```
Description

Get conference level SP historical rating data

Usage

cfbd_ratings_sp_conference(year = NULL, conference = NULL)

Arguments

year  (Integer optional): Year, 4 digit format (YYYY)
conference  (String optional): Conference abbreviation - S&P+ information by conference
Conference abbreviations P5: ACC, B12, B1G, SEC, PAC
Conference abbreviations G5 and FBS Independents: CUSA, MAC, MWC, Ind, SBC, AAC

Value

cfbd_ratings_sp_conference() - A data frame with 25 variables:

year: integer. Season of the conference rating.
conference: character. Conference name.
rating: double. Conference SP+ rating.
second_order_wins: logical. Second-order wins for the conference - Not available for recent seasons.
sos: logical. Strength of schedule for the conference - Not available for recent seasons.
offense_rating: double. Overall offense rating for the conference.
offense_success: logical. Offense success rating for the conference - Not available for recent seasons.
offense_explosiveness: logical. Offense explosiveness rating for the conference - Not available for recent seasons.
offense_rushing: logical. Offense rushing rating for the conference - Not available for recent seasons.
offense_passing: logical. Offense passing rating for the conference - Not available for recent seasons.
offense_standard_downs: logical. Offense standard downs rating for the conference - Not available for recent seasons.
offense_passing_downs: logical. Offensive passing downs rating for the conference - Not available for recent seasons.
offense_run_rate: logical. Offense rushing rate for the conference - Not available for recent seasons.
offense_pace: logical. Offense pace factor for the conference - Not available for recent seasons.
defense_ranking: integer. Overall defense ranking for the conference.
defense_rating: double. Overall defense rating for the conference.
defense_explosiveness: logical. Defense explosiveness rating for the conference - Not available for recent seasons.
defense_rushing: logical. Defense rushing rating for the conference - Not available for recent seasons.
defense_passing: logical. Defense passing rating for the conference - Not available for recent seasons.
defense_standard_downs: logical. Defense standard downs rating for the conference - Not available for recent seasons.
defense_passing_downs: logical. Defensive passing downs rating for the conference - Not available for recent seasons.
defense_havoc_total: logical. Total defensive havoc rate for the conference - Not available for recent seasons.
defense_havoc_front_seven: logical. Defense havoc rate from front 7 players for the conference - Not available for recent seasons.
defense_havoc_db: logical. Defense havoc rate from defensive backs for the conference - Not available for recent seasons.
special_teams_rating: double. Special teams rating for the conference.

Examples

cfbd_ratings_sp_conference(year = 2019)
cfbd_ratings_sp_conference(year = 2012, conference = "SEC")
cfbd_ratings_sp_conference(year = 2016, conference = "ACC")

cfbd_ratings_srs Get SRS historical rating data

Description

At least one of year or team must be specified for the function to run
Usage

cfbd_ratings_srs(year = NULL, team = NULL, conference = NULL)

Arguments

year  \hspace{1.2cm} (Integer optional): Year, 4 digit format (YYYY)
team \hspace{1.2cm} (String optional): D-I Team
conference  \hspace{1.2cm} (String optional): Conference abbreviation - SRS information by conference
\hspace{1.2cm} Conference abbreviations P5: ACC, B12, B1G, SEC, PAC
\hspace{1.2cm} Conference abbreviations G5 and FBS Independents: CUSA, MAC, MWC, Ind, SBC, AAC

Value

cfbd_ratings_srs() - A data frame with 6 variables:

year: integer.  Season of the SRS rating.
team: character. Team name.
conference: character. Conference of the team.
division: logical. Division in the conference for the team.
rating: double. Simple Rating System (SRS) rating.
ranking: integer. Simple Rating System ranking within the group returned.

Examples

cfbd_ratings_srs(year = 2019, team = "Texas")
cfbd_ratings_srs(year = 2018, conference = "SEC")

cfb_recruiting  CFB Recruiting Endpoint Overview

Description

cfbd_recruiting_player(): Get college football player recruiting information for a single year
\hspace{1.2cm} with filters available for team, recruit type, state and position.
cfbd_recruiting_position(): Get college football position group recruiting information.
cfbd_recruiting_team(): Get college football recruiting team rankings information.

Get player recruiting rankings:
Get college football player recruiting information for a single year with filters available for team, recruit type, state and position.
Get college football recruiting team rankings information.

cfd_recruiting_team(2018, team = "Texas")
cfd_recruiting_team(2016, team = "Virginia")
cfd_recruiting_team(2016, team = "Texas A&M")
cfd_recruiting_team(2011)

Details

Gets CFB team recruiting ranks with filters available for year and team. At least one of year or team must be specified for the function to run.

If you would like CFB recruiting information for players, please see the cfd_recruiting_player() function.

If you would like to get CFB recruiting information based on position groups during a time period for all FBS teams, please see the cfd_recruiting_position() function.

cfd_recruiting_player() - At least one of year or team must be specified for the function to run.

cfd_recruiting_position() - If only start_year is provided, function will get CFB recruiting information based on position groups during that year for all FBS teams.
Usage

```r
cfbd_recruiting_player(
  year = NULL,
  team = NULL,
  recruit_type = "HighSchool",
  state = NULL,
  position = NULL
)
```

Arguments

- `year` *(Integer optional): Year, 4 digit format (YYYY) - Minimum: 2000, Maximum: 2020 currently*
- `team` *(String optional): D-I Team*
- `recruit_type` *(String optional): default API return is 'HighSchool', other options include 'JUCO' or 'PrepSchool' - For position group information*
- `state` *(String optional): Two letter State abbreviation*
- `position` *(String optional): Position Group - options include:*
  - Offense: 'PRO', 'DUAL', 'RB', 'FB', 'TE', 'OT', 'OG', 'OC', 'WR'
  - Defense: 'CB', 'S', 'OLB', 'ILB', 'WDE', 'SDE', 'DT'
  - Special Teams: 'K', 'P'

Value

```r
cfbd_recruiting_player() - A data frame with 14 variables:
```

- `id`: **integer.** Referencing id - 247Sports.
- `athlete_id`: Athlete referencing id.
- `recruit_type`: **character.** High School, Prep School, or Junior College.
- `year`: **integer.** Recruit class year.
- `ranking`: **integer.** Recruit Ranking.
- `name`: **character.** Recruit Name.
- `school`: **character.** School recruit attended.
- `committed_to`: **character.** School the recruit is committed to.
- `position`: **character.** Recruit position.
- `height`: **double.** Recruit height.
- `weight`: **integer.** Recruit weight.
- `stars`: **integer.** Recruit stars.
- `rating`: **double.** 247 composite rating.
- `city`: **character.** Hometown of the recruit.
state_province: character. Hometown state of the recruit.
country: character. Hometown country of the recruit.
hometown_info_latitude: character. Hometown latitude.
hometown_info_longitude: character. Hometown longitude.
hometown_info_fips_code: character. Hometown FIPS code.

Examples

cfbd_recruiting_player(2018, team = "Texas")
cfbd_recruiting_player(2016, recruit_type = "JUCO")
cfbd_recruiting_player(2020, recruit_type = "HighSchool", position = "OT", state = "FL")

Description

Get college football position group recruiting information.

Usage

cfbd_recruiting_position(
  start_year = NULL,
  end_year = NULL,
  team = NULL,
  conference = NULL
)

Arguments

start_year (Integer optional): Start Year, 4 digit format (YYYY). Note: 2000 is the minimum value
end_year (Integer optional): End Year, 4 digit format (YYYY). Note: 2020 is the maximum value currently
team (String optional): Team - Select a valid team, D-I football
conference (String optional): Conference abbreviation - Select a valid FBS conference
Conference abbreviations P5: ACC, B12, B1G, SEC, PAC
Conference abbreviations G5 and FBS Independents: CUSA, MAC, MWC, Ind, SBC, AAC
**Value**

`cfbd_recruiting_position()` - A data frame with 7 variables:

- **team**: character. Recruiting team.
- **conference**: character. Recruiting team conference.
- **position_group**: character. Position group of the recruits.
- **avg_rating**: double. Average rating of the recruits in the position group.
- **total_rating**: double. Sum of the ratings of the recruits in the position group.
- **commits**: integer. Number of commits in the position group.
- **avg_stars**: double. Average stars of the recruits in the position group.

**Examples**

```r
cfbd_recruiting_position(2018, team = "Texas")
cfbd_recruiting_position(2016, 2020, team = "Virginia")
cfbd_recruiting_position(2015, 2020, conference = "SEC")
```

---

**cfbd_recruiting_team**

Get college football recruiting team rankings information.

**Description**

Get college football recruiting team rankings information.

**Usage**

`cfbd_recruiting_team(year = NULL, team = NULL)`

**Arguments**

- **year** *(Integer optional): Recruiting Class Year, 4 digit format (YYYY). Note: 2000 is the minimum value*
- **team** *(String optional): Team - Select a valid team, D1 football*

**Value**

`cfbd_recruiting_team()` - A data frame with 4 variables:

- **year**: integer. Recruiting class year.
- **rank**: integer. Team Recruiting rank.
- **team**: character. Recruiting Team.
- **points**: character. Team talent points.
Examples

cfbd_recruiting_team(2018, team = "Texas")
cfbd_recruiting_team(2016, team = "Virginia")
cfbd_recruiting_team(2016, team = "Texas A&M")
cfbd_recruiting_team(2011)

---

cfbd_stats

CFBD Stats Endpoint Overview

Description

cfbd_stats_categories(): Get college football mapping for stats categories.
cfbd_stats_season_team(): Get season statistics by team.
cfbd_stats_season_advanced(): Get season advanced statistics by team.
cfbd_stats_game_advanced(): Get game advanced stats.
cfbd_stats_season_player(): Get season statistics by player.

Get game advanced stats:
cfbd_stats_game_advanced(year = 2018, week = 12, team = "Texas A&M")
cfbd_stats_game_advanced(2019, team = "LSU")
cfbd_stats_game_advanced(2013, team = "Florida State")

Get season advanced statistics by team:
cfbd_stats_season_advanced(2019, team = "LSU")

Get season statistics by player:
cfbd_stats_season_player(year = 2018, conference = "B12", start_week = 1, end_week = 7)
cfbd_stats_season_player(2019, team = "LSU", category = "passing")
cfbd_stats_season_player(2013, team = "Florida State", category = "passing")

Get season statistics by team:
cfbd_stats_season_team(year = 2018, conference = "B12", start_week = 1, end_week = 8)
cfbd_stats_season_team(2019, team = "LSU")
cfbd_stats_season_team(2013, team = "Florida State")
Get stats categories:
This function identifies all Stats Categories identified in the regular stats endpoint.
cfbd_stats_categories()

---

**Description**
This function identifies all Stats Categories identified in the regular stats endpoint.

**Usage**
cfbd_stats_categories()

**Value**
cfbd_stats_categories() A data frame with 38 values:

- **name**  Statistics Categories ...

**Examples**
cfbd_stats_categories()

---

Get game advanced stats

**Description**
Get game advanced stats

**Usage**

cfbd_stats_game_advanced(year, week = NULL, team = NULL, opponent = NULL, excl_garbage_time = FALSE, season_type = "both")
Arguments

- **year** (*Integer required*): Year, 4 digit format (YYYY)
- **week** (*Integer optional*): Week - values from 1-15, 1-14 for seasons pre-playoff (i.e. 2013 or earlier)
- **team** (*String optional*): D-I Team
- **opponent** (*String optional*): Opponent D-I Team
- **excl_garbage_time** (*Logical default FALSE*): Select whether to exclude Garbage Time (TRUE/FALSE)
- **season_type** (*String default both*): Select Season Type: regular, postseason, or both.

Value

`cfbd_stats_game_advanced()` - A data frame with 60 variables:

- **game_id**: integer. Referencing game id.
- **week**: integer. Game week of the season.
- **team**: character. Team name.
- **opponent**: character. Opponent team name.
- **off_plays**: integer. Offense plays in the game.
- **off_drives**: integer. Offense drives in the game.
- **off_ppa**: double. Offense predicted points added (PPA).
- **off_total_ppa**: double. Offense total predicted points added (PPA).
- **off_success_rate**: double. Offense success rate.
- **off_explosiveness**: double. Offense explosiveness rate.
- **off_power_success**: double. Offense power success rate.
- **off_stuff_rate**: double. Opponent stuff rate.
- **off_line_yds**: double. Offensive line yards.
- **off_line_yds_total**: integer. Offensive line yards total.
- **off_second_lvl_yds**: double. Offense second-level yards.
- **off_second_lvl_yds_total**: integer. Offense second-level yards total.
- **off_open_field_yds**: integer. Offense open field yards.
- **off_open_field_yds_total**: integer. Offense open field yards total.
- **off_standard_downs_ppa**: double. Offense standard downs predicted points added (PPA).
- **off_standard_downs_success_rate**: double. Offense standard downs success rate.
- **off_standard_downs_explosiveness**: double. Offense standard downs explosiveness rate.
- **off_passing_downs_ppa**: double. Offense passing downs predicted points added (PPA).
- **off_passing_downs_success_rate**: double. Offense passing downs success rate.
- **off_passing_downs_explosiveness**: double. Offense passing downs explosiveness rate.
- **off_rushing_plays_ppa**: double. Offense rushing plays predicted points added (PPA).
off_rushing Plays total ppa: double. Offense rushing plays total predicted points added (PPA).
off_rushing Plays explosiveness: double. Offense rushing plays explosiveness rate.
off_passing Plays ppa: double. Offense passing plays predicted points added (PPA).
off_passing Plays total ppa: double. Offense passing plays total predicted points added (PPA).
off_passing Plays explosiveness: double. Offense passing plays explosiveness rate.
def Plays: integer. Defense plays in the game.
def ppa: double. Defense predicted points added (PPA).
def total ppa: double. Defense total predicted points added (PPA).
def explosiveness: double. Defense explosiveness rate.
def stuff rate: double. Opponent stuff rate.
def line yds: double. Offensive line yards.
def line yds total: integer. Offensive line yards total.
def_second lvl yds total: integer. Defense second-level yards total.
def_open_field yds: integer. Defense open field yards.
def_open_field yds total: integer. Defense open field yards total.
def_standard downs ppa: double. Defense standard downs predicted points added (PPA).
def_passing downs ppa: double. Defense passing downs predicted points added (PPA).
def_passing downs explosiveness: double. Defense passing downs explosiveness rate.
def_rushing Plays ppa: double. Defense rushing plays predicted points added (PPA).
def_rushing Plays total ppa: double. Defense rushing plays total predicted points added (PPA).
def_rushing Plays explosiveness: double. Defense rushing plays explosiveness rate.
def_passing Plays ppa: double. Defense passing plays predicted points added (PPA).
def_passing Plays total ppa: double. Defense passing plays total predicted points added (PPA).
def_passing Plays explosiveness: double. Defense passing plays explosiveness rate.
Examples

cfbd_stats_game_advanced(year = 2018, week = 12, team = "Texas A&M")
cfbd_stats_game_advanced(2019, team = "LSU")
cfbd_stats_game_advanced(2013, team = "Florida State")

Description

Get season advanced statistics by team

Usage

cfbd_stats_season_advanced(
  year,
  team = NULL,
  excl_garbage_time = FALSE,
  start_week = NULL,
  end_week = NULL
)

Arguments

year (Integer required): Year, 4 digit format (YYYY)
team (String optional): D-I Team
excl_garbage_time (Logical default FALSE): Select whether to exclude Garbage Time (TRUE/FALSE)
start_week (Integer optional): Starting Week - values range from 1-15, 1-14 for seasons pre-playoff, i.e. 2013 or earlier
end_week (Integer optional): Ending Week - values range from 1-15, 1-14 for seasons pre-playoff, i.e. 2013 or earlier

Value

cfbd_stats_season_advanced() - A data frame with 81 variables:

season: integer. Season of the statistics.
team: character. Team name.
conference: character. Conference of the team.
off_plays: integer. Offense plays in the game.
off_drives: integer. Offense drives in the game.
off_ppa: double. Offense predicted points added (PPA).
off_total_ppa: double. Offense total predicted points added (PPA).
off_explosiveness: double. Offense explosiveness rate.
off_power_success: double. Offense power success rate.
off_stuff_rate: double. Offense rushing stuff rate.
off_line_yds: double. Offensive line yards.
off_line_yds_total: integer. Offensive line yards total.
off_second_lvl_yds: double. Offense second-level yards.
off_second_lvl_yds_total: integer. Offense second-level yards total.
off_open_field_yds: integer. Offense open field yards.
off_open_field_yds_total: integer. Offense open field yards total.
off_total_opportunities: integer. Offense opportunities.
off_pts_per_opp: double. Offense points per scoring opportunity.
off_field_pos_avg_start: double. Offense starting average field position.
off_field_pos_avg_predicted_points: double. Offense starting average field position predicted points (PP).
off_havoc_total: double. Offense havoc rate total.
off_havoc_front_seven: double. Offense front-7 havoc rate.
off_havoc_db: double. Offense defensive back havoc rate.
off_standard_downs_rate: double. Offense standard downs rate.
off_standard_downs_ppa: double. Offense standard downs predicted points added (PPA).
off_standard_downs_explosiveness: double. Offense standard downs explosiveness rate.
off_passing_downs_rate: double. Offense passing downs rate.
off_passing_downs_ppa: double. Offense passing downs predicted points added (PPA).
off_passing_downs_explosiveness: double. Offense passing downs explosiveness rate.
off_rushing_plays_rate: double. Offense rushing plays rate.
off_rushing_plays_ppa: double. Offense rushing plays predicted points added (PPA).
off_rushing_plays_total_ppa: double. Offense rushing plays total predicted points added (PPA).
off_rushing_plays_explosiveness: double. Offense rushing plays explosiveness rate.
off_passing_plays_rate: double. Offense passing plays rate.
off_passing_plays_ppa: double. Offense passing plays predicted points added (PPA).
off_passing_plays_total_ppa: double. Offense passing plays total predicted points added (PPA).
off_passing_plays_explosiveness: double. Offense passing plays explosiveness rate.
def_plays: integer. Defense plays in the game.
def_ppa: double. Defense predicted points added (PPA).
def_total_ppa: double. Defense total predicted points added (PPA).
def_explosiveness: double. Defense explosiveness rate.
def_stuff_rate: double. Defense rushing stuff rate.
def_line_yds: double. Defense Offensive line yards allowed.
def_line_yds_total: integer. Defense Offensive line yards total allowed.
def_second_lvl_yds_total: integer. Defense second-level yards total.
def_open_field_yds: integer. Defense open field yards.
def_open_field_yds_total: integer. Defense open field yards total.
def_total_opportunities: integer. Defense opportunities.
def_pts_per_opp: double. Defense points per scoring opportunity.
def_field_pos_avg_predicted_points: double. Defense starting average field position predicted points (PP).
def_havoc_total: double. Defense havoc rate total.
def_passing_downs_ppa: double. Defense passing downs predicted points added (PPA).
def_passing_downs_explosiveness: double. Defense passing downs explosiveness rate.
def_rushing_plays_ppa: double. Defense rushing plays predicted points added (PPA).
def_rushing_plays_total_ppa: double. Defense rushing plays total predicted points added (PPA).
def_rushing_plays_explosiveness: double. Defense rushing plays explosiveness rate.
Examples

cfbd_stats_season_advanced(2019, team = "LSU")

cfbd_stats_season_player

Get season statistics by player

Description

Get season statistics by player

Usage

cfbd_stats_season_player(
    year,
    season_type = "regular",
    team = NULL,
    conference = NULL,
    start_week = NULL,
    end_week = NULL,
    category = NULL
)

Arguments

year (Integer required): Year, 4 digit format (YYYY)
season_type (String default: regular): Select Season Type - regular, postseason, or both
team (String optional): D-I Team
conference (String optional): Conference abbreviation - Select a valid FBS conference
Conference abbreviations P5: ACC, B12, B1G, SEC, PAC
Conference abbreviations G5 and FBS Independents: CUSA, MAC, MWC, Ind, SBC, AAC
start_week (Integer optional): Starting Week - values range from 1-15, 1-14 for seasons pre-playoff, i.e. 2013 or earlier
end_week (Integer optional): Ending Week - values range from 1-15, 1-14 for seasons pre-playoff, i.e. 2013 or earlier
category (String optional): Category filter (e.g defensive)
Offense: passing, receiving, rushing
Defense: defensive, fumbles, interceptions
Special Teams: punting, puntReturns, kicking, kickReturns
Value

cfbd_stats_season_player() - A data frame with 59 variables:

- **team**: character. Team name.
- **conference**: character. Conference of the team.
- **athlete_id**: character. Athlete referencing id.
- **player**: character. Player name.
- **category**: character. Statistic category.
- **passing_completions**: double. Passing completions.
- **passing_att**: double. Passing attempts.
- **passing_pct**: double. Passing completion percentage.
- **passing_yds**: double. Passing yardage.
- **passing_td**: double. Passing touchdowns.
- **passing_int**: double. Passing interceptions.
- **passing_ypa**: double. Passing yards per attempt.
- **rushing_car**: double. Rushing yards per carry.
- **rushing_yds**: double. Rushing yards total.
- **rushing_td**: double. Rushing touchdowns.
- **rushing_ypc**: double. Rushing yards per carry.
- **rushing_long**: double. Rushing longest yardage attempt.
- **receiving_rec**: double. Receiving - pass receptions.
- **receiving_yds**: double. Receiving - pass reception yards.
- **receiving_td**: double. Receiving - passing reception touchdowns.
- **receiving_ypr**: double. Receiving - passing yards per reception.
- **receiving_long**: double. Receiving - longest pass reception yardage.
- **fumbles_fum**: double. Fumbles.
- **fumbles_rec**: double. Fumbles recovered.
- **fumbles_lost**: double. Fumbles lost.
- **defensive_solo**: double. Defensive solo tackles.
- **defensive_tot**: double. Defensive total tackles.
- **defensive_tfl**: double. Defensive tackles for loss.
- **defensive_sacks**: double. Defensive sacks.
- **defensive_qb_hur**: double. Defensive quarterback hurry.
- **interceptions_int**: double. Interceptions total.
- **interceptions_yds**: double. Interception return yards.
- **interceptions_avg**: double. Interception return yards average.
- **interceptions_td**: double. Interception return touchdowns.
- **defensive_pd**: double. Defense - passes defensed.
kicking_fga: double. Kicking - field goals attempted.
kicking_pct: double. Kicking - field goal percentage.
kicking_xpa: double. Kicking - extra points attempted.
kicking_xpm: double. Kicking - extra points made.
kicking_pts: double. Kicking - total points.
kicking_long: double. Kicking - longest successful field goal attempt.
kick_returns_no: double. Kick Returns - number of kick returns.
kick_returns_avg: double. Kick Returns - kick return average yards per return.
punting_no: double. Punting - number of punts.
punting_ypp: double. Punting - yards per punt.
punting_long: double. Punting - longest punt yardage.
punting_in_20: double. Punting - punt downed inside the 20 yard line.
punt_returns_no: double. Punt Returns - number of punt returns.
punt_returns_avg: double. Punt Returns - punt return average yards per return.

Examples

cfbd_stats_season_player(year = 2018, conference = "B12", start_week = 1, end_week = 7)
cfbd_stats_season_player(2019, team = "LSU", category = "passing")
cfbd_stats_season_player(2013, team = "Florida State", category = "passing")
Get season statistics by team

**Usage**

cfbd_stats_season_team(
  year,
  season_type = "regular",
  team = NULL,
  conference = NULL,
  start_week = NULL,
  end_week = NULL,
  verbose = FALSE
)

**Arguments**

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>year</td>
<td>(Integer required): Year, 4 digit format (YYYY)</td>
</tr>
<tr>
<td>season_type</td>
<td>(String default: regular): Select Season Type - regular, postseason, or both</td>
</tr>
<tr>
<td>team</td>
<td>(String optional): D-I Team</td>
</tr>
<tr>
<td>conference</td>
<td>(String optional): Conference abbreviation - Select a valid FBS conference</td>
</tr>
<tr>
<td></td>
<td>Conference abbreviations P5: ACC, B12, B1G, SEC, PAC</td>
</tr>
<tr>
<td></td>
<td>Conference abbreviations G5 and FBS Independents: CUSA, MAC, MWC, Ind, SBC, AAC</td>
</tr>
<tr>
<td>start_week</td>
<td>(Integer optional): Starting Week - values range from 1-15, 1-14 for seasons pre-playoff, i.e. 2013 or earlier</td>
</tr>
<tr>
<td>end_week</td>
<td>(Integer optional): Ending Week - values range from 1-15, 1-14 for seasons pre-playoff, i.e. 2013 or earlier</td>
</tr>
<tr>
<td>verbose</td>
<td>Logical parameter (TRUE/FALSE, default: FALSE) to return warnings and messages from function</td>
</tr>
</tbody>
</table>

**Value**

`cfbd_stats_season_team()` - A data frame with 32 variables:

- **season**: integer  Season for stats.
- **team**: character  Team name.
- **conference**: character  Conference of team.
- **games**: integer  Number of games.
pass_comps: integer. Total number of pass completions.
pass_atts: integer. Total number of pass attempts.
pass_TDs: integer. Passing touchdowns.
interceptions: integer. Passing interceptions.
rush_atts: integer. Rushing attempts.
rush_yds: integer. Rushing yards.
rush_TDs: integer. Rushing touchdowns.
total_yds: integer. Rushing total yards.
fumbles_lost: integer. Fumbles lost.
turnovers: integer. Turnovers total.
first_downs: integer. Number of first downs.
third_downs: integer. Number of third downs.
third_down_convs: integer. Number of third down conversions.
fourth_down_convs: integer. Fourth down conversions.
fourth_downs: integer. Fourth downs.
penalties: integer. Total number of penalties.
penalty_yds: integer. Penalty yards total.
kick_returns: integer. Number of kick returns.
kick_return_yds: integer. Total kick return yards.
kick_return_TDs: integer. Total kick return touchdowns.
punt_returns: integer. Number of punt returns.
punt_return_yds: integer. Punt return total yards.
punt_return_TDs: integer. Punt return total touchdowns.
passes_intercepted: integer. Passes intercepted.
passes_intercepted_TDs: integer. Pass interception return touchdowns.

Examples

```
cfbd_stats_season_team(year = 2018, conference = "B12", start_week = 1, end_week = 8)
cfbd_stats_season_team(2019, team = "LSU")
cfbd_stats_season_team(2013, team = "Florida State")
```
**CFBD Teams Endpoint Overview**

**Description**

- `cfbd_team_info()`: Team Info Lookup.
- `cfbd_team_roster()`: Get a team’s full roster by year.
- `cfbd_team_talent()`: Get composite team talent rankings for all teams in a given year.
- `cfbd_team_matchup_records()`: Get matchup history records between two teams.
- `cfbd_team_matchup()`: Get matchup history between two teams.

**Team info lookup:**

Lists all teams in conference or all D-I teams if conference is left NULL Currently, support is only provided for D-I

```python
cfbd_team_info(conference = "SEC")

cfbd_team_info(conference = "Ind")

cfbd_team_info(year = 2019)
```

**Get team rosters:**

- **It is now possible to access yearly rosters:**
  ```python
cfbd_team_roster(year = 2020)
  ```
  
  Get a team’s full roster by year. If team is not selected, API returns rosters for every team from the selected year.
  ```python
cfbd_team_roster(year = 2013, team = "Florida State")
  ```

**Get composite team talent rankings:**

Extracts team talent composite for all teams in a given year as sourced from 247 rankings

```python
cfbd_team_talent()

cfbd_team_talent(year = 2018)
```

**Get matchup history between two teams.**

```python
cfbd_team_matchup("Texas A&M", "TCU")

cfbd_team_matchup("Texas A&M", "TCU", min_year = 1975)

cfbd_team_matchup("Florida State", "Florida", min_year = 1975)
```

**Get matchup history records between two teams.**

```python
cfbd_team_matchup_records("Texas", "Oklahoma")

cfbd_team_matchup_records("Texas A&M", "TCU", min_year = 1975)
```
Description

Team info lookup

Usage

cfbd_team_info(conference = NULL, only_fbs = TRUE, year = NULL)

Arguments

conference  
(String optional): Conference abbreviation - Select a valid FBS conference
Conference abbreviations P5: ACC, B12, B1G, SEC, PAC,
Conference abbreviations G5 and FBS Independents: CUSA, MAC, MWC, Ind,
SBC, AAC

only_fbs  
(Logical default TRUE): Filter for only returning FBS teams for a given year.
If year is left blank while only_fbs is TRUE, then will return values for most
current year

year  
(Integer optional): Year, 4 digit format (YYYY). Filter for getting a list of major
division team for a given year

Value

cfbd_team_info() - A data frame with 12 variables:
team_id: integer. Referencing team id.
school: character. Team name.
mascot: character. Team mascot.
abbreviation: character. Team abbreviations.
alt_name1: character. Team alternate name 1 (as it appears in play_text).
alt_name2: character. Team alternate name 2 (as it appears in play_text).
alt_name3: character. Team alternate name 3 (as it appears in play_text).
division: character. Division of team within the conference.
color: character. Team color (primary).
alt_color: character. Team color (alternate).
logos: character. Team logos.
venue_id: character. Referencing venue id.
venue_name: character. Stadium name.
city: character. Team/venue city.
state: character. Team/venue state.
zip: character. Team/venue zip code (someone double check Miami (FL) on if they’re in the same zip code).
country_code: character. Team/venue country code.
timezone: character. Team/venue timezone.
latitude: character. Venue latitude.
longitude: character. Venue longitude.
elevation: character. Venue elevation.
capacity: character. Venue capacity.
year_constructed: character. Year the venue was constructed.
grass: character. TRUE/FALSE response on whether the field is grass or not (oh, and there are so many others).
dome: character. TRUE/FALSE flag for if the venue is a domed stadium.

Examples

cfbd_team_info(conference = "SEC")
cfbd_team_info(conference = "Ind")
cfbd_team_info(year = 2019)

cfbd_team_matchup \hspace{1cm} Get matchup history between two teams.

Description

Get matchup history between two teams.

Usage

cfbd_team_matchup(team1, team2, min_year = NULL, max_year = NULL)

Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>team1</td>
<td>(String required): D-I Team 1</td>
</tr>
<tr>
<td>team2</td>
<td>(String required): D-I Team 2</td>
</tr>
<tr>
<td>min_year</td>
<td>(Integer optional): Minimum of year range, 4 digit format (YYYY)</td>
</tr>
<tr>
<td>max_year</td>
<td>(Integer optional): Maximum of year range, 4 digit format (YYYY)</td>
</tr>
</tbody>
</table>
Value

`cfbd_team_matchup` - A data frame with 11 variables:

- **season**: integer. Season the game took place.
- **week**: integer. Game week of the season.
- **season_type**: character. Season type of the game.
- **date**: character. Game date.
- **neutral_site**: logical. TRUE/FALSE flag for if the game took place at a neutral site.
- **venue**: character. Stadium name.
- **home_team**: character. Home team of the game.
- **home_score**: integer. Home score in the game.
- **away_team**: character. Away team of the game.
- **away_score**: integer. Away score in the game.
- **winner**: character. Winner of the matchup.

Examples

```r
cfbd_team_matchup("Texas", "Oklahoma")
cfbd_team_matchup("Texas A&M", "TCU")
cfbd_team_matchup("Texas A&M", "TCU", min_year = 1975)
cfbd_team_matchup("Florida State", "Florida", min_year = 1975)
```

---

cfbd_team_matchup_records

Get matchup history records between two teams.

Description

Get matchup history records between two teams.

Usage

```r
cfbd_team_matchup_records(team1, team2, min_year = NULL, max_year = NULL)
```

Arguments

- **team1**: (String required): D-I Team 1
- **team2**: (String required): D-I Team 2
- **min_year**: (Integer optional): Minimum of year range, 4 digit format (YYYY)
- **max_year**: (Integer optional): Maximum of year range, 4 digit format (YYYY)
Value

cfbd_team_matchup_records() - A data frame with 7 variables:

- start_year: character. Span starting year.
- end_year: character. Span ending year.
- team1: character. First team selected in query.
- team1_wins: character. First team wins in series against team2.
- team2: character. Second team selected in query.
- team2_wins: character. Second team wins in series against team1.
- ties: character. Number of ties in the series.

Examples

cfbd_team_matchup_records("Texas", "Oklahoma")

cfbd_team_matchup_records("Texas A&M", "TCU", min_year = 1975)

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weight: integer. Athlete weight.
height: integer. Athlete height.
jersey: integer. Athlete jersey number.
year: integer. Athlete year.
position: character. Athlete position.
home_city: character. Hometown of the athlete.
home_state: character. Hometown state of the athlete.
home_country: character. Hometown country of the athlete.
home_latitude: numeric. Hometown latitude.
home_longitude: number. Hometown longitude.
headshot_url: character. Player ESPN headshot url.

Examples

cfbd_team_roster(year = 2013, team = "Florida State")

cfbd_team_talent

Get composite team talent rankings for all teams in a given year

Description

Extracts team talent composite as sourced from 247 rankings

Usage

cfbd_team_talent(year = NULL)

Arguments

year (Integer optional): Year 4 digit format (YYYY)

Value

cfbd_team_talent() - A data frame with 3 variables:

year: integer. Season for the talent rating.
school: character. Team name.
talent: double. Overall roster talent points (as determined by 247Sports).
Examples

cfbd_team_talent()
cfbd_team_talent(year = 2018)

---

cfbd_venues

**CFBD Venues Endpoint Overview**

**Description**

Pulls all college football venues and data on capacity, grass, city/state, location, elevation, dome, timezone and construction year.

**Usage**

cfbd_venues()

**Details**

CFB Venue Information

cfbd_venues()

**Value**

A data frame with 337 rows and 13 variables:

- **venue_id**: integer. Referencing venue ID.
- **name**: character. Venue name.
- **capacity**: integer. Stadium capacity.
- **grass**: logical. TRUE/FALSE response on whether the field is grass or not (oh, and there are so many others).
- **city**: character. Venue city.
- **state**: character. Venue state.
- **zip**: character. Venue zip.
- **country_code**: character. Venue country code.
- **location**: list. Venue location.
- **elevation**: character. Venue elevation.
- **year_constructed**: integer. Year in which the venue was constructed.
- **dome**: logical. TRUE/FALSE response to whether the venue has a dome or not.
- **timezone**: character. Time zone in which the venue resides (i.e. Eastern Time -> "America/New York").
Examples

cfbd_venues()

Description

Data in the package for reference

College Football Mapping for Play Types

College Football Conferences

Usage

cfbd_play_type_df

cfbd_conf_types_df

Format

A data frame with 45 rows and 3 variables:

id  Referencing play id
text play type description
abbreviation  play type abbreviation used for function call ...

A data frame with 11 rows and 4 variables:

id  Referencing conference id
name  Conference name
short_name  Short name for Conference
abbreviation  Conference abbreviation ...
Description

Get ESPN college football PBP data

Usage

espn_cfb_pbp(game_id)

Arguments

game_id  Game ID

Author(s)

Saiem Gilani

Examples

espn_cfb_pbp(game_id = 401282614)

Description

ESPN Scoreboard

Get live scoreboard data from ESPN

Usage

espn_cfb_scoreboard(date = NULL)

Arguments

date  (Integer required - YYYYMMDD): Date to pull

Value

espn_cfb_scoreboard()
Examples

```
espn_cfb_scoreboard()
```

---

**Description**

**ESPN Metrics**

Get win probability chart data from ESPN Graciously contributed by MrCaseB:

Usage

```
espn_metrics_wp(game_id)
```

Arguments

```
game_id         (Integer required): Game ID filter for querying a single game
                Can be found using the cfbd_game_info() function
```

Value

```
espn_metrics_wp() - A data frame with 5 variables:
```

game_id: **character.** Referencing game ID (should be same as game_id from other functions).

play_id: **character.** Referencing play ID.

seconds_left: **integer.** Seconds left in the game.

home_win_percentage: **double.** The probability of the home team winning the game.

away_win_percentage: **double.** The probability of the away team winning the game (calculated as 1 - home_win_percentage - tie_percentage).

tie_percentage: **double.** The probability of the game ending the final period in a tie.

Examples

```
espn_metrics_wp(game_id = 401114164)
```

---
### Description

Get FPI historical rating data (most recent of each year)

### Usage

```r
espn_ratings_fpi(year = 2019)
```

### Arguments

<table>
<thead>
<tr>
<th>year</th>
<th>Year</th>
</tr>
</thead>
</table>

### Details

Adapted from sabinanalytic’s fork of the cfbfastR repo

### Value

A data frame with 20 variables:

- **year**: `double`. Season of the Football Power Index (FPI) Rating.
- **team_id**: `character`. Unique ESPN team ID - `team_id`.
- **name**: `character`. Team Name.
- **abbr**: `character`. Team abbreviation.
- **fpi**: `character`. Football Power Index (FPI) Rating.
- **fpi_rk**: `character`. Football Power Index (FPI) Rank.
- **trend**: `character`. Football Power Index (FPI) ranking trend.
- **proj_w**: `character`. Projected Win total for the season.
- **proj_l**: `character`. Projected Loss total for the season.
- **win_out**: `double`. Probability the team wins out.
- **win_6**: `double`. Probability the team wins at least six games.
- **win_div**: `double`. Probability the team wins at their division.
- **playoff**: `double`. Probability the team reaches the playoff.
- **nc_game**: `double`. Probability the team reaches the national championship game.
- **nc_win**: `double`. Probability the team wins the national championship game.
- **win_conf**: `double`. Probability the team wins their conference game.
- **w**: `character`. Wins on the season.
- **l**: `character`. Losses on the season.
- **t**: `character`. Ties on the season.
**load_cfb_pbp**  
*Load cfbfastR play-by-play*

**Description**

helper that loads multiple seasons from the data repo either into memory or writes it into a db using some forwarded arguments in the dots

**Usage**

```r
load_cfb_pbp(seasons, ..., qs = FALSE)
```

**Arguments**

- `seasons`: A vector of 4-digit years associated with given College Football seasons.
- `...`: Additional arguments passed to an underlying function that writes the season data into a database (used by `update_cfb_db()`).
- `qs`: Whether to use the function `qs::qdeserialze()` for more efficient loading.

**register_cfb**  
*CFBD API Key Registration*

**Description**

Save your API Key as a system environment variable `CFBD_API_KEY`

**Usage**

```r
cfb_key()
has_cfb_key()
```

**Details**

To get access to an API key, follow the instructions at [https://collegefootballdata.com/key](https://collegefootballdata.com/key)

**Using the key:**

You can save the key for consistent usage by adding `CFBD_API_KEY=XXXX-YOUR-API-KEY-HERE-XXXXX` to your `.Renviron` file (easily accessed via `usethis::edit_r_environ()`).

Run `usethis::edit_r_environ()`, a new script will pop open named `.Renviron`. **THEN** paste the following in the new script that pops up (without quotations)

```
CFBD_API_KEY = XXXX-YOUR-API-KEY-HERE-XXXXX
```
Save the script and restart your RStudio session, by clicking Session (in between Plots and Build) and click Restart R (there also exists the shortcut Ctrl + Shift + F10 to restart your session).

If set correctly, from then on you should be able to use any of the cfbd_ functions without any other changes.

**For less consistent usage:**
At the beginning of every session or within an R environment, save your API key as the environment variable CFBD_API_KEY (with quotations) using a command like the following.

```r
Sys.setenv(CFBD_API_KEY = "XXXX-YOUR-API-KEY-HERE-XXXXX")
```

### update_cfb_db

**Update or create a cfbfastR play-by-play database**

#### Description

`update_cfb_db()` updates or creates a database with cfbfastR play by play data of all completed games since 2014.

#### Usage

```r
update_cfb_db(
  dbdir = getOption("cfbfastR.dbdirectory", default = "."),
  dbname = "cfb_pbp_db",
  tblname = "cfbfastR_pbp",
  force_rebuild = FALSE,
  db_connection = NULL
)
```

#### Arguments

- **dbdir**: Directory in which the database is or shall be located. Can also be set globally with `options(cfbfastR.dbdirectory)`.
- **dbname**: File name of an existing or desired SQLite database within `dbdir`.
- **tblname**: The name of the play by play data table within the database.
- **force_rebuild**: Hybrid parameter (logical or numeric) to rebuild parts of or the complete play by play data table within the database (please see details for further information).
- **db_connection**: A `DBI::dbConnect()` object, as returned by `DBI::dbConnect()` (please see details for further information).
Details

This function creates and updates a data table with the name tblname within a SQLite database (other drivers via db_connection) located in dbdir and named dbname. The data table combines all play by play data for every available game back to the 2014 season and adds the most recent completed games as soon as they are available for cfbfastR.

The argument force_rebuild is of hybrid type. It can rebuild the play by play data table either for the whole cfbfastR era (with force_rebuild = TRUE) or just for specified seasons (e.g. force_rebuild = c(2019, 2020)). Please note the following behavior:

- force_rebuild = TRUE: The data table with the name tblname will be removed completely and rebuilt from scratch. This is helpful when new columns are added during the Off-Season.
- force_rebuild = c(2019, 2020): The data table with the name tblname will be preserved and only rows from the 2019 and 2020 seasons will be deleted and re-added. This is intended to be used for ongoing seasons because ESPN’s data provider can make changes to the underlying data during the week.

The parameter db_connection is intended for advanced users who want to use other DBI drivers, such as MariaDB, Postgres or odbc. Please note that the arguments dbdir and dbname are dropped in case a db_connection is provided but the argument tblname will still be used to write the data table into the database.
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