GRAB Research Project

A trend following strategy replication analysis

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What is GRAB： A Trend Following Strategy

Chapter 25: “How to GRAB a Bargain Trading Futures . . . Maybe” by Mark Sleeman

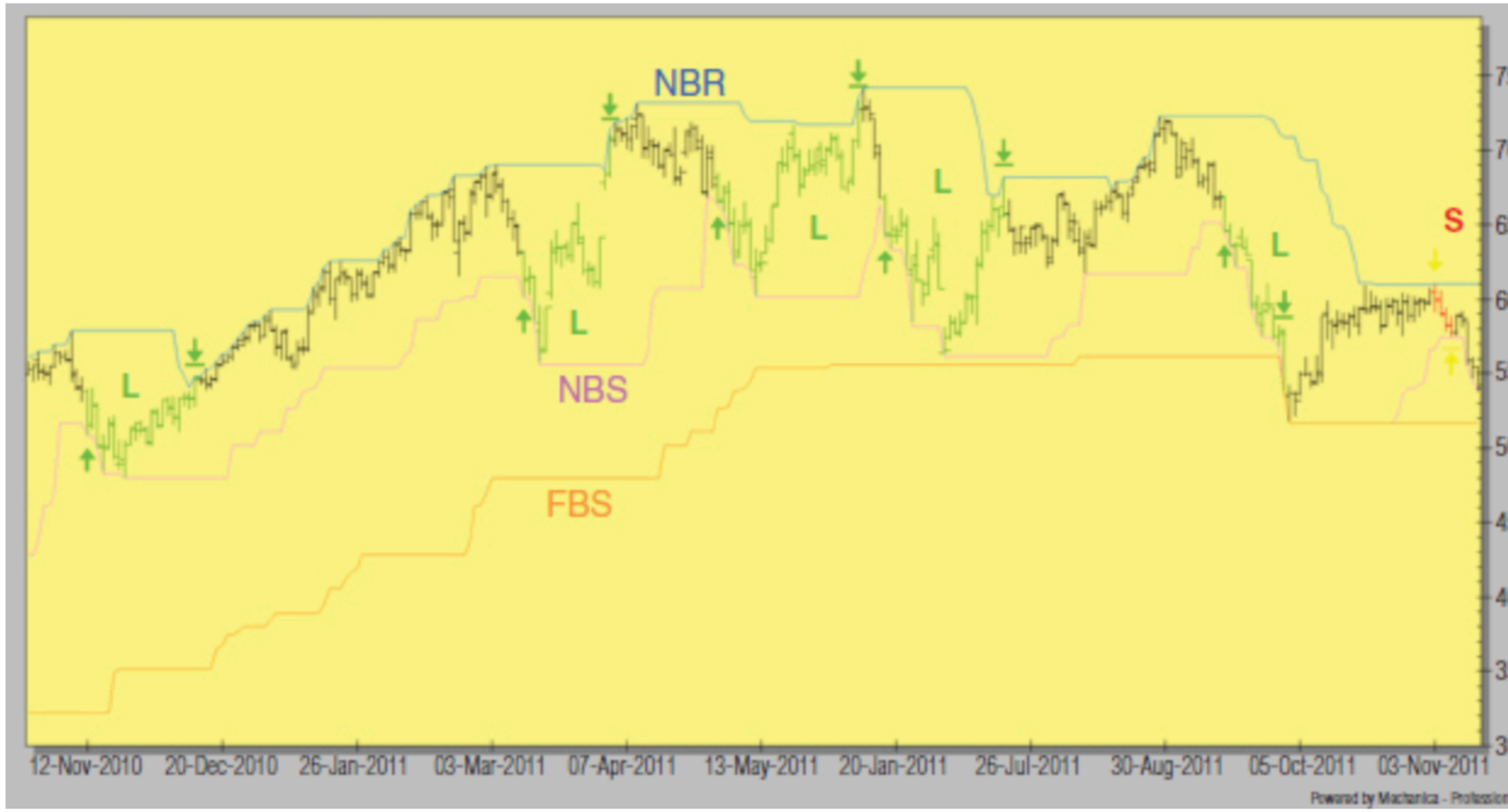
Trend detection + Swing trading

$$K_s^f(t) = \min(L_{t-N_f}, ..., L_{t-1})$$

$$K_r^f(t) = \max(H_{t-N_f}, ..., H_{t-1})$$

$$K_s^n(t) = \min(L_{t-N_n}, ..., L_{t-1})$$

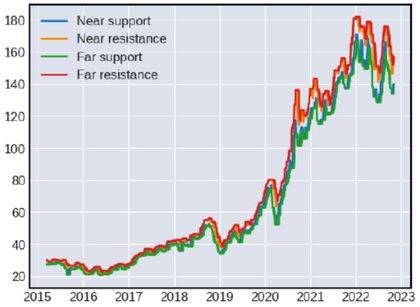
$$K_r^n(t) = \max(H_{t-N_n}, ..., H_{t-1})$$



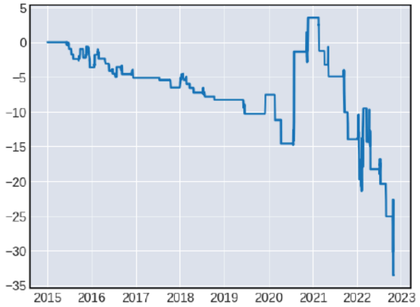
Cited from Chapter 25: “How to GRAB a Bargain Trading Futures . . . Maybe” by Mark Sleeman

Replication: Fixed parameters

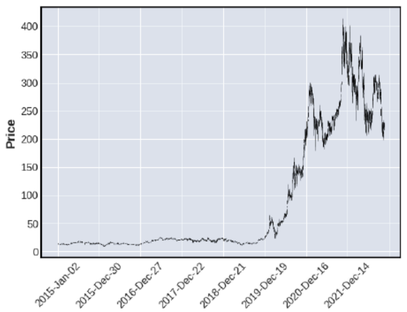
(a) AAPL OHLC



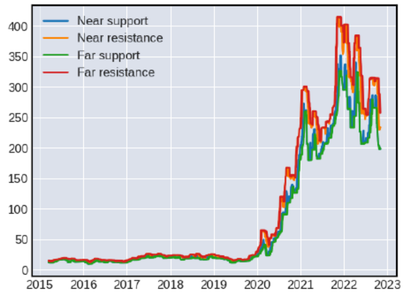
(b) AAPL levels



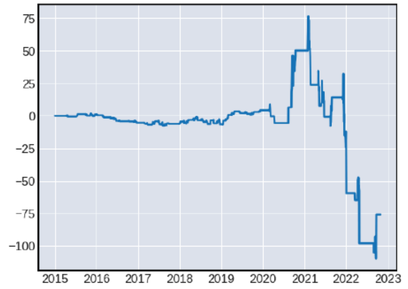
(c) AAPL PnL



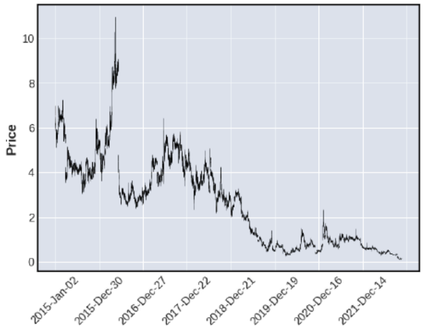
(a) TSLA OHLC



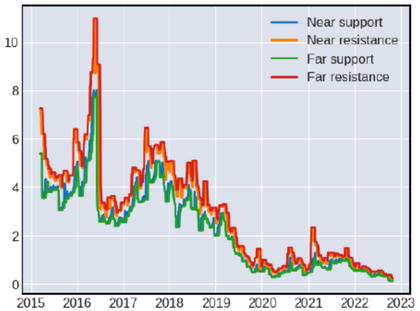
(b) TSLA levels



(c) TSLA PnL

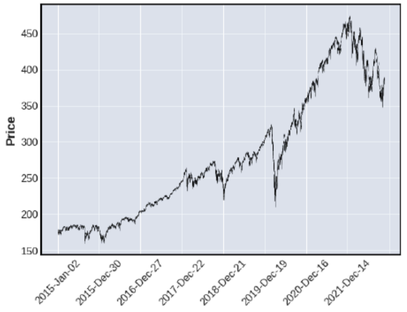


(d) ADMP OHLC

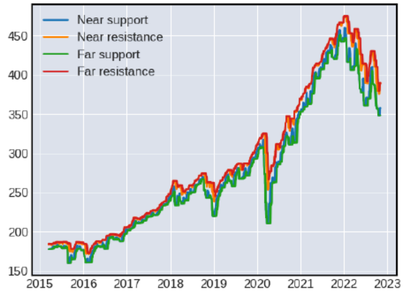


(e) ADMP levels

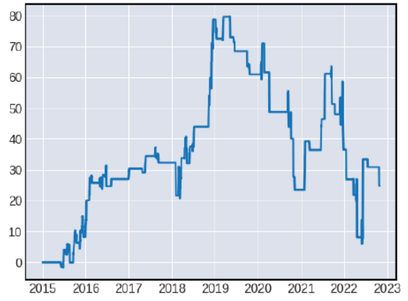
(f) ADMP PnL



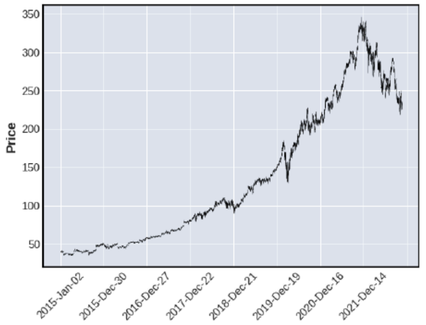
(d) SPY OHLC



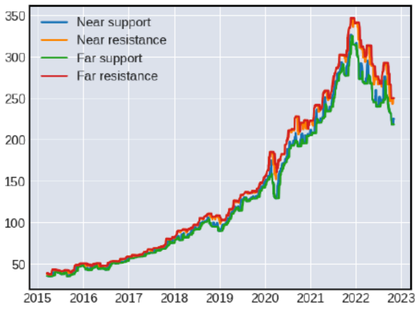
(e) SPY levels



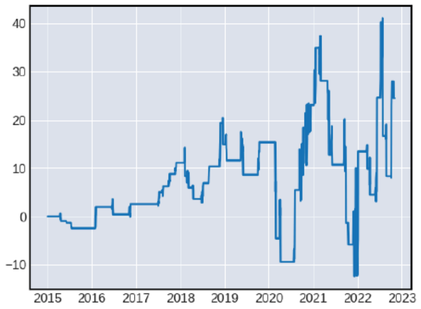
(f) SPY PnL



(g) MSFT OHLC



(h) MSFT levels



(i) MSFT PnL

Weakness

Pointed out by the author

- Sometimes, the far and near term lines are the same. In this case, the system wants to buy and sell at the same time.
- A losing trade does not accompany every major trend reversal, as not all trend reversal trades enter, and not all trades within the major trend are profitable.
- The market is dynamic. Fixing N_f, N_n parameters could cause entering and exiting a trade to be out of sync with market timing.

Weakness

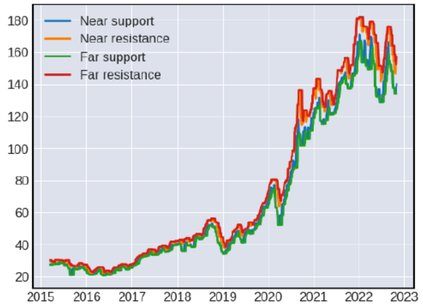
Pointed out by the me

- Limit order risk.
- The exit procedures described by the author is ill-designed.
- Unclear reasoning behind choosing high and low as major trend signal.

Improvement

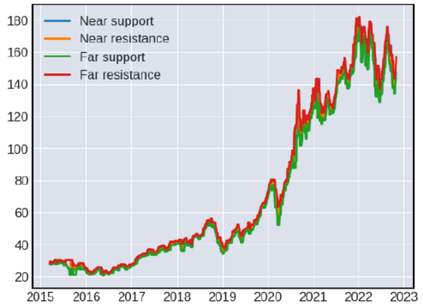
$$N_f^*, N_n^* = \underset{0<N_n<N_f<M}{\operatorname{argmax}} \; G(t; N_f, N_n, T)$$

Improvement: back testing

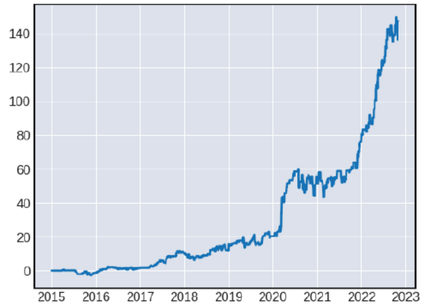


(a) fixed: AAPL levels

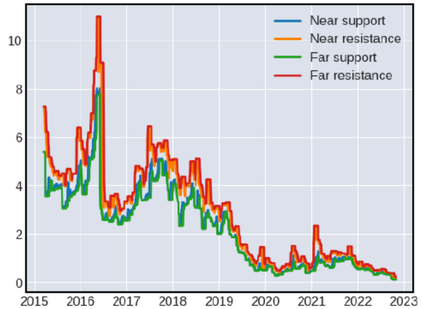
(b) fixed: AAPL PnL



(c) optimal: AAPL levels

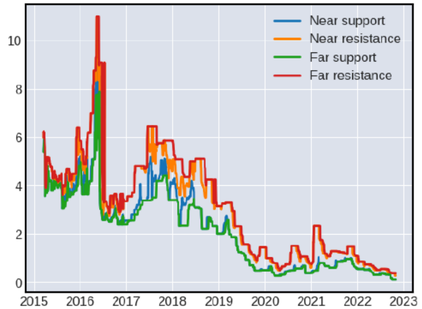


(d) optimal: AAPL PnL

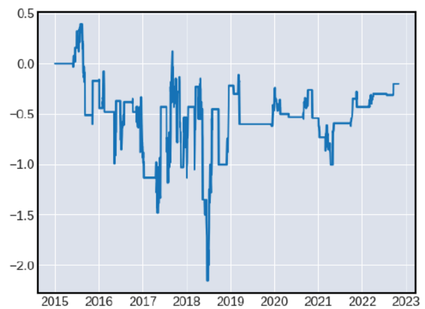


(e) fixed: ADMP levels

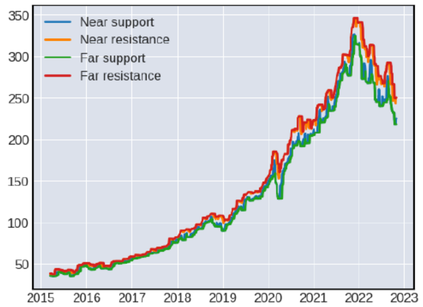
(f) fixed: ADMP PnL



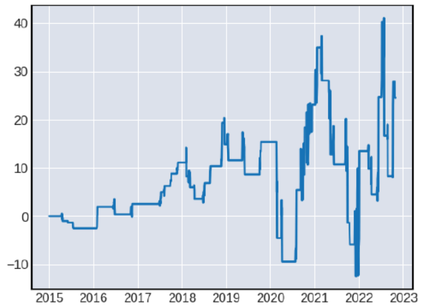
(g) optimal: ADMP levels



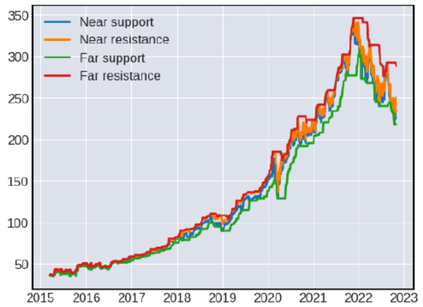
(h) optimal: ADMP PnL



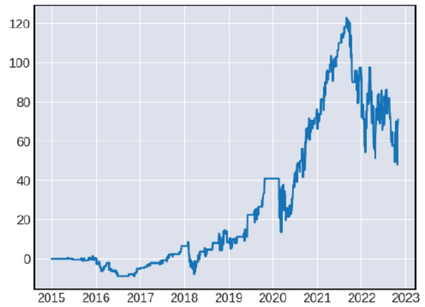
(i) fixed: MSFT levels



(j) fixed: MSFT PnL

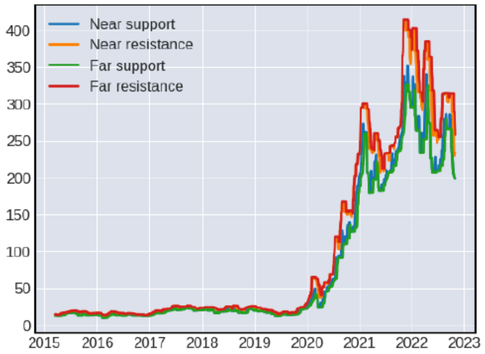


(k) optimal: MSFT levels

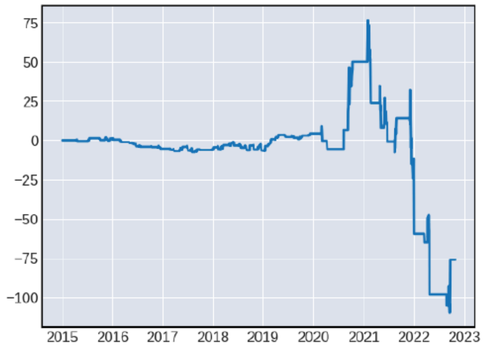


(l) optimal: MSFT PnL

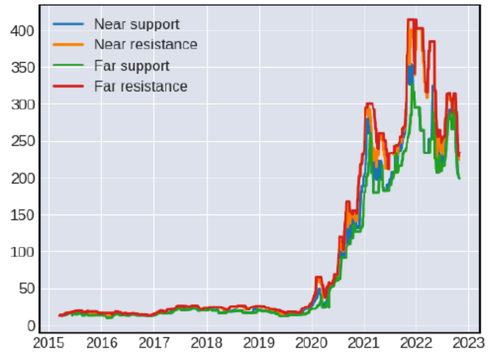
Improvement: back testing



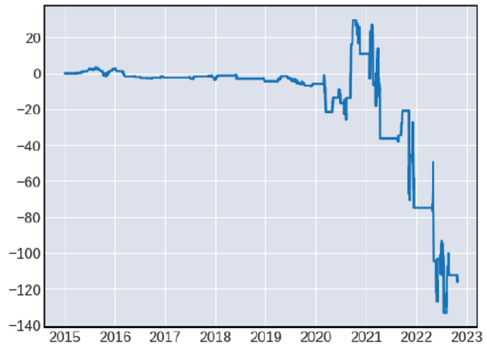
(m) fixed: TSLA levels



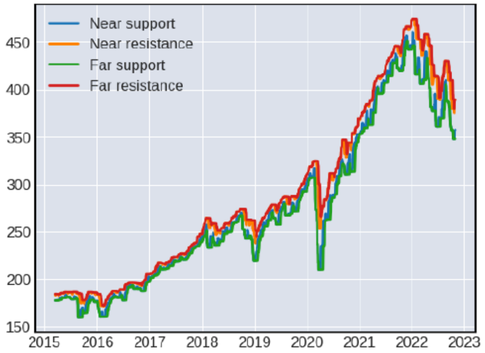
(n) fixed: TSLA PnL



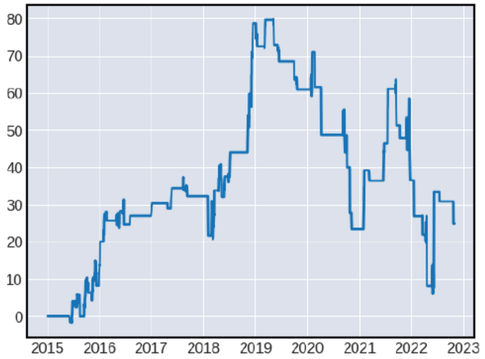
(o) optimal: TSLA levels



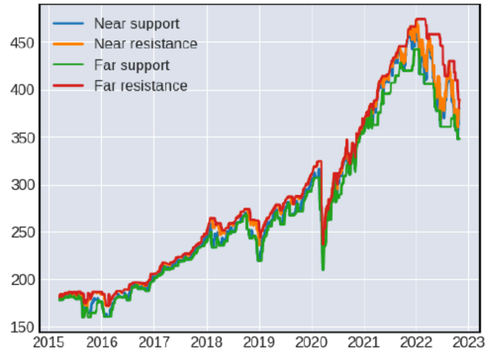
(p) optimal: TSLA PnL



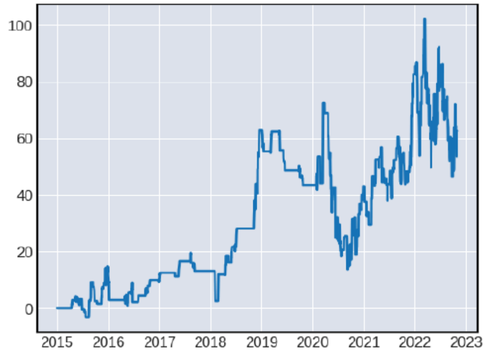
(q) fixed: SPY levels



(r) fixed: SPY PnL



(s) optimal: SPY levels



(t) optimal: SPY PnL

Q&A

Thank you