

Project: Study the effectiveness of technical analysis indicator in Cryptocurrencies

Data:

Use ccxt package <https://github.com/ccxt/ccxt> in python to down two type of cryptocurrencies ('BTC/USDT' and 'ETH/USDT') bar data (daily, hourly) from Binance exchange.

Or use binance free historical data downloader center:

<https://data.binance.vision/?prefix=data/spot/monthly/klines/BTCUSDT/>

Daily data: as far as possible - 2025.02.28

Hourly data: 2021.01.01 - 2025.02.28

Aim:

Apply two types of technical indicators (EMA and MACD), carry out research on the effectiveness of these two indicators:

- Research on different parameters setting on EMA
- Research on different parameters setting on MACD
- Propose a set of suitable parameters to trade daily data
- Propose a set of suitable parameters to trade hourly data

Result:

I) A report in word/pdf format where it contains wording and charts:

1. Data processing
2. Performance analysis at different parameter (average return per trade, accumulated return, win ratio, max win/loss percentage)
3. Propose a set of suitable parameters, analysis the reason
4. Analysis and comparison between EMA and MACD signal performance

II) Script (python/kdb/R/matlab, kdb is preferred)