Package ‘fitzRoy’

January 21, 2020

**Title**  Easily Scrape and Process AFL Data

**Version**  0.3.1

**Description**  An easy package for scraping and processing Australia Rules Football (AFL) data. 'fitzRoy' provides a range of functions for accessing publicly available data from 'AFL Tables' <https://afltables.com>, 'Footy Wire' <https://www.footywire.com> and 'The Squiggle' <https://squiggle.com.au>. Further functions allow for easy processing, cleaning and transformation of this data into formats that can be used for analysis.

**License**  GPL-3

**URL**  https://github.com/jimmyday12/fitzRoy

**BugReports**  https://github.com/jimmyday12/fitzRoy/issues

**Depends**  R (>= 3.1)

**Imports**  dplyr, httr, jsonlite, lubridate, magrittr, purrr, readr, rlang (>= 0.1.2), rvest, stringr (>= 1.3.0), tidyselect, xml2, tibble, glue

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**calculate_round**

*Helper function for get_fixture, betting_data*

**Description**

Work out round number of each game from day and week. Games from Wednesday through Tuesday go in same Round.

**Usage**

```
calculate_round(data_frame)
```

**Arguments**

- `data_frame` A data frame with match-level data and a Date column
convert_results

Convert AFL Men's results into long format

Description

close_result returns a dataframe containing the results in long format.

Usage

close_results(results)

Arguments

results A dataframe that has been returned from get_match_results

Details

The standard results returned by afltables.com will be in wide format. This is useful for game based analysis but less so for team based ones. This function converts the data into long format for easier analysis.

Value

A data frame with match results where each row is a team-match combination

Examples

```r
## Not run:
results <- get_match_results()
convert_results(results)
## End(Not run)
```

footywire_html

Helper function for get_footywire_stats

Description

Helper function for get_footywire_stats

Usage

footywire_html(x, id)
Arguments

x  URL of the match
id  Match ID number

Value

A data frame with advanced player results

get_afltables_stats  Return afltables match stats

Description

get_afltables_stats returns a data frame containing match stats for each game within the specified date range.

Usage

get_afltables_stats(start_date = "1897-01-01", end_date = Sys.Date())

Arguments

start_date  character string for start date return to URLs from, in "dmy" or "ymd" format
end_date  optional, character string for end date to return URLs, in "dmy" or "ymd" format

Details

This function returns a data frame containing match stats for each game within the specified date range. The data from contains all stats on afltables match pages and returns 1 row per player.

The data for this function is hosted on github to avoid extensive scraping of historical data from afltables.com. This will be updated regularly.

Value

a data table containing player stats for each game between start date and end date

Examples

#
## Not run:
# Gets all data
get_afltables_stats()
# Specify a date range
get_afltables_stats("01/01/2018", end_date = "01/04/2018")

## End(Not run)
*get_afltables_urls*  

Return match URLs for specified dates

**Description**

get_afltables_urls returns a character vector containing match URLs for the specified date range.

**Usage**

```r
get_afltables_urls(start_date, end_date = Sys.Date())
```

**Arguments**

- `start_date`: character string for start date return to URLs from, in "dmy" or "ymd" format
- `end_date`: optional, character string for end date to return URLs, in "dmy" or "ymd" format

**Details**

This function returns match URLs for the specified date range. This will typically be used to pass to `scrape_afltables_match` to return player match results.

**Value**

a character vector of URL's between `start_date` and `end_date`

**Examples**

```r
## Not run:
get_afltables_urls("01/01/2018", end_date = "01/04/2018")
## End(Not run)
```

---

*get_aflw_cookie*  

Get AFL Stats cookie (internal function)

**Description**


**Usage**

```r
get_aflw_cookie()
```

**Value**

token code
Examples

```r
## Not run:
cookie <- get_aflw_cookie()

## End(Not run)
```

---

get_aflw_detailed_data

*Get detailed AFLW data*

Description

Get detailed AFLW data

Usage

```r
get_aflw_detailed_data(matchids)
```

Arguments

- `matchids`: vector of match IDs, like those returned by `get_aflw_match_data()`

Value

Dataframe with detailed match data. Each row is a match.

Examples

```r
## Not run:
get_aflw_detailed_data(c("CD_M20172640101", "CD_M20172640102"))

## End(Not run)
```

---

get_aflw_detailed_match_data

*Get detailed womens match data (internal function)*

Description

Gets detailed match data for a given match. Requires the match, round, and competition IDs, which are given in the tables produced by `get_aflw_round_data()`

Usage

```r
get_aflw_detailed_match_data(matchid, roundid, competitionid, cookie)
```
get_aflw_match_data

Arguments

- matchid: matchid from get_match_data()
- roundid: roundid from get_match_data()
- competitionid: competitionid from get_match_data()
- cookie: cookie from get_womens_cookie()

Value

Dataframe with detailed match data (wide)

Examples

```r
# Not run:
get_aflw_detailed_match_data(
  "CD_M20172640101",
  "CD_R201726401", "CD_S2017264", get_aflw_cookie()
)
```

## End(Not run)

get_aflw_match_data

**Get AFLW match data**

Description


Usage

```r
generate_aflw_match_data(start_year = 2017)
```

Arguments

- start_year: optional, integer for start year to return match data onwards from

Value

a data frame of data for all available AFLW matches
Examples

```r
## Not run:
# All data
get_aflw_match_data()

# 2018 data onward
get_aflw_match_data(start_year = 2018)
## End(Not run)
```

### Description

Returns data frame for available round data. Includes the rounds played, as well as identifiers to make further requests, importantly the roundId.

### Usage

```r
get_aflw_rounds(cookie)
```

### Arguments

- `cookie` a cookie produced by `get_aflw_cookie()`

### Value

A dataframe with information about each round

### Examples

```r
## Not run:
get_aflw_rounds(get_aflw_cookie())
## End(Not run)
```
**get_aflw_round_data**

*Get match data (internal function)*

**Description**

For a given round ID, get the data for each match played in that round. Use the column `roundId` in the dataframe created by the `get_rounds()` function to specify matches to fetch.

**Usage**

```r
get_aflw_round_data(roundid, cookie)
```

**Arguments**

- `roundid` a round ID string
- `cookie` a cookie produced by `get_womens_cookie()`

**Value**

a dataframe containing match data

**Examples**

```r
## Not run:
get_aflw_round_data("CD_R201826401", get_aflw_cookie())

## End(Not run)
```

**get_fixture**

*Get upcoming fixture from https://www.footywire.com*

**Description**

`get_fixture` returns a dataframe containing upcoming AFL Men’s season fixture.

**Usage**

```r
get Fixture(season = lubridate::year(Sys.Date()), convert_date = FALSE)
```

**Arguments**

- `season` Season to return, in yyyy format
- `convert_date` logical, if TRUE, converts date column to date format instead of date time.

**Details**

The dataframe contains the home and away team as well as venue.
get_footywire_betting_odds

Value

Returns a data frame containing the date, teams and venue of each game.

Examples

```r
## Not run:
get_fixture(2018)

## End(Not run)
```

get_footywire_betting_odds

*Get AFL match betting odds from https://www.footywire.com*

Description

get_footywire_betting_odds returns a data frame containing betting odds and basic match info for Men’s AFL matches.

Usage

```r
get_footywire_betting_odds(
  start_season = "2010",
  end_season = lubridate::year(Sys.Date())
)
```

Arguments

- `start_season` First season to return, in yyyy format. Earliest season with data available is 2010.
- `end_season` Last season to return, in yyyy format.

Details

The data frame contains the home and away team as well as venue.

Value

Returns a data frame containing betting odds and basic match info.

Examples

```r
## Not run:
get_footywire_betting_odds(2012, 2018)

## End(Not run)
```
**get_footywire_stats**  
Scrape footywire player statistics.

**Description**

get_footywire_stats returns a dataframe containing player match stats from footywire from 2010 onwards.

**Usage**

```r
get_footywire_stats(ids)
```

**Arguments**

- `ids` A vector containing match id’s to return. Can be a single value or vector of values.

**Details**

The dataframe contains both basic and advanced player statistics from each match specified in the `match_id` input. To find match ID, find the relevant matches on https://www.footywire.com

**Value**

Returns a data frame containing player match stats for each match ID

**Examples**

```r
## Not run:
get_footywire_stats(ids = 5000:5100)
## End(Not run)
```

---

**get_match_data**  
Helper function for get_footywire_stats

**Description**

Helper function for get_footywire_stats

**Usage**

```r
get_match_data(id)
```

**Arguments**

- `id` A match id from afltables
get_match_results

Description
get_match_results returns a dataframe containing all match results from 1897-current

Usage
get_match_results()

Details
The dataframe contains information about the Date, teams involved, scores and venue. It comes from afltables 'big lists' section. This is a limited dataset but is very fast to access. It generally is updated on the day after the last game.

Value
Returns a data frame containing a line for each match

Examples
## Not run:
get_match_results()
## End(Not run)

get_score_progression_raw

Description
get_score_progression_raw returns a dataframe raw, unprocessed scoring progression data from afltables.

Usage
get_score_progression_raw()

Details
The data is unprocessed and unstructured but is a starting point for analysis. It only exists for 2010 to 2017.
get_squiggle_data

Value
Returns a data frame containing raw score progression data

Examples
## Not run:
get_score_progression_raw()

## End(Not run)

get_squiggle_data
Access Squiggle data using the squiggle API service.

Description
Use get_squiggle_data to access the Squiggle API. See instructions at api.squiggle.com.au.

Usage
get_squiggle_data(
  query = c("sources", "games", "tips", "ladder", "standings"),
  ...
)

Arguments
query A text string. The main query to use with the API. Must be one of sources, games, tips, ladder or standings
...
(optional) An optional argument provided to the Squiggle API. See details for more info.

Details
The optional arguments to squiggle can be one of the following.

• year: an integer specifying the year to return data from, e.g. year = 2018
• round: an integer specifying the round to return data from, e.g. round = 12
• game: an integer specifying the game ID to return data from, e.g. game = 10
• source: an integer specifying the ID of the source to return data from, e.g. source = 1

For full instructions, see api.squiggle.com.au

Value
A dataframe, with the resultant data that matches the query specified in query, as well as any optional filters.
Examples

```r
## Not run:
# Return a list of the sources, with ID's
sources <- get_squiggle_data("sources")

# Get tips for Round 1, 2018
tips <- get_squiggle_data(query = "tips", round = 1, year = 2018)

# Get tips from Squiggle 2019
squiggle <- get_squiggle_data(query = "tips", source = 1, year = 2019)

## End(Not run)
```

replace_teams

Internal function to ensure names match between different sources and also name changes. This gets applied to any web scraper.

**Usage**

```r
replace_teams(team)
```

**Arguments**

- `team` Team name

replace_venues

Internal function to ensure venue names match between different sources and also name changes across time. This gets applied to any web scraper, transforming all of them to AFL Tables naming conventions.

**Description**

Internal function to ensure venue names match between different sources and also name changes across time. This gets applied to any web scraper, transforming all of them to AFL Tables naming conventions.

**Usage**

```r
replace_venues(venue)
```

**Arguments**

- `venue` Venue name
return_ladder

Recreate the ladder for every or any given round and/or season

Description

return_ladder returns a dataframe containing the ladder for either all seasons and rounds since 1987, or individual rounds/seasons

Usage

return_ladder(match_results_df = NA, season_round = NA, season = NA)

Arguments

match_results_df
A dataframe that has been returned from get_match_results. If empty get_match_results will execute first
season_round
An integer of the round or vector of integers for multiple rounds. If empty, all rounds returned
season
An integer of the season or vector of integers for multiple seasons. If empty, all seasons returned

Details

The dataframe contains information about the Round, Season, Points For/Against, Ladder Position. It can either take in a data frame created using get_match_results, or if match_results_df is unspecified, will extract all games using get_match_results. Will only allow selecting rounds of the premiership season, not finals.

Value

Returns a data frame containing a line for each team’s ladder position at each round of a season

Examples

## Not run:
return_ladder()
return_ladder(match_results_df=get_match_results_df, season_round=23, season=1990:2019)
return_ladder(season_round = 10, season = 2019)

## End(Not run)
scrape_afltables_match

Return afltables player match stats

Description

scrape_afltables_match returns a character vector containing match URLs for the specified date range.

Usage

scrape_afltables_match(match_urls)

Arguments

match_urls A list of URL's for matches to scrape data from

Details

This function returns the full afltables.com match stats for each player and each game specified in match_urls. It is useful to use the helper function get_afltables_urls to return these or simply navigate to afltables.com and find the match of interest.

Value

data table of afltables.com match results, with a row per player per match.

Examples

## Not run:
scrape_afltables_match(get_afltables_urls("01/06/2018", "01/07/2018"))

## End(Not run)

update_footywire_stats

Update the included footywire stats data to the specified date.

Description

update_footywire_stats returns a dataframe containing player match stats from footywire

Usage

update_footywire_stats(check_existing = TRUE)
Arguments

check_existing  A logical specifying if we should check against existing dataset. Defaults to TRUE. Making it false will download all data from all history which will take some time.

Details

The dataframe contains both basic and advanced player statistics from each match from 2010 to the specified end date.

This function utilised the included ID’s dataset to map known ID’s. It looks for any new data that isn’t already loaded and proceeds to download it.

Value

Returns a data frame containing player match stats for each match ID

Examples

## Not run:
update_footywire_stats()

## End(Not run)
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