Document of Standard Agent

Team name

U-Mart Project

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Agent

Name

MovingAverageStrategy

Summary

The agent sends an order when the short term moving average line of futures price crosses over the medium term moving average line. If trend of short term moving average line is up, the agent sends buying order and when it is down, he sends selling order.

Execution and arguments

according as TestStrategy.java

Summary of arguments

according as TestStrategy.java

Type

Tool	Number of orders	Market of Limit	Asset management	Reference data	Long or short term	Against or follow trend	Learning	Online learning
Strategy.java	1	Limit Price	Yes	futures price, spot price, position, cash, remaining session	long	following the trend	No	No

Outline of algorithm

The agent calculates short term moving average of futures price and medium term moving average. If these two lines cross over each other, the agent send order. If trend of short term moving average line is up, the agent sends buying order and when it is down, he sends selling order. Limited price is given by following function. Dp represent absolute value of difference between the latest futures price and the second futures spot price. Limited Price=the latest spot prcei + Dp + (Dp/4)*Gaussian.Order volume is obtained as an uniform random numbers between minQuote and maxQuote.

Class

Class Name

MovingAverageStrategy

Super class

Strategy

Summary of class

Same as Summary of Agent

Fields

Name	Type	Role	Range	Value	Reason of Value
maxQuant	int	Maximam volume of one order	(minQuant+1) ... (initial cash/300,000)	50	
minQuant	int	Minimum volume of one order	1 ... (maxQuant-1)	15	
maxPosition	int	Upper bound of net position. For asset management.	1 ... (initial cash/300,000)	30	
shortReferenceTerm	int	Time window for which short term moving average is taken.	1 ... 40	10	empirical rule.
mediumReferenceTerm	int	Time window for which medium term moving average is taken.	shortReferenceTerm ... 100	20	empirical rule.

Methods

Name	Summary	Returned type	Arguments			
			Name	Type	Role	Range
getOrder	to dicide order	Order	spotPrice	int[]	Time Series of spot price	1 ...
			futurePrice	int[]	Time Series of futures price	-1 : When trade is failure, positive value : contracted futures price
			pos	int	current position	Positive is buying position. Nagative is selling position.
			money	long	amount of cash	0 ...
			restDay	int	Number of to the	0 ... 240

					closing of market	

Attachment

MovingAverageStrategy.doc, MovingAverageStrategy.java

Comments