Package: RKelly (via r-universe)

September 6, 2024

Type Package

Title Translate Odds and Probabilities

Version 1.0

Description Calculates the Kelly criterion for bets given quoted prices, model predictions and commisions. Additionally it contains helper functions to calculate the probabilities in multi-leg games.

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Encoding UTF-8

LazyData true

RoxygenNote 6.1.1

Suggests testthat, knitr, rmarkdown

VignetteBuilder knitr

Repository https://hcelion.r-universe.dev

RemoteUrl https://github.com/hcelion/rkelly

RemoteRef HEAD

RemoteSha b91da6770bd68aa5a4a952ad5d0ae42c3a941376

Contents

chance_to_draw_n_games *Calculates the chance to draw out of n matches*

Description

Calculates the chance to draw out of n matches

Usage

```
chance_to_draw_n_games(p, n)
```

Arguments

p	probability of first (or second) player winning match
n	number of matches

Value

The decimal chance for a draw

Examples

```
chance_to_draw_n_games(0.4, 4) # Draw chance if one player has p=0.4 in four matches
```

chance_to_win_n_games *Calculate win chance after multiple matches*

Description

Chance of a player winning the majority of n matches. Draws count not as a win

Usage

```
chance_to_win_n_games(p, n)
```

Arguments

p	probability for player to win a single match
n	number of total matches playes

Value

The decimal chance of winning a game

Examples

```
chance_to_win_n_games(0.55,5) # Chance for player with p=0.55 to win best of 5 matches
```

kelly_back_dec *Kelly for back bet*

Description

Kelly for back bet

Usage

```
kelly_back_dec(price, p, commision_rate)
```

Arguments

price	Price to back in decimal odds
p	Probability of event to to materialise
commision_rate	Rate of commision charged on WINNINGS

Value

Kelly optimised fraction of stake relative to bank

Examples

```
kelly_back_dec(2,0.5,0.05)
```

kelly_criterion *The Kelly criterion*

Description

The Kelly criterion

Usage

```
kelly_criterion(p, alpha_w, alpha_l)
```

Arguments

p	The objective probability of the event
alpha_w	The return multiplier in case of the event happening
alpha_l	The return multiplier in case of the even not happening

Value

The Kelly optimised fraction that should be bet

Examples

```
kelly_criterion(0.5,1,1)
```

`kelly_lay_dec` *Kelly for lay bet*

Description

Kelly for lay bet

Usage

```
kelly_lay_dec(price, p, commision_rate)
```

Arguments

`price`	Price at which to lay
`p`	Base probability of event that is being laid
`commision_rate`	Rate of commision charged on WINNINGS

Value

Kelly optimised fraction of stake relative to bank

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