

Glossary:

- Mean Reversion: Mean reversion is a financial theory which suggests that, after an extreme price move, asset prices tend to return back to normal or average levels. Prices routinely oscillate around the mean or average price but tend to return to that same average price over and over.
- Statistical Arbitrage: aims to reduce exposure to beta as much as possible across two phases: scoring and risk reduction
 - Beta: the sensitivity of the option's price in relation to price changes in the underlying asset; accounts for how the value of the option changes with a 1% change in the underlying asset's value
 - Scoring reduction: the removal of certain unnecessary variables or factors that do not contribute to the accuracy/strength of the trading strategy's scoring system; used to improve accuracy/profitability of the strategy; a common way of doing so is through statistical or optimization techniques where the significance of variables in the trading system are tested
 - Scoring system: set of rules/parameters that rank and evaluate trading strategies
 - Risk reduction: the process of minimizing or controlling the potential losses associated with the trading strategy; attained through risk management techniques, such as diversification, hedging, stop-loss orders
- Mean-reverting strategy: This strategy involves buying an asset when it is trading below its historical average price and selling it when it is trading above its historical average price. Mean-reverting strategies can be implemented using statistical models such as moving averages or Bollinger Bands.
 - Moving averages: an average of the price of the underlying asset over a specified period of time; checks for whether the current price varies from its historical average (based on given time period)
 - Bollinger Bands: tool that creates upper and lower bands (bounds) around the asset's price based on its moving average and std. deviation; potential trading opportunities occur when the price pushes past these bands

- Trend-following strategy: This strategy involves buying an asset when its price is in an uptrend and selling it when its price is in a downtrend. Trend-following strategies can be implemented using technical analysis tools such as moving averages or chart patterns.
- Momentum strategy: This strategy involves buying an asset that has shown strong performance in the recent past and selling it when its performance weakens. Momentum strategies can be implemented using statistical models such as relative strength indicators or moving average convergence divergence (MACD).
 - Relative strength index (RSI): indicator that measures an asset's price movement strength and speed; uses the ratio of average gains to average losses over a specific period and has a range of 0 to 100, where values closer to 100 represent the asset as overbought, and values closer to 0 represent the asset as oversold
 - MACD: indicator that identifies movement in trend/momentum of the asset; calculated by subtracting the 26-period exponential moving average (EMA) from the 12-period EMA, and then plotting a nine-period EMA as a signal line
- Value investing strategy: This strategy involves buying undervalued assets and selling overvalued assets. Value investing strategies can be implemented using fundamental analysis tools such as price-to-earnings ratios or discounted cash flow analysis.
 - Price-to-earning ratio: financial metric that measures a company's stock price relative to its earnings per share (EPS)
 - Discounted cash flow analysis: financial modeling technique used to estimate the intrinsic value of an investment based on its projected future cash flows, discounted to their present value
- News-based strategy: This strategy involves trading based on news articles or social media sentiment. News-based strategies can be implemented using sentiment analysis tools and natural language processing techniques.
 - Sentiment analysis: technique that extracts subjective information from text data; identifies and classifies the sentiment or emotional tone of the text as positive, negative, or neutral
 - Natural language processing (NLP): field of artificial intelligence that focuses on enabling computers to interpret, understand, and generate human language

- Arbitrage strategy: This strategy involves buying an asset in one market and selling it in another market to profit from price differences. Arbitrage strategies can be implemented using statistical models and market data analysis tools.
- Pair trading strategy: This strategy involves buying one asset and selling another asset that is highly correlated to it. Pair trading strategies can be implemented using statistical models such as cointegration analysis or correlation analysis.
 - Cointegration analysis: strategy that involves exploiting the deviation from the long-term equilibrium relationship between two or more assets by taking opposite positions in the assets
 - Correlation analysis: measures the degree to which the prices of two or more assets move together over time and can help identify potential pairs for the strategy
- Sharpe Ratio: mathematical expression of the insight that excess returns over a period of time may signify more volatility and risk, rather than investing skill
- Maximum Drawdown: maximum observed loss from a peak to a trough of a portfolio, before a new peak is attained. Maximum drawdown is an indicator of downside risk over a specified time period.
- Cumulative Total Returns: The total return produced by an investment over a predetermined period is known as the cumulative return. It is the total gain or loss on investment throughout time, regardless of the time involved.
- Cross-Asset Trading Strategy: a practice where buy and sell orders for the same asset are offset without recording the trade on the exchange

Places to Find Data: <https://quantpedia.com/links-tools/?category=historical-data>

This website has a ton of places to find data

Spikeet, Bloomberg (I think its free on NYU computers, well at least Bloomberg Terminal), Estimote, Orats, etc...

The website has all of the pricing info and what each data website comes with.