# Data sources

OHLCV

* 1. Yfin
  2. <https://labs.ig.com/>
  3. <https://docs.cdp.coinbase.com/cdp-sdk/docs/welcome>

I would try to add all three sources, however, second link is not accessible at the moment

Thank you, IF you want we can ignore the second source for now

# Features:

1. User can see what is the most recent downloaded data and can confirm what time frame and ticker has data available for.
   1. Also need to understand the start date and end date of that data available
   2. And when was it last updated
   3. And the source of that data (yfin)

You’ll be able to see the data from the streamlit app and download it in csv and update an existing csv file. A separate file will be generated for each ticker and data source and you’ll be able to update the data with the latest data.

Make sure this is in a table format:

1. User can easily select a ticker and time frame that is already available in the backend
   1. Timeframe must have:
      1. 1m, 5m, 15m, 30m, 1h, 4h
      2. 1d, 1w, 1M

User will be able to load live data for all the above timeframes, and also will be able to save the data is csv format, update if it’s already available and optionally access data from existing csv files

Thank you

1. User can define parameters for the backtest that include a uniqueID such as Name
   1. Other parameters user can define for the backtest:
      1. Strategy name
      2. Description
      3. Ticker,
      4. timeframe,
      5. Spread
      6. Commissions
      7. Capital
      8. Position size

User will be able to set commission (use a value that is inclusive of spread), capital, position size from a sidebar for each strategy. The strategies will be defined and can be selected from the side bar as well. Why do we need unique ID here please explain

My thinking is that each backtest will be able to save the settings or the results that i can look at a later date, see the table below in point6.

1. User can define custom Entry signal and Exit signals that can be based on
   1. Indicator parameters being at a specific level
   2. Stop Loss or take profit as a percent or price value
   3. For eg:

| **Open Long** | **Close Long** | **Open Short** | **Close Short** |
| --- | --- | --- | --- |
| price < low BB && RSI < 25 | price > highBB && RSI?75 | price > highBB && RSI?75 | price < low BB && RSI < 25 |
| RSI>75 && highBB | +/- 5% take profit or Stop | RSI<75 && ADX>30 && BB are wide | +/- 5% take profit or Stop |
| MACD crossover < 0 && BB wide | +/- 5% take profit or Stop | crossover >0 && BB wide | +/- 5% take profit or Stop |
| price>200MA&& RSI>50 | +/- 5% take profit or Stop | price<200MA&& RSI<50 | +/- 5% take profit or Stop |

I will create sort of sample code files for the above for above four example strategies. The user can define further custom strategies by the help of example strategies from the code. I will let you know where to access these sample code files in the code base and how the user will be able to duplicate and update the strategies. But understanding python development and algo trading will be the key to develop further custom strategies.

Thank you

1. When user run backtest the results must be shown in a readable format and stores in SQL or CSV
   1. USer must be able to see the following metrics and calc of all trades, long trades only and short trades only

| **Metric** | **All trades** | **Long** | **Short** |
| --- | --- | --- | --- |
| Total Net Profit |  |  |  |
| Gross Profit |  |  |  |
| Gross Loss |  |  |  |
| Profit Factor |  |  |  |
|  |  |  |  |
| Total No of Trades |  |  |  |
| Percent Profitable |  |  |  |
| Winning Trades |  |  |  |
| Losing Trades |  |  |  |
| Even Trades | (after cost no profit) |  |  |
|  |  |  |  |
| Avg Trade Net Profit |  |  |  |
| Avg Winning Trade |  |  |  |
| Avg Losing Trade |  |  |  |
| Ratio Avg win:Avg Loss |  |  |  |
| Largest Winning Trade |  |  |  |
| Largest Losing Trade |  |  |  |
| Max Consecutive Winning Trades |  |  |  |
| Max Consecutive Losing Trades |  |  |  |
| Avg bars in Winning |  |  |  |
| Avg bars in Losing |  |  |  |
| Avg bars in even |  |  |  |
| Max shares/Contracts held |  |  |  |
| Total shares/Contracts held |  |  |  |
| Account size Required |  |  |  |
| Return on initial Capital |  |  |  |
| Annual rate of return |  |  |  |
| Return retracement Ratio |  |  |  |
| RINA index |  |  |  |
| Trading Period |  |  |  |
| Percent of Time in Market |  |  |  |
| Max Equity Run up |  |  |  |
| **Max Drawdown (intraday peak to valley)#** |  |  |  |
| Value |  |  |  |
| Net profits as % of Drawdown |  |  |  |
| **Max Drawdown (Trade Close to Trade Close)** |  |  |  |
| Value |  |  |  |
| Net profits as % of Drawdown |  |  |  |
|  |  |  |  |
| Expectancy | avgwinners\*win% +avg losers\*lose % / -avg losers |  |  |
| Slippage |  |  |  |
| Commision |  |  |  |

Can we do the following for all trades in a backtest strategy. Then only long trades. And only short trades. (If the backtest allows?)

Following backtest parameters will be calculated and displayed in a tabular form for each strategy

**Table.1: Sample Backtest Results**

Start 2004-08-19 00:00:00

End 2013-03-01 00:00:00

Duration 3116 days 00:00:00

Exposure Time [%] 94.27

Equity Final [$] 56263.52

Equity Peak [$] 56309.06

Commissions [$] 10563.95

Return [%] 462.64

Buy & Hold Return [%] 607.37

Return (Ann.) [%] 22.47

Volatility (Ann.) [%] 37.41

CAGR [%] 14.99

Sharpe Ratio 0.60

Sortino Ratio 1.14

Calmar Ratio 0.66

Alpha [%] 450.62

Beta 0.02

Max. Drawdown [%] -33.93

Avg. Drawdown [%] -6.16

Max. Drawdown Duration 830 days 00:00:00

Avg. Drawdown Duration 50 days 00:00:00

# Trades 93

Win Rate [%] 54.84

Best Trade [%] 57.43

Worst Trade [%] -16.40

Avg. Trade [%] 2.16

Max. Trade Duration 121 days 00:00:00

Avg. Trade Duration 32 days 00:00:00

Profit Factor 2.27

Expectancy [%] 2.69

SQN 2.01

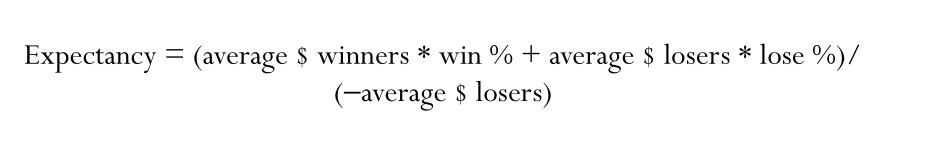
Kelly Criterion 0.26

\_strategy SmaCross

\_equity\_curve Equ...

\_trades Size EntryB...

dtype: object



1. User can see all backtest ina table format either in SQL/CSV where they can compare key metrics such as
   1. Total net profit
   2. Max Drawdown
   3. Total trades
   4. % of winning trades
   5. Profit factor

I was thinking of a table like the below

| Unique id | Name | Total net profit | Max drawdown | Thank tal trades | % of winning trades | Profit factor |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Rsi BB 15m |  |  |  |  |  |
| 2 | SMA EMA 1HLh |  |  |  |  |  |

All these things are already covered in previously shown **Table.1: Sample Backtest Results. Furthermore, user will be able to see all the trades in a table and equity curve**