

Adaptive Trading Strategies for Cryptocurrencies

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- Standard approaches do not react to the changing of bull & bear markets.
- Existing solutions are often commercial and closed-source.

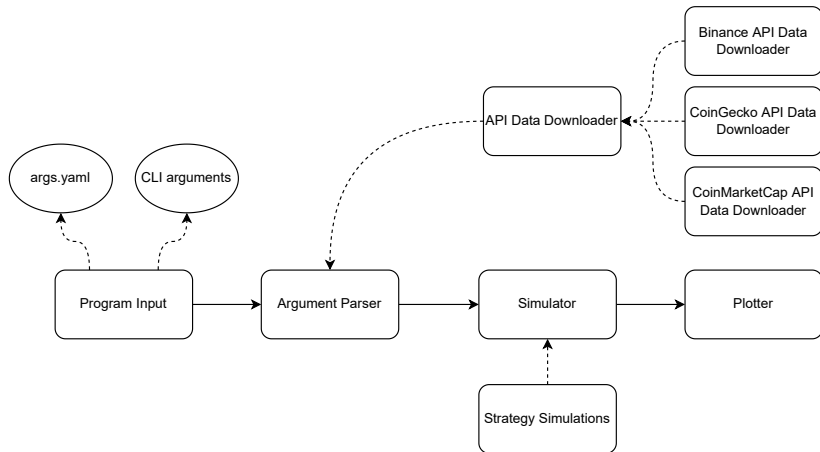


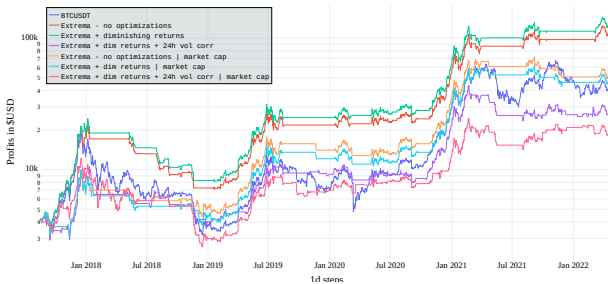
- Analyze Existing Solutions
- Extensible Backtesting Program
- Long-Term & Short-Term Options
- Simulation And Validation



- 1 Research
- 2 Risk Metric & Evaluation Strategies Proposals
- 3 Implementation
- 4 Backtesting (validation)
- 5 Evaluation



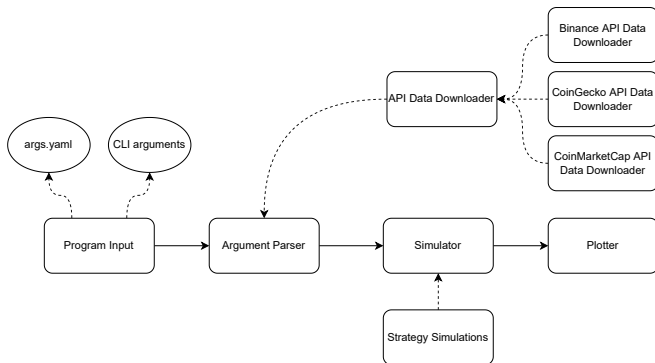




Evaluation Strategy	Used Risk Metric	Usd Invested	Final Value	Rate of Return	HODL Comparison
HODL	<i>None</i>	\$4,285.08	\$37,630.80	778.18%	1×
Risk Only	Base	\$4,285.08	\$41,711.99	873.42%	1.11×
RiskExtrema Combination	Base	\$4,285.08	\$81,581.79	1803.86%	2.17×
Real Local Extrema	<i>Base</i>	\$4,285.08	\$98,422.93	2196.88%	2.62×
Real Local Extrema	<i>Diminishing Returns</i>	\$4,285.08	\$113,919.66	2558.52%	3.03×
Ideal Local Extrema	Base	\$4,285.08	\$127,335.11	2871.59%	3.38×
Ideal Local Extrema	Diminishing Returns	\$4,285.08	\$136,930.45	3095.52%	3.64×

Evaluation Strategy	Used Risk Metric	Usd Invested	Final Value	Rate of Return	Classic DCA Comparison
Classic DCA	<i>None</i>	\$12,875.08	\$38,578.56	199.64%	1×
7to0	Base	\$42,160.08	\$204,379.85	384.77%	1.62×
Fibonacci	Base	\$128,620.08	\$655,866.26	409.93%	1.7×
Fibonacci Adjusted	<i>Base</i>	\$80,530.08	\$417,609.18	418.58%	1.73×
Fibonacci Adjusted	<i>Diminishing Returns</i>	\$76,230.08	\$400,799.70	425.78%	1.75×
Fibonacci Adjusted	<i>Marketcap + Dim + 24h</i>	\$69,830.08	\$376,617.66	439.33%	1.8×

Figure: Data Range: 2017 August–2022 April. DCA: dollar-cost averaging



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- Original question: Aké sú najväčšie prekážky, ktoré vidíte pri používaní strojového učenia na predikciu cien? (je to problém údajov, alebo by si to vyžadovalo lepšie metódy?)
- Paraphrased question: What are the biggest obstacles when using machine learning for price prediction. Is it a data problem or are better methods needed?

- Original question: Čo by bolo potrebné urobiť , aby si niekto vyskúšal napríklad vysokofrekvenčné obchodovanie (high frequency trading) vo vašom backtesteri?
- Paraphrased question: What is needed to be done in order to, for example, try out the high frequency trading in your backtester?