INTERNSHIP REPORT

By AMAL P S

CONTENT

SUMMARY

Throughout the internship, I gained comprehensive knowledge about various aspects of cryptocurrency trading and technology. The internship began with an in-depth exploration of cryptocurrencies, how it works, understanding their significance in the digital economy and their underlying technology.

A significant focus was placed on blockchain technology, which serves as the foundation of cryptocurrencies. Through lectures and practical sessions, I learned how blockchain works, how blockchain operates as a decentralized ledger, ensuring the security and transparency of transactions.

Technical analysis emerged as a fundamental skill in cryptocurrency trading. I acquired expertise in analysing price charts, plotting support and resistance, identifying patterns, and interpreting market indicators to make informed trading decisions.

The internship also teaches us about futures trading in cryptocurrency markets, learned about cross margin and isolated margin, how liquidation works, learned about the mechanics of futures contracts and how they enable traders to speculate on the future price movements of digital assets.

Developing effective trading strategies was another key aspect of the internship. I studied various crypto strategies like support and resistance breakout, trend line breakout, moving average and exponential moving average, and learned how to tailor them to different market conditions and risk profiles.

An essential part of the learning process was testing these strategies. Through back testing and evaluating the performance of different trading strategies and refined them for optimal results.

The internship also provided insights into algorithmic trading (algo trading) and its role in the cryptocurrency market. I gained practical knowledge of how algorithms automate trading processes and enhance efficiency in executing trades.

A highlight of the internship was learning to develop own algo bot using Python programming language. With hands-on guidance. Overall, the internship provided a comprehensive understanding of cryptocurrency trading, blockchain technology, technical analysis, trading strategies, and algorithmic trading, equipping me with valuable skills for navigating the dynamic landscape of digital asset markets.

Moving average strategy result

EMA 21- EMA 50

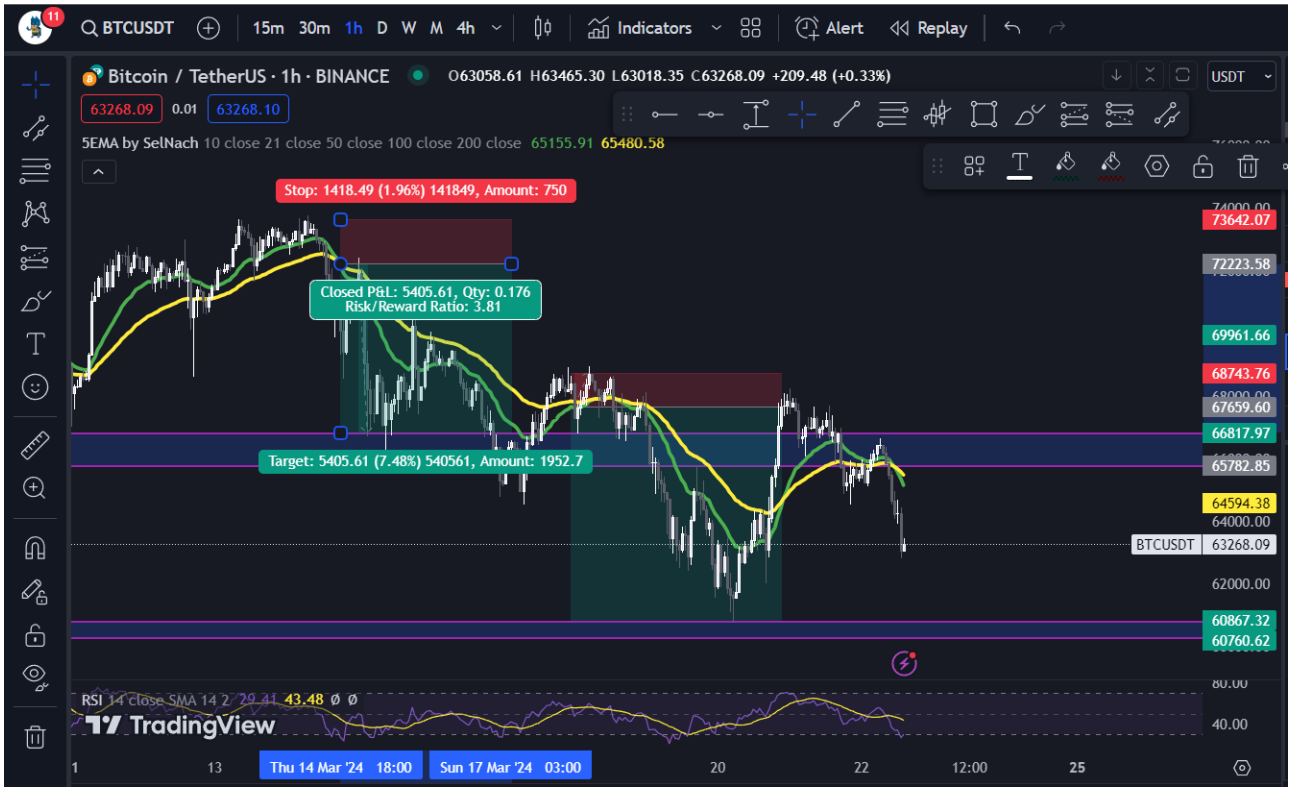
The EMA (Exponential Moving Average) 21 and EMA 50 trading strategy is a popular approach used to identify trends and potential entry and exit points in the financial markets. Here's how it works. EMA is a type of moving average that gives more weight to recent prices, making it more responsive to current price action compared to simple moving averages (SMAs).

EMA 21 and EMA 50 refer to the periods over which the averages are calculated. EMA 21 calculates the average of the last 21 closing prices, while EMA 50 calculates the average of the last 50 closing prices.

- When the EMA 21(Green line) is above the EMA 50(yellow line), it indicates an uptrend.
- When the EMA 21(Green line) is below the EMA 50(yellow line), it suggests a downtrend.

Long Position

Short position



Testing result

Through testing of this strategy on a 1-hour timeframe from January 1, 2014, to March 22, 2024, keeping a take-profit (TP) of 4% and a stop-loss (SL) limit of 1%, we achieved an impressive total return of 257.609%. Notably, this return encompasses both long and short trades executed during the period.

In India, the current crypto taxes are 1% TDS and 30% on gains, which we are not allowed to offset with losses. This means that if we have a gain of 257%, we must pay 30% of the gain to the government. For example, if you have a capital of $1,000 and a gain of 257%, the amount will be $2570, and you must pay 30% of the 1570 dollars, which equals $471. You would then have to pay $471 in taxes to the government.

EMA RETEST STARTAGEY

With this strategy, we can utilize the EMA to put buy orders when the candle forms above the EMA with conformation and sell orders when the candle forms below the EMA with confirmation. We can change the parameters to optimise the result.

Long trades


BTCUSDT
15m 30m 1h D W M 4h
Indicators
Alert
Replay
Bitcoin / TetherUS · 15 · BINANCE
O63769.99 H63770.00 L63526.68 C63562.75 −207.25 (−0.32%)
USDT
63562.75
0.01
63562.76
EMA_Buffer 14 63746.79 63874.28 63619.30
Target: 841.51 (1.28%) 84151, Amount: 1386.36
Closed P&L: 841.51, Qty: 0.459
Risk/Reward Ratio: 1.55
Stop: 544.51 (0.83%) 54451, Amount: 750
67500.00
67000.00
66750.00
66647.43
66500.00
66250.00
66000.00
65805.92
65500.00
65261.41
65000.00
64851.62
64750.00
64500.00
TradingView
RSI 14 close SMA 14 2 46.54 56.47
15:00
18:00
21:00
22
Fri 22 Mar '24 02:45
Fri 22 Mar '24 07:30
1D 5D 1M 3M 6M YTD 1Y 5Y All
03:20:51 (UTC)


BTCUSDT
15m 30m 1h D W M 4h
Indicators
Alert
Replay
Bitcoin / TetherUS · 15 · BINANCE
O63769.99 H63770.00 L63526.68 C63562.75 −207.25 (−0.32%)
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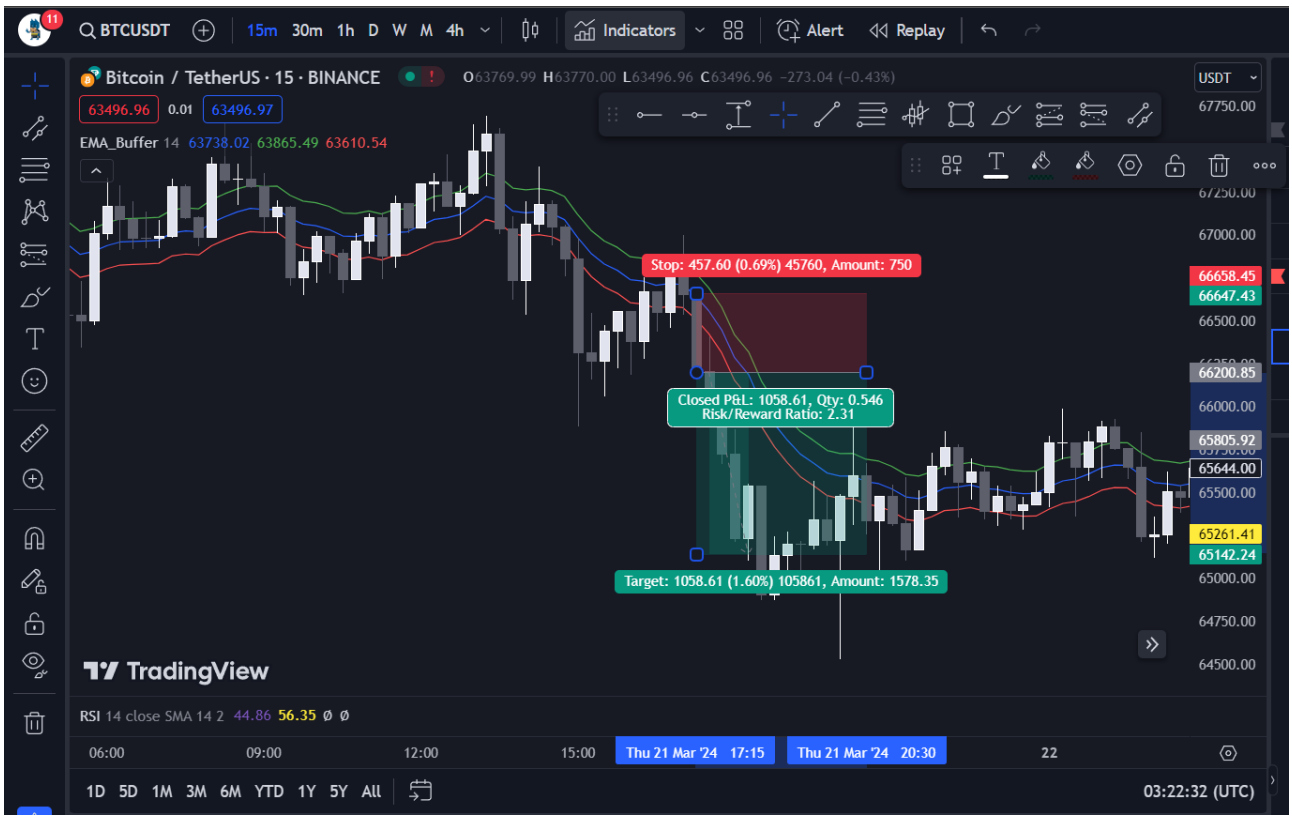
65500.00
65261.41
65000.00
64851.62
64750.00
64500.00
TradingView
RSI 14 close SMA 14 2 46.54 56.47
15:00
18:00
21:00
22
Fri 22 Mar '24 02:45
Fri 22 Mar '24 07:30
1D 5D 1M 3M 6M YTD 1Y 5Y All
03:20:51 (UTC)

Short Trades



Parameters

I have set Ema=14, with a take profit of 1% and a stop loss of 0.5%. Upon testing this strategy with data from January 1, 2023, to January 1, 2024, I obtained a profit/loss ratio of 95.66% in long trades and 20.68% in short trades. Therefore, considering taxation implications, it would be more advantageous to trade long in this strategy. For instance, if we factor in a 1% TDS (Tax Deducted at Source) and a 30% tax on gains, if you have gained $100, you would be liable to pay $30 in taxes.

Own Strategy

Support and resistance with Trend lines.

support and resistance strategy with trend lines is a great strategy involves identifying key levels where the price tends to reverse or stall and using trend lines to confirm the direction of the market.

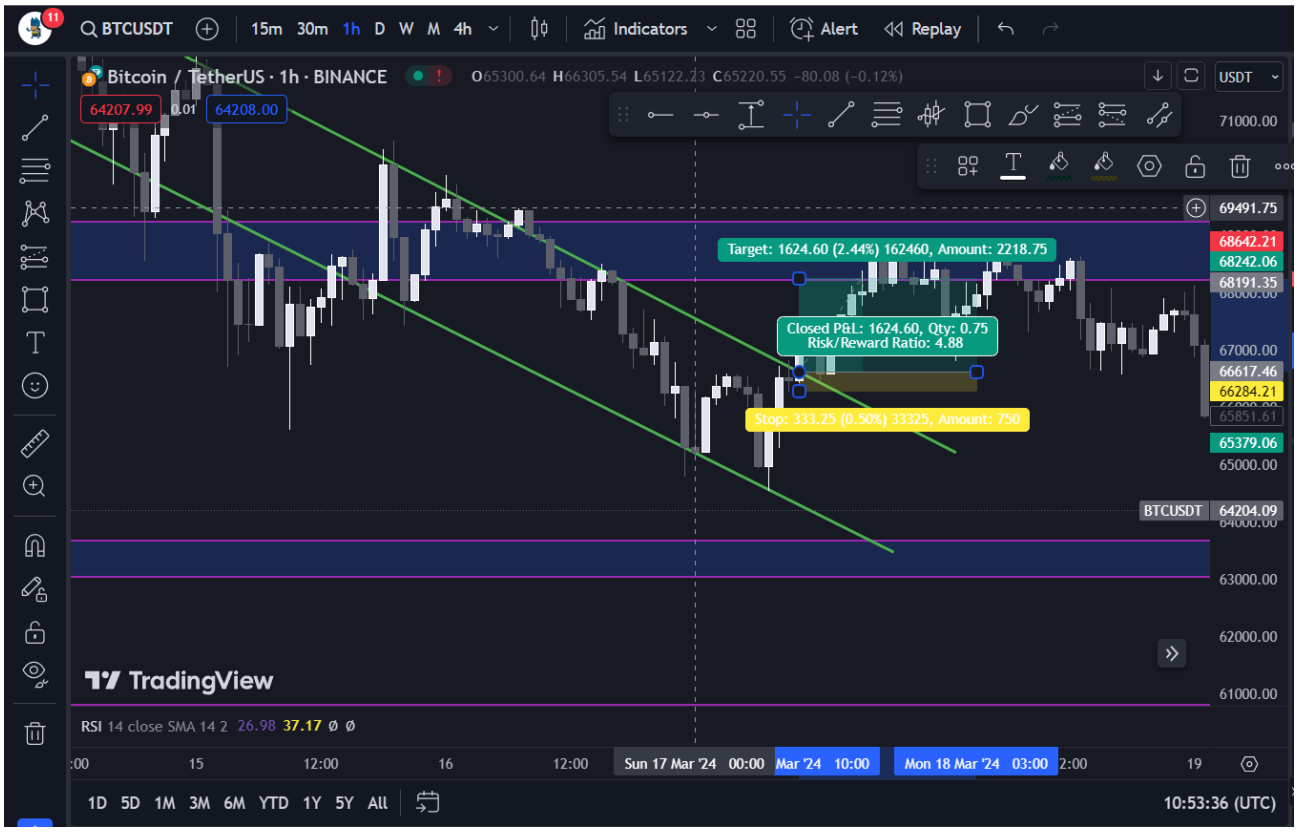
Identify Support and Resistance Levels: Look for price levels where the price has historically reversed or encountered significant buying or selling pressure. These levels can be identified using historical price data and are typically areas where the price has bounced off multiple times.

Draw Trend Lines: Once you've identified the support and resistance levels, draw trend lines to connect the highs and lows of the price action. An upward trend line connects higher lows, indicating an uptrend, while a downward trend line connects lower highs, indicating a downtrend.

Confirm Trend Direction: Confirm the direction of the trend by observing the slope of the trend lines. In an uptrend, the price should consistently make higher highs and higher lows, with the trend line sloping upwards. In a downtrend, the price should make lower lows and lower highs, with the trend line sloping downwards.

Entry and Exit: Look for opportunities to enter trades when the price approaches a trend line within the trend direction. For example, in an uptrend, consider buying when the price touches the upward trend line or bounces off a support level. In a downtrend, consider selling when the price touches the downward trend line or encounters resistance.

Long position



Short position

Forward Testing

Parameters to filter out false trade signals.

Volume Confirmation: Look for increasing volume when the price approaches a support or resistance level or when it interacts with a trend line. Higher volume can indicate stronger buying or selling pressure, confirming the validity of the trade signal.

Multiple Time Frame Analysis: Verify trade signals by analysing multiple time frames. For example, if a trend line breakout occurs on a shorter time frame, check if it aligns with the trend direction on higher time frames such as daily or weekly charts. Consistency across different time frames strengthens the trade signal.

Candlestick Patterns: Watch for candlestick patterns that support the trade signal. For instance, bullish reversal patterns like hammer or bullish engulfing near a support level in an uptrend can enhance the buy signal's validity. Similarly, bearish reversal patterns like shooting star or bearish engulfing near a resistance level in a downtrend can strengthen the sell signal.

Confirmation from Indicators: we can use indicators such as moving averages, MACD (Moving Average Convergence Divergence), RSI (Relative Strength Index) to confirm trade signals. For example, if a price bounces off a support level aligns with oversold conditions on the RSI, it can strengthen the buy signal.

Breakout Confirmation: Wait for confirmation of a breakout above a resistance level or below a support level before entering a trade. This confirmation can be in the form of a candlestick closing above or below the level, accompanied by high volume and price continuation in the breakout direction.

Price Retest: Look for price to retest the broken support or resistance level after a breakout. If the level holds as new support or resistance, it confirms the validity of the breakout. Entering a trade after a successful retest can reduce the likelihood of false signals.

Market News and Events: Consider the broader market context and upcoming economic events that could impact you're trading. Avoid trading near major news releases or events that may cause erratic unpredictable price movements and increase the risk of false signals.

By incorporating these parameters into your trading strategy, you can improve your ability to filter out false trade signals and increase the probability of successful trades.

Conclusion

My internship experience has equipped me with a comprehensive understanding of trading strategies and their practical application in financial markets. Through rigorous testing and analysis, I have gained valuable insights into strategy optimization, risk management, and the crucial impact of regulatory considerations on trading profitability. This experience has laid a solid foundation for my future endeavours in the financial industry. Moving forward, I am committed to continued learning, refining my strategies, and integrating new methodologies to enhance my ability to achieve consistent and sustainable trading performance.