Machine Trading Analysis with R

Section 4: Machine Trading Strategies

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Machine Trading Strategies

- **Machine trading strategies** consist of predicting output target feature by mapping its previously optimized relationship with input predictor features which delivered highest forecasting accuracy, associated entry or exit **trading signals** and corresponding **trading positions**.
- This is done within trading data subset.

Machine Trading Signals

- **Machine trading signals** occur when output target feature prediction crosses above or below its centerline.
- They are used to determine corresponding trading positions.

- Centerline Crossover Trading Signals:

- Buy signal: $\hat{y}_{i-1} < 0 \rightarrow \hat{y}_i > 0$
- Sell signal: $\hat{y}_{i-1} > 0 \rightarrow \hat{y}_i < 0$

Machine Trading Positions

- **Machine trading positions** consist of owning or not owning asset based on associated signals.
- This corresponds to a long-only type of position.

- Loop: for (1→n)
  - {
    - Current Trading Position =
      - if-else(Current Trading Signal = 1, 1 ,
        - if-else(Current Trading Signal = -1 , 0 , Previous Trading Position)) }
  - }