

# Stock Market Simulation

An Interactive Qualifying Project Report: Submitted to the Faculty of

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By

Nur Fateemah  
Ethan Vaz Falcao

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Approved by Professor Dalin Tang, Project Advisor

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## Abstract

The goal of this IQP was to perform two stock market simulations with different trading strategies, which were day trading and position trading, to find out which strategy would bring better profit. The two simulations were performed over a 7-week period, each with a starting amount of \$100,000. At the end of the simulations, Position Trading made 3.73% profit while Day Trading made a better 5.77% profit. The experiences learned from this project will aid the participants to make wise and educated decisions in the future.

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# 1. Introduction

## 1.1 Goal of this Project

The goal and objective of this IQP is to be sufficient in understanding the fundamentals of trading on the stock market, and to do this, two methods of trading would be implemented to explore a stock market simulation starting with \$100,000. The two methods that will be explored are day trading and position trading, the choices and types of trading will be explored later. The IQP will start off with familiarizing us with the ins and outs of the stock market, which would deepen our skills of investing and interpreting the stock market. After learning more about the market, our skills would be used to start the simulation and put our skills to the test. Our specific goal is to gain around a 10 percent annual return rate. We would learn in real time what it is like to be a stock market investor. Since we are using two different trading strategies, we would often be comparing the strategies to see what is more efficient and better for our goal as a team. At the end of this project, we would like to better understand the stock market and get a real feeling of what it is like to trade in the stock market.

## 1.2 Background of Stock market

The core of the stock market is that it serves as a marketplace where investors can buy and sell shares of companies that are publicly traded. It plays a significant role in the economy and the global financial system. This is due to capital formation, wealth creation, investment vehicles, financial products and many more aspects. One of the earliest stock markets dates all the way back to 1602, where people were able to trade the shares of the Dutch East India Company. Due to the internet and other factors, stock markets gained popularity.

The primary and most important purpose of the stock market is to provide a platform for companies to raise capital by selling their shares to investors. This helps companies because companies can then raise funds for expansion, R&D, legalities, and much more. So, in return the investors can participate in the company's ownership so that they could benefit from the company's growth. Originally, the way people would trade on the 'stock market,' is that they would physically gather on floor in a building known as the trading floor, however now computers match buy and sell orders.

Prices on the stock market fluctuate a lot and can be influenced by many things, including economic conditions, corporate earnings, geopolitical events, supply, and demand, and when investors aim to profit.

Since the rise of stock markets, various of financial instruments have been developed to enable investors to gain exposure to the overall market. These financial instruments include, EFTs, mutual funds, market indices, options, futures, and more.

Overall, the stock market serves as a vital mechanism for capital allocation, wealth creation, and economic growth, while also offering individuals and institutions opportunities for investment and wealth accumulation.

### 1.3 Stock Market Index

Stock market indexes measure and track the performance of specific group of stocks. Investors use these indexes so that they can assess the overall performance of the market. Upon research, there are many key factors to understand when comprehending the stock market indexes. Firstly, the stock market is composed of predetermined stocks that meet a certain objective or criteria, which include industry classification, liquidity, or other specific requirements.

Stock market indexes also exist at both global and local levels. Global indexes provide a larger and broad view of the global equity market, while local indexes focus more on a specific country or region. We chose the top indexes in America to aid in the stock simulation process. Stock market indexes are calculated using formulas that consider the above criteria mentioned, the formula is not the same for all indexes, all differ between specific indexes and their methodologies.

Overall, they provide valuable insights into the market and its conditions. Investors should investigate and analyze these indexes and its changes to see if they indicate anything useful for investment decisions.

### 1.3.1 Index #1 S&P 500

Index S&P 500 is one of the most recognized stock market indexes, it represents around 80% coverage of U.S equity market. It is composed of 500 of American companies, it represents a wide range of sectors within businesses, thus earning a reputation of the overall health of the U.S economy. It is a market capitalization weighted index, meaning that the companies that have a bigger market capitalization have a bigger influence on the index. This also contributes to the formula which divides the sum of the market capitalizations of the component stocks by a divisor that periodically maintains continuity.

### 1.3.2 Index #2 Dow Jones Industrial Average

The Dow Jones Industrial Average or DJIA is one of the oldest stock market indexes in the world. It provides the performance of 30 large, publicly traded companies in U.S stock exchanges. The component stocks included are established companies with a strong record of accomplishment of performance. Unlike S&P 500, this index is price-weighted, which means that the stock with

the highest price has the largest influence in the index. Companies can also be replaced if they undergo significant changes, or they do not meet the index's requirements. It is calculated using a divisor-based methodology, where the index sum value represents a sum of the stock prices of the 30 companies, that are divided by the divisor.

### 1.3.3 Index #3 Nasdaq Composite

The Nasdaq composite index represents the performance of all the stocks listed on the Nasdaq stock market, which includes thousands of stocks that consist of technology companies, like S&P 500 it does an excellent job of representing a significant portion of the U.S stock market. It is also market capitalization-weighted index. The index is computed using a base value and then adjusted for other types of factors. As mentioned before, it consists of technology companies (but not limited to) which include many of the main technology companies like Apple, Microsoft, and Amazon. Overall, it is a good representation of the general market that includes the technology companies.

### 1.4 Outline of Project

This project involves a timeline spanning several weeks, starting with assembling goals, schedules, and conducting research on stock market and simulation programs. It progresses with selecting stocks, researching trading methodologies, and writing technical chapters. The project then transitions to simulation weeks, focusing on both day trading and position trading, executing trades, documenting results, and observations, and incorporating them into the report. Additional reading and adjustments are made throughout the simulation weeks. The final phase involves revising the report, addressing missing details, and submitting the finalized document. The project

aims to provide practical insights into stock trading strategies through comprehensive simulations and analysis.

## 2. Trading Methodologies

### 2.1 Technical Analysis

One of the trading methodologies that will be used in this stock simulation is the technical analysis methodology. Technical analysis is a widely used approach in stock market investing that focuses on analyzing historical price and volume data to forecast future price movements. It is based on the premise that market trends and patterns repeat themselves, allowing investors to make predictions based on past behavior. Technical analysts utilize various tools and techniques to examine charts and identify patterns, such as support and resistance levels, trend lines, moving averages. These patterns are believed to provide insights into the direction and strength of price movements. Additionally, technical indicators, such as Relative Strength Index (RSI), Moving Average Convergence Divergence (MACD), and Bollinger Bands, are used to generate signals for buying or selling securities. Traders who follow technical analysis aim to identify entry and exit points that offer favorable risk-reward ratios. However, it is important to note that technical analysis has its limitations such as, it does not consider fundamental factors or market news, and its effectiveness can be influenced by market conditions and behavioral biases. As a result, we will be combining technical analysis with other analytical tools and strategies can lead to a more comprehensive investment approach.

#### 2.1.1 Trendlines

Trendlines are an essential tool in technical analysis that helps investors identify and analyze trends in the stock market. They are drawn on price charts to connect a series of higher lows (in an uptrend) or lower highs (in a downtrend) and provide a visual representation of the direction and strength of a trend.

In an uptrend, an ascending trendline is drawn by connecting two or more consecutive higher lows. This line acts as a support level, indicating that buying pressure is strong and suggesting that the stock price is likely to continue rising. Traders often look for opportunities to buy when the price approaches the ascending trendline, anticipating a potential bounce.

In a downtrend, a descending trendline is drawn by connecting two or more consecutive lower highs. This line serves as a resistance level, indicating that selling pressure is dominant, and the stock price is expected to continue declining. Traders may consider selling or shorting the stock when the price approaches the descending trendline, expecting a potential reversal or further decline.

However, Trendlines can be subject to false breakouts or breakdowns. Therefore, investors can use other technical indicators and analysis techniques in conjunction with trendlines to confirm signals and make well-informed investment decisions.

Figure 2.1 shows an example of how investors can analysis trendlines in the stock market, as the stock continues to rise, we notice that the price tends to bounce off the trendline, providing support and indicating buying pressure. However, we notice a break below the ascending trendline. This break signifies a potential shift in the trend and could be an indication of a trend reversal.





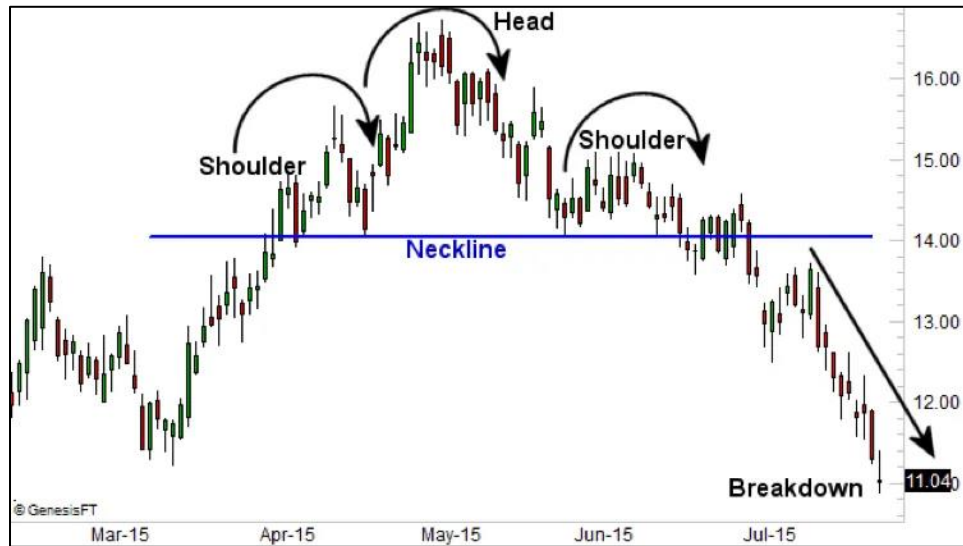
Figure 2.1: Trendline in Technical Analysis (Baviskar, 2018)

### 2.1.3 Price Patterns

Price patterns play a significant role in technical analysis, offering valuable insights into market dynamics and potential future price movements. Traders carefully examine these patterns by analyzing historical price data depicted on charts. Patterns like triangles, head and shoulders, double tops, and double bottoms provide crucial information about the supply and demand dynamics within the market. These patterns often indicate periods of consolidation, trend reversals, or continuations. By recognizing and interpreting these patterns, traders can make well-informed decisions on when to enter or exit positions. Price patterns serve as visual representations of market psychology, aiding in the identification of potential support and resistance levels. This, in turn, allows traders to establish price targets and manage risk efficiently.

Figure 2.2 shows two shoulders and one head, in technical analysis, this would mean a potential trend reversal from bullish to bearish. Bullish to bearish refers to a change in the overall direction of a market or stock's price movement. When a market or stock is in a bullish trend, it means that prices have been consistently rising over time. A bearish trend, on the other hand,

indicates a downward price movement, with prices declining over a sustained period. The left and right shoulders form lower highs, with the head being the highest peak. Traders look for a break below the neckline to confirm the pattern.



*Figure 2.2 Showing an example of Price Patterns regarding Head and Shoulders (CFI, 2018)*

## 2.2 Fundamental Analysis

In addition to technical analysis, fundamental analysis will also be used. Fundamental analysis is a method used to evaluate the intrinsic value of a stock by analyzing numerous factors related to the underlying company. It involves examining the financial health, performance, and prospects of a business to determine its investment potential. The goal of fundamental analysis is to assess whether a stock is overvalued, undervalued, or fairly priced, based on its fundamental characteristics.

One crucial aspect of fundamental analysis is studying financial statements, including income statements, balance sheets, and cash flow statements. These documents provide insights

into a company's revenue, expenses, assets, liabilities, and cash flow, allowing investors to assess its profitability, liquidity, and financial stability.

In addition to financial statements, fundamental analysts consider various other factors. These may include assessing the company's competitive position within its industry, analyzing its business model and strategy, evaluating the quality of its management team, examining industry trends and dynamics, and considering macroeconomic factors that may impact the company's operations.

Fundamental analysis also involves calculating and comparing financial ratios such as price-to-earnings ratio (P/E ratio), price-to-sales ratio (P/S ratio) and return on equity (ROE). These ratios help investors gauge a company's valuation, profitability, and efficiency relative to its peers and the overall market.

Fundamental analysis is a long-term approach and requires a thorough understanding of financial concepts and industry dynamics. Additionally, it is important to consider both quantitative and qualitative factors and to stay updated on relevant news and events that may impact the company's prospects.

## 3 Trading Styles

### 3.1 Day Trading

In our stock simulation, we have chosen to incorporate day trading as one of our trading strategies. Day trading involves buying and selling financial instruments within the same trading day, aiming to capitalize on short-term price movements. We have opted for day trading due to its potential for quick profits and the opportunity to take advantage of intraday market fluctuations. By actively monitoring the market and executing trades within a single day, we aim to seize short-term opportunities and generate returns based on the rapid price movements that occur during market hours.

Day trading aligns with our objectives for the stock simulation as it allows us to closely analyze intraday price action and make immediate trading decisions. The brief time frame of day trading enables us to quickly assess market conditions, react to breaking news or events, and capitalize on volatility. It provides us with the flexibility to adapt our strategies throughout the day based on real-time market dynamics. Additionally, day trading allows for frequent trading activity, which helps us gain practical experience in executing trades, managing risks, and refining our decision-making skills. By incorporating day trading into our simulation, we aim to gain insights into the dynamics of short-term trading and enhance our ability to capitalize on intraday market opportunities.

### 3.2 Position Trading

We have decided to incorporate position trading as one of the strategies in our stock simulation. Position trading is a long-term approach to trading where positions are held for an extended period, typically spanning weeks to months. Unlike day trading, which involves frequent

buying and selling within a single trading day, position trading allows us to take a more relaxed and patient stance, capitalizing on long-term market trends and fundamental factors.

We have chosen to utilize position trading for several reasons. Firstly, it aligns with our goal of gaining a deeper understanding of the stock market and developing a comprehensive investment approach. By holding positions over a longer duration, we can analyze and assess the impact of various factors, such as economic indicators, company performance, and market trends, on our chosen stocks. This approach also provides us with an opportunity to observe and evaluate how different events and news unfold over time, allowing for a more comprehensive analysis of the market dynamics. Additionally, position trading helps mitigate the impact of short-term market volatility and noise, as we focus on the broader trends and long-term growth potential of the stocks, we invest in. This strategic approach enables us to make more informed decisions based on a thorough evaluation of a company's fundamentals and the macroeconomic landscape, leading to potentially more favourable risk reward outcomes.

## 4 Selected Companies and Stocks

We decided to invest in 6 different companies and 1 Cryptocurrency. All the companies are large-cap and mega-cap stocks, having a market cap of over 10 billion dollars. The inclusion of Ethereum, a leading cryptocurrency, offers the potential for capital appreciation in the rapidly evolving digital asset market. The stocks and crypto selected, have demonstrated robust performance and have a high volume traded each day, making them attractive investment choices.

### 4.1 Nvidia

Nvidia Corporation (NVDA) is a technology company known for its graphics processing units (GPUs). Over the years, Nvidia has experienced significant growth and has become a dominant player in the Technology industry. Nvidia has consistently delivered strong financial performance, driven by increasing demand for its products, especially with every release of a new GPU series. Nvidia's GPUs have found applications beyond traditional gaming, including AI (Artificial Intelligence) research, deep learning, and cryptocurrency mining, contributing to its revenue growth.

In terms of stock performance, Nvidia has demonstrated rapid growth. The company's stock price has experienced a significant increase, particularly in recent years. From 2016 to 2023, Nvidia's stock price soared from around \$30 per share to over \$400, highlighting its ability to generate substantial returns for investors. Figure 4.1 showcases the general price chart of NVDA over the past six months, along with the moving average (purple).

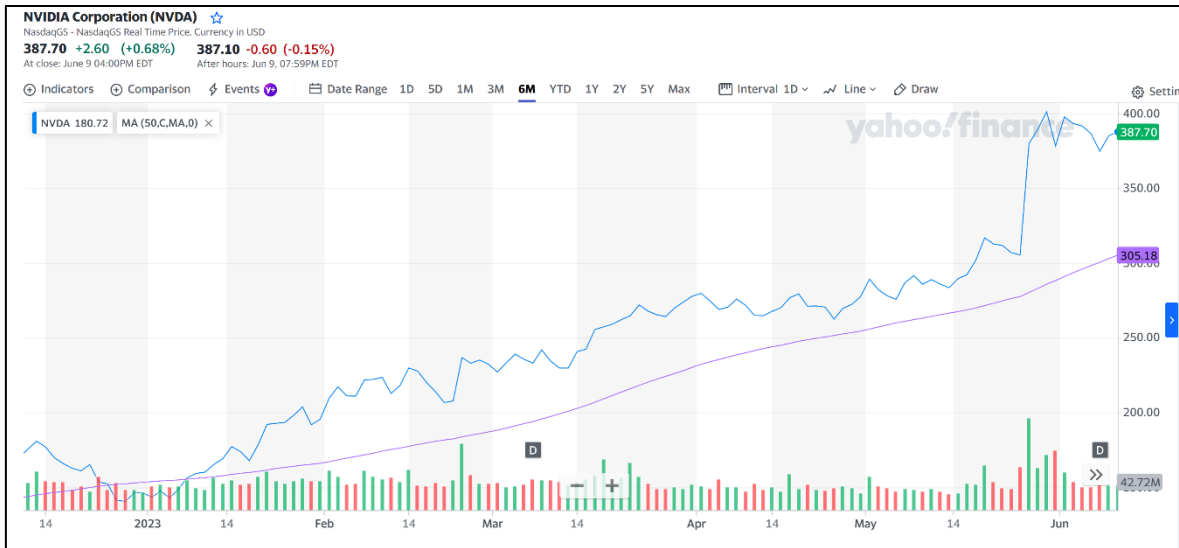


Figure 4.1: NVDA Last 6 Month General Price Chart with Moving Average

## 4.2 Tesla

Tesla Inc. (TSLA) is an electric vehicle company founded by Elon Musk in 2003 and has played a significant role in revolutionizing the automotive industry and promoting clean energy transportation. Tesla manufactures and sells electric vehicles, energy storage systems, and solar panels.

The company's strong sales growth, driven by the popularity of its Model S, model 3, Model X, and Model Y vehicles, has been a key factor in its stock's performance.

Tesla's stock performance has been remarkable over the years. Since its IPO in June 2010, priced at \$17 per share, the stock experienced substantial growth, becoming one of the most valuable automakers globally, and is now valued in June 2023 at \$213. Additionally, Tesla's current plan to build a factory in India, and manufacture affordable cars, to help tap into the Indian market, will further boost the investors' confidence. In Figure 4.2, you can observe the last six months' general price chart of TSLA, accompanied by the moving average.



Figure 4.2: TSLA Last 6 Month General Price Chart with Moving Average

### 4.3 Apple

Apple Inc. (AAPL) is a technology company renowned for its electronics, software, and online services. Founded in 1976, by Steve Wozniak, Steve Jobs, and Ronald Wayne, Apple has established itself at the head of the technology industry with its innovative products and software. The company's product lineup includes the iPhone, iPad, Mac computers, Apple Watch, the iOS operating system, iCloud, and the App Store.

Over the years, Apple's stock price has experienced substantial growth, driven by factors such as its continued success in the smartphone market, increasing service revenue, and its loyal customer base. In 2007, with the introduction of the iPhone, Apple's stock soared, reaching a high of approximately \$22 per share. Currently in 2023, Apple has reached new milestones, hitting an all-time high of \$181.78 per share. Apple's ability to create innovative and highly sought-after devices, coupled with its ecosystem of software and services, has contributed to its financial



success and stock performance. The graphical representation in Figure 4.3 provides a visual overview of AAPL's price fluctuations over the past six months, incorporating the moving average.



Figure 4.3: AAPL Last 6 Month General Price Chart with Moving Average

#### 4.4 AMD

Advanced Micro Devices (AMD) is a semiconductor company that designs and manufactures computer processors and graphics cards. Founded in 1969, AMD has established itself as a prominent competitor in the semiconductor industry, competing with the industry giants Intel and Nvidia.

In recent years, AMD has been able to develop high-performing CPUs (central processing units), offering a competitive alternative to Intel's processors. The company's continued focus on improving performance, energy efficiency, and affordability has resonated well with consumers and their investors. AMD's Radeon graphics cards gaining popularity among gamers and Crypto Miners, allowing them to strengthen their position in the graphics card market. From a financial

perspective, AMD's stock has experienced significant growth over the years. AMD's ability to capture market share and deliver solid financial results has attracted investors' attention and contributed to the stock's upward trajectory. Figure 4.4 exhibits the price movements of AMD over the last six months, incorporating a moving average line for additional analysis.



Figure 4.4: AMD Last 6 Month General Price Chart with Moving Average

4.5 DICK'S Sporting Goods, Inc

DICK'S Sporting Goods, Inc. (DKS) is a leading retailer of sporting goods and outdoor equipment, headquartered in the United States. The company has a vast network of stores across the country, offering a wide range of products including sports apparel, footwear, and equipment. Over the years, DICK'S Sporting Goods has shown a positive trend.

DICK'S Sporting Goods, Inc. experienced a significant decline in stock prices during the initial stages of the COVID-19 lockdowns, reaching a low point of \$13.46 per share. However, thanks to its strong brand recognition, extensive retail presence nationwide, and agility in meeting

consumer preferences, DICK'S Sporting Goods made a remarkable recovery. In March 2023, the stock achieved an all-time high of \$152.61 per share. This visual depiction in Figure 4.5 presents the general price trends of DKS in the past six months, with the inclusion of a moving average line.



Figure

4.5: DKS Last 6 Month General Price Chart with Moving Average

#### 4.6 Amazon

Amazon (AMZN) is a technology company and the world's largest online retailer. Founded by Jeff Bezos in 1994, Amazon started as an online book marketplace and quickly expanded its product offerings to include electronics, clothing, furniture, and more. Over the years, Amazon has grown itself into many sectors of the technology industry, including e-commerce, cloud computing (AWS), digital streaming (Prime Video), and artificial intelligence (Alexa).

Since its initial public offering (IPO) in 1997, Amazon's stock price has experienced significant growth, driven by the company's continuous expansion and ability to grow bigger than

just a technology company. From 2011 to 2021, Amazon's stock price grew from around \$180 per share to over \$3,000 per share, an increase of more than 1,500%. Amazon's growth can be attributed to its ventures into cloud computing and innovative technologies, and its dominant position in e-commerce and technology. Figure 4.6 illustrates the price changes of AMZN over the previous six months, with the moving average depicted for reference.



Figure 4.6: AMZN Last 6 Month General Price Chart with Moving Average

## 4.7 Ethereum

Ethereum (ETH) is a decentralized blockchain platform and cryptocurrency, created in 2015 by Vitalik Buterin. Designed to enable the development and execution of smart contracts and decentralized applications. Ethereum's native cryptocurrency is called Ether (ETH), which serves as a means of value transfer within the Ethereum network.

Ethereum has gained popularity as the second-largest cryptocurrency, following Bitcoin. Its unique feature is support for programmable smart contracts enabling various decentralized applications. It has shown substantial growth and volatility, experiencing a significant increase in value during the initial coin offering (ICO) boom in 2017. Ethereum has demonstrated resilience and undergone upgrades, including the transition to Ethereum 2.0, aiming to enhance energy efficiency, security, and scalability. In recent years, Ethereum has seen significant price appreciation due to increased adoption and the rise in NFT popularity. In Figure 4.7, you can examine the general price chart of ETH spanning the last six months, along with the overlay of a moving average line.



Figure 4.7: ETH Last 6 Month General Price Chart with Moving Average

## 5 Day Trading Simulation

Day trading is filled with intense focus, careful analysis, and constant monitoring of the financial markets. Each day presents a unique set of opportunities and challenges, and we must adapt our strategies accordingly.

At the beginning of the week, we start by conducting thorough research on the stocks we plan to trade. We analyze their historical price data, study market trends, and keep a keen eye on any news or events that could impact their prices. This helps me identify potential stocks that exhibit the desired characteristics for day trading, such as high liquidity and volatility.

Once we have narrowed down our list of stocks, we create a trading plan for the week. This plan outlines our entry and exit points, profit targets, and stop-loss levels for each trade. It also includes risk management strategies to ensure we stay within our predetermined risk tolerance.

As the trading week progresses, we closely monitor the market conditions, using real-time data and advanced trading platforms. We pay close attention to technical indicators, such as moving averages, relative strength index (RSI), and volume patterns, to confirm our trade signals and make informed decisions.

When the trading day begins, we execute our trades with precision and discipline. We constantly evaluate the price movements and adjust our strategies accordingly. If a stock reaches our profit target, we sell our position and secure our gains. Similarly, if a trade is not performing as expected, we cut our losses by executing a stop-loss order.

To effectively track our progress in day trading, we have devised a comprehensive buy and sell table that will serve as our primary reference. This table encompasses essential details of our trading activities, enabling us to gain valuable insights into our portfolio's performance and overall profitability. By consistently updating this buy and sell table with accurate and up-to-date information, we will have a clear, organized, and real-time overview of our day trading activities. This systematic tracking method will empower us to assess our trading strategies, identify patterns, and make informed decisions to optimize our trading performance. The buy and sell table will be

a fundamental tool in our pursuit of successful day trading, helping us to stay focused, disciplined, and proactive in achieving our financial goals.

## 5.1 Week One Observations

To conduct the day trading stock, we focus on taking any short-term, price fluctuations in the market, through constant buying and selling of stocks, within a trading day. We will also focus on both technical and fundamental aspects of observing the stock market to get the best result out of this project.

During Week 1, specific changes were observed in the S&P 500, NASDAQ, and DJI. The S&P 500 experienced a weekly change of +0.16%, indicating a slight improvement in overall performance among the companies within the index compared to the previous week. This could imply positive market momentum or favorable investor sentiment during that period. The NASDAQ, which primarily comprises technology and growth-oriented firms, recorded a negative change of -0.5%. This suggests a potential decline in the value of technology stocks or a shift in investor sentiment away from such stocks. Conversely, the DJI demonstrated a positive change of 0.62%, indicating a slight increase in its value during the week.

During this week's day trading activities, the stocks that received significant attention were Dick's Sporting Goods. These stocks were the primary focus of traders looking for potential opportunities in the market.

On the morning of June 5th, we observed that the stock DKS dipped below its 50-day moving average, signalling a potential buying opportunity. However, to further confirm the trade decision, we analyzed the accompanying volume. A higher-than-average volume accompanying

the price dip indicated increased trading activity and participation from buyers at that price level, suggesting strong demand and potential market support. This increased volume enhanced the probability of a price reversal or bounce. Considering these factors, including the moving average breach and volume analysis, we set a limit order to purchase 50 shares of DKS at \$127.52, recognizing it as a potential buying opportunity while remaining mindful of other market conditions, news events, and complementary technical indicators to manage risk effectively.

In the afternoon of June 6th., after closely monitoring the market conditions which can be found in Figure 5.1 and analysing the indicators, we decided to sell our shares of DKS at \$134.45 on June 6th at 11:45 am. Primarily, we closely observed the price action of DKS and noticed a substantial upward movement since our initial purchase. The stock had experienced a rapid increase in value, prompting me to consider taking profits. Additionally, we relied on technical indicators such as Bollinger Bands, MACD, and RSI to gauge the stock's performance. The graphical representation in Figure 5.1 offers insights into DKS's price movements on June 5th, incorporating the moving average for further analysis, Bolinger bands, and candlesticks.



*Figure 5.1: DKS June 5 Yahoo Finance*

Bollinger Bands indicated that the stock's price had reached the upper band, \$135, suggesting an overbought condition. This signalled a potential reversal or correction in the price.



Furthermore, the MACD showed a divergence in the moving averages, hinting at a potential shift in the stock's momentum. Lastly, the RSI indicated that the stock was in the overbought territory, potentially indicating a higher likelihood of a downward price movement.

Taking these indicators into account, we determined that selling our shares at \$134.45 would allow me to lock in profits and capitalize on the favourable price movement. By executing the sell order at that specific price and time, we aimed to maximize our gains and minimize the risk of a potential price reversal. From selling the shares were \$346.50, presenting a percentage change of 5.43%. Figure 5.2 provides a comprehensive view of the price performance of DKS during June 6 from Yahoo Finance.



Figure 5.2: DKS June 6 Yahoo Finance

During this week of trading, the focus was on short-term price fluctuations, this day of trading highlighted the importance of comprehensive analysis, informed decision-making, and effective risk management to maximize profitability in day trading. Table 5.1 shows our trading for week 1.

Table 5.1 Buy and Sell table for Week 1

Start Date	Symbol	BUY/ SELL	Price	Shares	Net Cost/ Proceeds	Profit/ Loss	Total Cash	Total Profit	Total Asset
06/05/23	DKS	BUY	\$127.50	50	\$6376	0	\$93624	0	100000
6/06/23	AMD	SELL	\$134.45	50	\$6722.5	\$346.5	\$100346.	\$346.5	\$100346.5

## 5.2 Week Two Observations

On the morning of June 14th, while monitoring the price action of TSLA, we noticed a significant event occurring. The stock price of TSLA dropped below the moving average (50), suggesting a potential shift towards a bearish period. This occurrence caught our attention and prompted further analysis.

To gain more insights, we employed the Bollinger Bands (20,2) indicator, which provides a visual representation of price volatility. It revealed an interesting pattern – the stock found support and bounce off around the \$255.70 price level. This bounce indicated a potential reversal in the price movement and presented an opportunity for a bullish trade. Figure 5.3 shows the Bollinger bands and candle sticks of Tesla.



Figure 5.3: TSLA June 14 Yahoo Finance

Considering the observed bounce and perceiving it as a potential buying opportunity, we decided. To capitalize on this potential reversal, we set a buying limit order for 100 shares of TSLA at a slightly lower price of \$255.65. By setting a limit order, we aimed to enter the market at a favorable price, enabling me to maximize potential profits if the stock continued its upward momentum.

Figure 5.4 shows the Bollinger5 bands and candle sticks of Tesla. In the afternoon of June 15th, our attention was drawn to the price movement of TSLA, as it displayed a notable bullish rise. The stock price of TSLA surged above the moving average (50), indicating a potential shift towards a bullish period. This development prompted me to conduct further analysis and consider potential trading opportunities. The visual representation in Figure 5.4 presents the price fluctuations of TSLA on June 15<sup>th</sup>, with Bollinger bands, and candle sticks.

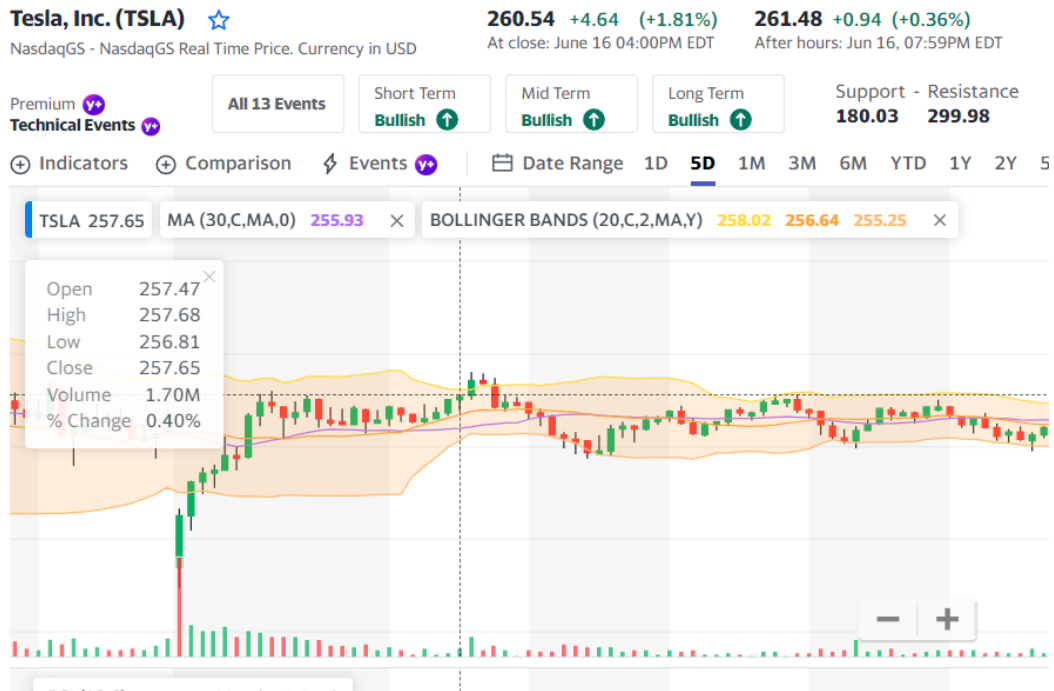


Figure 5.4: TSLA June 15 Yahoo Finance

To gain deeper insights, we turned to the Bollinger Bands (20,2) indicator, which helps gauge price volatility. It revealed an intriguing pattern - the stock encountered resistance and bounce off around the \$261.0 price level. This bounce suggested a reversal in the upward momentum and presented a potential selling opportunity.

Recognizing the significance of this bounce and perceiving it as a favorable moment to take profits, we decided. To capitalize on the potential reversal, we set a sell limit order for 100 shares of TSLA at a predetermined price of \$255.65. By setting a sell limit order, we aimed to exit the market at a price that would allow me to lock in gains if the stock continued its downward movement. The profit from buying 100 shares at \$255.65 and selling them at \$257.21 is \$156, representing a percentage change of 60.95%.

Table 5.2 shows our trading sell and buy points for week 2, it shows the total profit and total asset which is the most important parts of the table.

Table 5.2 Buy and Sell table for Week 2

Start Date	Symbol	BUY/ SELL	Price	Shares	Net Cost/ Proceed	Profit/ Loss	Total Cash	Total Profit	Total Asset
06/14/23	TSLA	BUY	\$255.65	100	\$25565		\$74781.5		\$100,346.5
6/15/23	TSLA	SELL	\$257.21	100	\$25721	\$156	\$100502.5	\$502.5	\$100,502.5

Next week, our intention is to explore new indicators and incorporate them into our trading strategy to enhance decision-making.

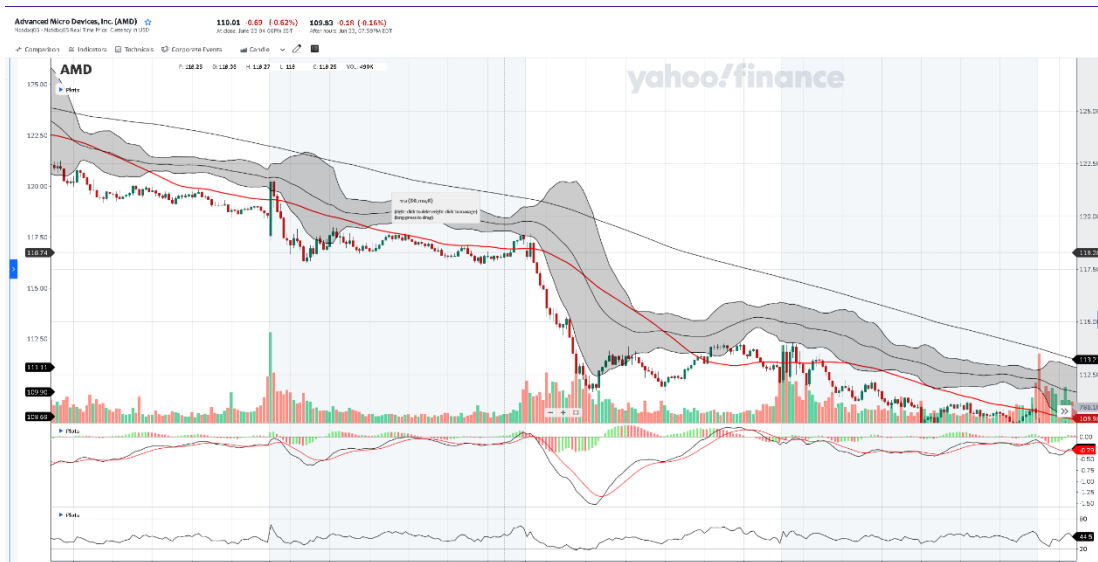
### 5.3 Week Three Observation

On the afternoon of June 19th, AMD (Advanced Micro Devices) revealed a bearish trend in the stock's price movement. Notably, the price was trading well below the lower Bollinger Band, a technical indicator that encompasses two standard deviations from the moving average. This indicated that AMD was potentially oversold, meaning the stock's price had deviated significantly from its average value and may be due for a price rebound.

To further support our analysis, we examined the MACD (Moving Average Convergence Divergence) indicator. It indicated a potential shift in momentum from the bearish phase to a bullish phase. The MACD consists of a signal line and a MACD line, with crossovers between the two lines signalling potential trend reversals. In this case, the MACD indicator was revealing a bullish crossover or convergence, suggesting a potential upward movement in the stock's price.

Based on these indications, we made a trading decision to place a limit order to buy 50 shares of AMD at a price of \$118.07. The limit order ensures that the trade will only execute if the

price reaches or falls below the specified level. By entering the trade at this price point, we aimed to capitalize on the potential price rebound and take advantage of a potential bullish movement in AMD's stock. Figure 5.6 shows the AMD technical factors that was retrieved from Yahoo Finance.



*Figure 5.5: AMD June 20 Yahoo Finance*

Unfortunately, the price of AMD did not behave as anticipated, and the bearish trend persisted, causing the stock's price to decline further. It reached a low point of \$111.67 on June 21. Realizing that our initial trade did not pan out as expected and to mitigate further losses, we closely monitored the MACD and moving averages in the afternoon of June 21.

During our analysis, the MACD indicator signaled a selling point, indicating a short-lived bullish trend that emerged within the bearish market conditions. Taking this information into consideration, we decided to exit our position and sell all 50 shares of AMD for \$111.67 per share per share and ended \$320 under our initial investment in AMD

For next week's trading, our primary goal is to improve our risk management strategies. By putting our focus on setting and adhering to appropriate stop-loss orders and profit targets for

each trade. Figure 5.7 shows AMD technical analysis using Yahoo Finance, it shows candle sticks, Bollinger bands, and volume on June 21.



Figure 5.6: AMD June 21 Yahoo Finance

Table 5.3 shows our trading for week 3, which is a buy and sell table that can bring valuable insights on profits and assets.

Table 5.3 Buy and Sell table for Week 3

Start Date	Symbol	BUY/SELL	Price	Shares	Net Cost/Proceeds	Profit/Loss	Total Cash	Total Profit	Total Asset
06/20/23	AMD	BUY	\$118.07	50	\$5903.5		\$94599		\$100502.5
6/21/23	AMD	SELL	\$111.67	50	\$5583.5	\$(320)	\$100182.	\$182.5	\$100182.5

#### 5.4 Week Four Observations

On the afternoon of June 26th, our analysis of Tesla's price movement revealed a significant downtrend. we observed that the stock had reached the upper boundary of the Bollinger Bands at

a price of \$258.37, which served as a resistance level. This bounces off the top of the Bollinger Bands indicated a potential reversal or a slowdown in the downward momentum.

Additionally, the MACD indicator signaled a potential shift from a bearish trend to a bullish tone. This convergence of technical signals from the Bollinger Bands and the MACD indicator further supported the notion of a potential price reversal.

Considering these technical indications, we placed a limit order at \$244.50 to buy 200 shares of Tesla. we anticipated that the stock, having bounced off the top of the Bollinger Bands at \$258.37, would experience a bullish move and potentially rise in price. Figure 5.8 shows TSLA's price movements on June 26, this includes the candlesticks, Bollinger bands and volume.



Figure 5.7: TSLA June 26 Yahoo Finance



On June 27th, Tesla's stock began to show a bullish trend following the anticipated reversal. Later in the afternoon, we observed that the stock was riding along the upper line of the Bollinger Bands. Recognizing a potential opportunity to capitalize on the upward momentum, we decided to place a sell order for 100 shares at a price of \$257.40.

The decision was also influenced by the MACD lines, which were on the verge of crossing over, indicating a potential signal to sell. With these technical indicators aligning, we believed it was an opportune time to secure profits.

After the sell order for 100 shares went through, we continued to monitor the stock's performance. On the morning of June 28th, the price was still riding along the upper line of the Bollinger Bands, indicating the continuation of the bullish trend. Additionally, the MACD indicator signaled another potential selling opportunity.

Recognizing this potential signal, we placed a sell order for the remaining 100 shares at a price of \$258.70, aiming to maximize our profits from the ongoing upward trend. Figure 5.8 shows TSLA stock on June 27<sup>th</sup> and June 28<sup>th</sup>.



*Figure 5.8: TSLA June 27 and June 28 Yahoo Finance*

In the morning of June 29th, our observation of Amazon's stock indicated that it was going through a temporary bear market phase. The stock was displaying a consistent downward trend, suggesting a prevailing selling pressure. Notably, the price of Amazon was riding along the lower boundary of the Bollinger Bands, which are volatility-based bands placed above and below a moving average. This indicated that the stock's price was nearing the lower end of its recent price range and potentially approaching a support level.

At its lowest point on that day, Amazon's stock hit a price of \$127.26. However, another indicator, the MACD (Moving Average Convergence Divergence), provided an encouraging signal. The MACD indicator revealed that the bearish trend was losing momentum, and a potential bullish reversal might be imminent. This indicated that the selling pressure might subside, and a shift in market sentiment towards buying could be expected.

Considering these observations and the potential for a bullish reversal, we made a calculated decision to place a limit order to buy 150 shares of Amazon at a price of \$127.50. By

setting a limit order, we aimed to execute the trade only if the stock price reached or fell below the specified level. This approach allowed me to be prepared for a potential price bounce from the support level while mitigating risks associated with unexpected price fluctuations. Figure 5.9 displays the general price chart of AMZN on June 29th, featuring a moving average line to aid in understanding the overall price trends.



*Figure 5.9: AMZN June 29 Yahoo Finance*

On the morning of June 30th, the price action of Amazon's stock indicated a short-term bull run. The stock was riding along the upper boundary of the Bollinger Bands, suggesting that it had reached the upper end of its recent price range. This indicated a potential overbought condition and a signal for a quick sell.

To further analyze the situation, we looked at the MACD and RSI indicators. The MACD lines were approaching a crossover, which is often seen as a confirmation of a trend reversal. This provided additional support for the decision to sell. Additionally, we examined the RSI, which

measures the strength of a stock's price movement. If the RSI was indicating overbought conditions, it would further validate the decision to sell.

Based on the analysis of the indicators and the indication of a potential trend reversal, we decided to wait until the MACD lines were almost crossing before placing a sell order. This approach ensured that we were capturing the potential price movement while minimizing the risk of selling too early or too late.

Finally, we placed a sell order for all our 150 shares of Amazon at a price of \$130.79. By setting a specific sell price, we aimed to take advantage of the upward momentum and secure a profit from the short bull run. Figure 5.10 illustrates the price changes of AMZN on June 30th, with the moving average (red) and Bolinger bands depicted for reference.



Figure 5.10: AMZN June 30 Yahoo Finance

In week 4 of our trading journey, we closely analyzed and meticulously recorded our trading activities, as illustrated in Table 5.4. This comprehensive table captured essential details of our investment decisions, providing a valuable snapshot of our portfolio's performance during this specific period.

Table 5.4 depicted a comprehensive breakdown of the trades executed throughout the week. Each entry in the table showcased the specific asset, the trade's date, the quantity bought or sold, the purchase or sale price, and any associated transaction fees or costs. This level of detail allowed us to gain deep insights into the intricacies of our trading activities and evaluate the overall effectiveness of our strategy.

*Table 5.4 Buy and Sell table for Week 4*

Start Date	Symbol	BUY/ SELL	Price	Shares	Net Cost/ Proceeds	Profit/ Loss	Total Cash	Total Profit	Total Asset
06/26/23	TSLA	BUY	\$244.50	200	\$48900		\$ 51602.5		\$100502.5
6/27/23	TSLA	SELL	\$257.40	100	\$25740	\$1290	\$77342.5	\$1472.5	\$101800
6/28/23	TSLA	SELL	\$258.70	100	\$25870	\$1420	103220.5	\$2892.5	\$103220.5
6/29/23	AMZN	BUY	\$127.50	150	\$19125		\$84095.5		103220.5
6/30/23	AMZN	SELL	\$130.79	150	\$19618.5	\$493.5	\$103714	\$3386	\$103714

### 5.5 Week Five Observations

During the week of July 4th, which was a shortened trading week due to the Independence Day holiday, we observed an interesting price action on July 5th and 6th with TSLA stock. On the afternoon of July 5th, we noticed that TSLA was bouncing off the upper Bollinger Band at a price of \$283.49, suggesting a temporary bearish market sentiment and signaling a potential downward trend.

Moving to the morning of July 6th, TSLA started riding along the lower bound of the Bollinger Bands, hovering around \$274.43. The stock even hit a low of \$272.88, indicating further weakness. However, at the same time, the MACD indicator was on the brink of crossing, revealing a possible transition from a bearish to a bullish trend.

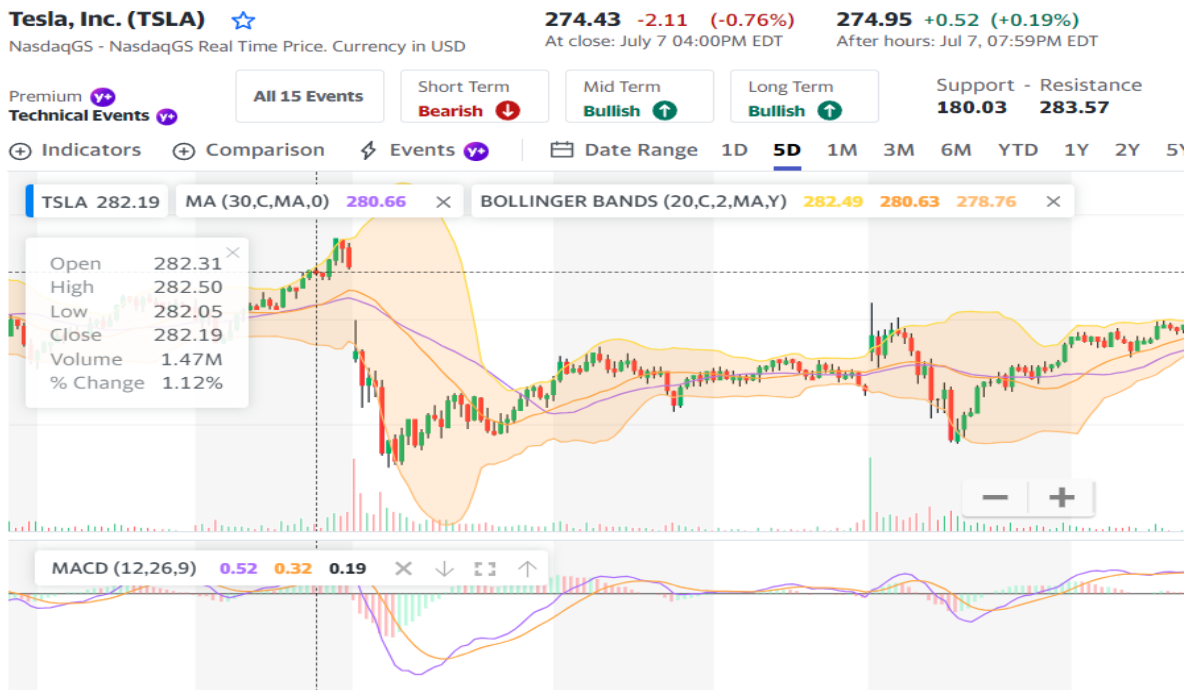


Figure 5.11: TSLA July 5/6 Yahoo Finance

Recognizing this potential shift, we decided to take action. At the price of \$273.45, we placed a limit order to buy 200 shares of TSLA. With the MACD about to cross and suggest a bullish momentum, we saw an opportunity to capitalize on the potential price bounce from the bearish trend. By placing a limit order, we aimed to enter the position at a specified price, optimizing my entry point.

On the morning of July 7th, we noticed that TSLA was trading near the upper Bollinger Band at around \$279, indicating a potentially overbought condition. This signaled a possible time to consider selling my shares. To confirm this decision, we monitored the MACD and RSI

indicators. we observed that the MACD was on the verge of a bearish crossover, suggesting a potential shift in market momentum. Additionally, the RSI indicated an overbought condition. Taking all these factors into account, we decided to place a limit order to sell 100 shares at a price of \$279.15, anticipating a potential downward move in the stock's price. Additionally, we chose to hold on to my remaining 100 shares of TSLA to wait and see if there would be a more favorable opportunity to sell them.

Following the temporary bearish correction, TSLA experienced a bounce off the bottom of the Bollinger Bands at \$274.20. During this time, the MCAD indicator indicated rising momentum in the price. However, later in the afternoon, TSLA's price was riding along the upper Bollinger Band around \$279.4, and the MCAD was on the verge of overlapping, suggesting a potential selling point. Taking these signals into consideration, we made the decision to sell the remaining 100 shares of TSLA at a price of \$279.15.

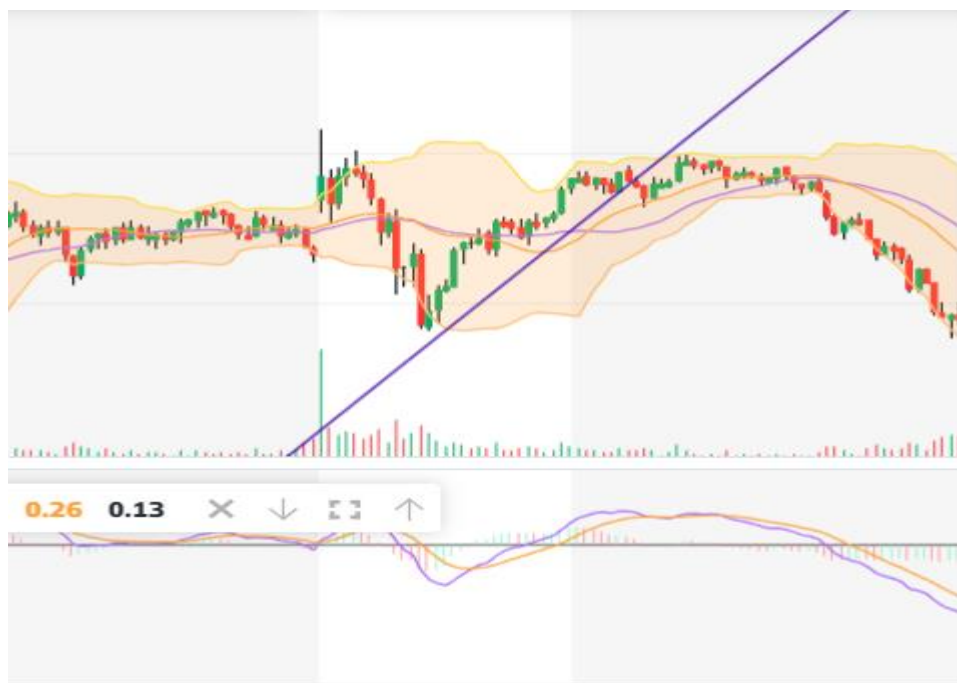


Figure 5.12: TSLA July 7 Yahoo Finance

After looking back at this past week’s trading, we believe that we can improve by focusing on learning more trading indicators to enhance my decision-making process and gain a deeper understanding of market dynamics. Table 5.5 shows our trading for week 5.

*Table 5.5 Buy and Sell table for Week 5*

Start Date	Symbol	BUY/ SELL	Price	Shares	Net Cost/ Proceeds	Profit/ Loss	Total Cash	Total Profit	Total Asset
7/6/23	TSLA	BUY	\$273.45	200	\$54,690		\$49,024		\$103714
7/7/23	TSLA	SELL	\$279.15	100	27915	\$570	\$49,024		\$104,284
7/7/23	TSLA	SELL	\$278.90	100	27890	\$545	\$104,829	\$4,829	\$104,829

### 5.6 Week Six Observations

On the morning of July 10th, as we closely monitored the stock of AMZN, we observed that it was exhibiting characteristics of a bear market. It was trading below the 30-day moving average and along the lower boundary of the Bollinger Bands. These indicators suggested a potential oversold condition and a possible opportunity for investment.

To further support my decision, we also considered the RSI (Relative Strength Index) and MACD (Moving Average Convergence Divergence) indicators. The RSI helps assess the strength of price movements and identify overbought or oversold conditions. With AMZN trading under the 30-day moving average and near the lower Bollinger Band, we checked the RSI to confirm if the stock was oversold, potentially signaling a price rebound. If the RSI was below 30, it would provide further validation for a potential trade.

Additionally, we used the MACD indicator to gauge momentum and potential trend reversals. If the MACD line crossed above the signal line or the histogram started to show upward momentum, it would add to the bullish case and increase my confidence in making the trade.





*Figure 5.13: AMZN July 10 Yahoo Finance*

Based on the combination of the bearish market conditions, trading below the moving average and Bollinger Bands, and considering the RSI and MACD indicators, we decided to execute a trade. At around 12:10 pm, we purchased 250 shares of AMZN at a price of \$126.40, anticipating a potential price recovery and subsequent profit.

Over the following days, we diligently monitored the price movements and indicators of AMZN to identify a suitable selling point. We specifically focused on the RSI indicator to determine when it surpassed the upper boundary, indicating a potential selling opportunity. On the morning of July 13, shortly after the opening bell, we observed that the RSI had exceeded the upper threshold, suggesting a potential reversal or overbought condition. Additionally, we examined the Bollinger Bands and noticed that the pricing was riding along the upper boundary, further supporting a potential selling point.



*Figure 5.14: AMZN July 13 Yahoo Finance*

With these indications in mind, we made the decision to set a limit order to sell 150 shares of AMZN at a price of \$134.10. By setting a limit order, we aimed to capitalize on the anticipated price movement and secure a favorable selling price. This approach allowed me to automate the selling process and take advantage of potential profit-taking opportunities.

Between July 13th and July 21st, we closely monitored the indicators and looked for an opportune moment to sell the remaining 100 shares of the stock. Throughout this period, we noticed that since around 12 pm on July 13th, the stock had consistently stayed below the 30-day moving average. We patiently waited for a potential selling point to arise.

On July 14th, around 11 am, we observed that the stock price was riding along the upper boundary of the Bollinger Bands and appeared poised to bounce off it. This signaled a potential reversal or resistance level. Additionally, we noted that the MACD was about to cross above the upper boundary, indicating upward momentum.

Taking these factors into consideration, we made the decision to place a limit order to sell the remaining 100 shares at a price of \$136.05. By setting a specific price in the limit order, we aimed to take advantage of the anticipated bounce off the upper Bollinger Band and potential price increase.

Detailed information regarding the buy and sell transactions conducted in week 6 can be seen in Table 5.6.

*Table 5.6 Buy and Sell table for Week 6*

Start Date	Symbol	BUY SELL	Price	Shares	Net Cost/ Proceeds	Profit/ Loss	Total Cash	Total Profit	Total Asset
7/10/23	AMZN	BUY	\$126.40	250	\$31600		\$73,229		\$104,829
7/13/23	AMZN	SELL	\$134.10	150	\$20115	\$1155.00	\$93344	\$5984	\$105984
7/14/23	AMZN	SELL	\$136.05	100	\$13605	\$965	\$106949	\$6949	\$106949

### 5.7 Week Seven Observations

On the afternoon of July 19th, we closely monitored Tesla (TSLA) and came across news indicating that Tesla's earnings report was scheduled for later that day. Concurrently, we observed that TSLA was in a bear market, trading below both the 30-day and 200-day moving averages, and riding along the lower boundary of the Bollinger Bands. These technical indicators suggested a potentially oversold condition and a bearish trend in the stock.

Considering these factors, we saw an opportunity to invest in TSLA. Around 2:45 pm, we decided to place a limit order for 100 shares at \$290.40, hoping that the earnings report would be favorable and drive the price higher. We were looking for a potential price bounce after the earnings report and the technical indicators' alignment, suggesting a possible reversal in the stock's bearish trend.

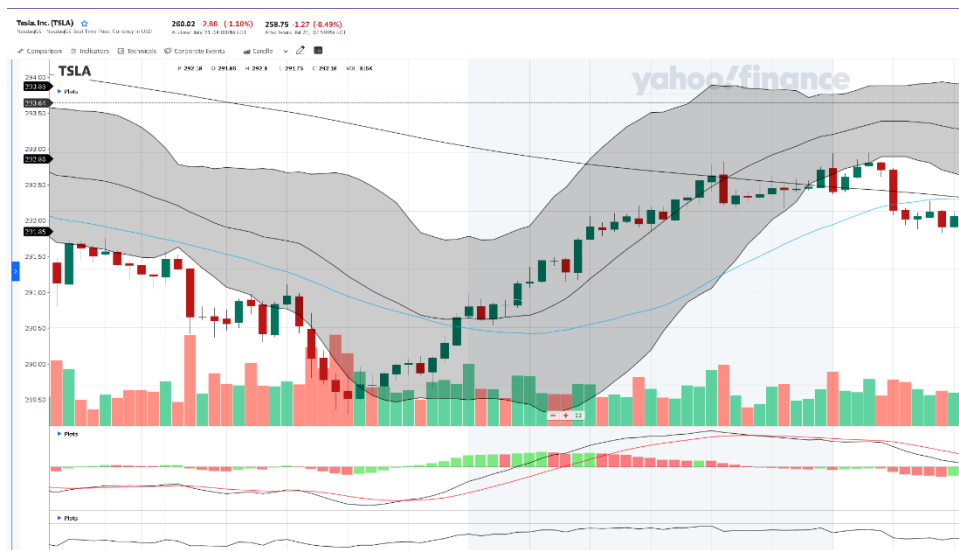
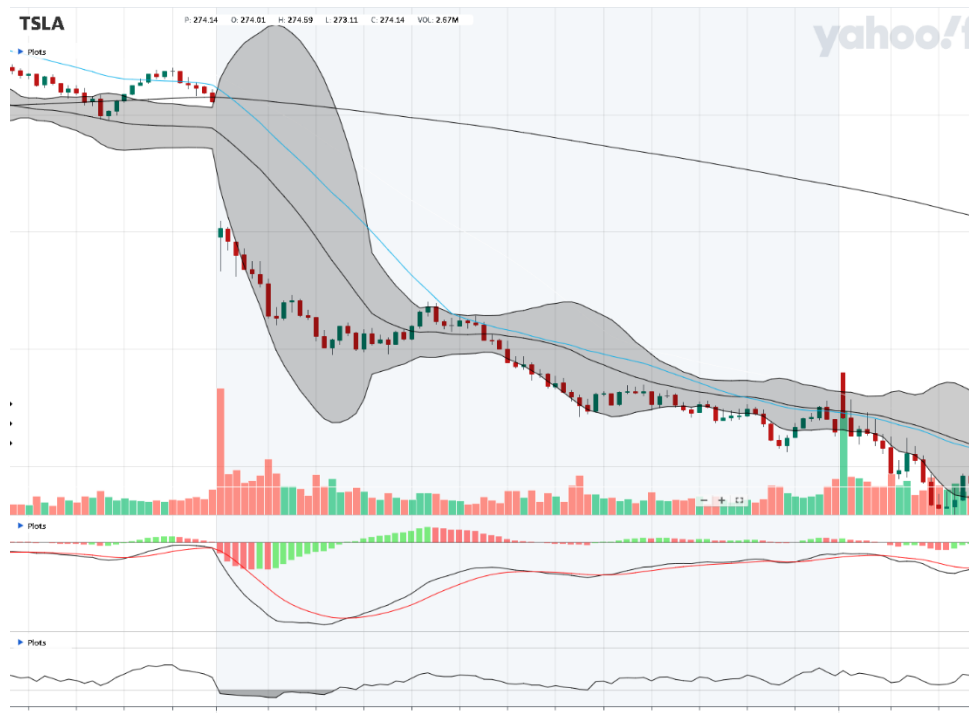


Figure 5.15: TSLA July 19 Yahoo Finance

Later that day upon the release of Tesla's earnings, it was reported to be \$0.78 per share. We began to closely monitor the price action after the earnings release and stayed alert for any signs of momentum or reversal in TSLA.

On the morning of July 20th, we received news that Tesla's gross margins had declined to 18.2%, a drop from 25% in Q2 2022 and down from 19.3% in the previous quarter. This news triggered a sharp selloff, and the stock price plummeted to \$282.00 at 9 am.



*Figure 5.16: TSLA July 20 Yahoo Finance*

Reacting quickly to mitigate my losses, we closely monitored the stock's movement. We noticed that it was trading along the lower boundary of the Bollinger Bands and had recently bounced off the bottom at \$273.4. Additionally, the upper and lower bands were converging, suggesting a potential price breakout or reversal.

Based on this observation, we decided to take action and set a sell limit order for 50 shares at \$274. Our aim was to cut my losses and exit the trade if the stock managed to bounce back slightly. We understood the importance of protecting my capital and adhering to a strict risk management plan.

On the morning of July 21st, we continued to monitor Tesla's stock after successfully selling my initial shares at \$274 and recognizing the potential for further price movements. The stock remained trading along the lower boundary of the Bollinger Bands with little fluctuation and

stayed under the 30-day moving average, while the RSI and MACD indicators confirmed the ongoing downward trend.

However, the RSI began indicating a potential upward movement, suggesting a possible correction in the price. This observation caught my attention, and we started to consider the possibility of a trend reversal.

Around 10:30 am, we noticed the stock's price bouncing off the lower boundary of the Bollinger Bands, indicating a potential support level. Additionally, the lower MACD bound crossed around \$256.23, which further strengthened my belief in an upcoming upward movement.



Figure 5.17: AMZN July 21 Yahoo Finance

Based on these signals and my analysis, we decided to take action and placed a limit order for 75 shares at \$256.80. My anticipation was that the correction would end, and the stock's price would start moving upwards.

After the limit order was executed, and we bought 75 shares of Tesla at \$256.8, we closely monitored the stock's movement. We observed that the stock had crossed above both the 30-day and 200-day moving averages, indicating a potential rebound. As expected, the stock began riding along the upper boundary of the Bollinger Bands, showing signs of upward momentum.

We searched for an opportune exit point to lock in our profits. At around 1:30 pm, we noticed that the MACD was on the verge of crossing and signaling a potential selling opportunity. Additionally, the price was approaching the upper boundary of the Bollinger Bands at approximately \$267.30.

Considering the technical indicators and the nearing upper bound, we decided to take action and protect my gains. We placed a limit order to sell all my 125 shares for \$267.40.

I am grateful for the being able to mitigate my losses to only -\$1175. We've learned about the importance of caution before investing in stocks right before earnings reports and the need for thorough research on margins and financial health.

Detailed information regarding the buy and sell transactions conducted in week 7 can be seen in Table 5.7.

*Table 5.7 Buy and Sell table for Week 7*

Start Date	Symbol	BUY SELL	Price	Shares	Net Cost/ Proceeds	Profit/ Loss	Total Cash	Total Profit	Total Asset
7/19/23	TSLA	BUY	\$290.40	100	\$29040		\$77,909		\$106,949
7/20/23	TSLA	SELL	\$274.00	50	\$13,700	(820)	\$91,609		\$106,129
7/21/23	TSLA	BUY	\$256.80	75	\$19,260		\$72,349		\$106,129
7/21/23	TSLA	SELL	\$267.40	125	33,412.5	(355)	\$105774	\$5774	\$105774

## 5.8 Final Thoughts

Throughout our seven-week day trading strategy, we focused on utilizing technical indicators to make quick trades, while consciously avoiding getting overly influenced by the news and media surrounding the companies. This approach allowed us to analyze price movements and market trends objectively, making more data-driven decisions and maintaining discipline in our trading strategy.

Throughout the weeks, we observed various price fluctuations in stocks like Dick's Sporting Goods (DKS), Tesla (TSLA), Advanced Micro Devices (AMD), and Amazon (AMZN). We learned the importance of comprehensive analysis, informed decision-making, and effective risk management to maximize profitability and minimize losses in day trading.

- Week 1: We capitalized on potential buying opportunities in DKS and made profitable selling decisions based on technical indicators.
- Week 2: Focused on TSLA, where we successfully identified potential price reversals and executed trades to maximize profits.
- Week 3: Presented challenges with AMD, leading us to understand the importance of risk management and learning from losses.
- Week 4: We continued to leverage technical indicators and made successful trading decisions in TSLA.
- Week 5: We incorporated both TSLA and AMZN, with varying degrees of success. We recognized the need to balance technical analysis with staying informed about fundamental aspects of companies.
- Week 6: brought a renewed focus on AMZN, and we made profitable trades based on potential price recovery.



- Week 7: We traded TSLA and navigated the stock's bearish trend and potential reversal, on quarter earning day, managing to mitigate losses to only -\$1175.

Trading performance throughout the seven weeks regarding gain/losses and total amounts can be seen in Table 5.8.

*Table 5.8 Gain/Losses and Total Assets throughout 7 weeks*

<b>Week</b>	<b>Gain/losses</b>	<b>Total Assets</b>
1	\$346.5	\$100,346.50
2	\$156	\$100,502.50
3	-320	\$100,182.50
4	\$3,531.5	\$103,714.00
5	\$1,115	\$104,829.00
6	2,120	\$106,949.00
7	-1175	\$105,774.00

Throughout our seven weeks, we focused on continuous learning and exploring new indicators to enhance our decision-making process and were about to yield a 5.77% Return on Investment, amounting \$5,774.00, through day trading. While technical analysis proved valuable for quick trades, we acknowledged the importance of staying updated on company financials and developments. Looking ahead, we aim to strike a balance between technical and fundamental factors to navigate the dynamic and competitive world of day trading successfully.

## 6 Position Trading Simulation

When engaging in position trading, the focus lies on identifying opportune moments to purchase stocks to benefit from long-term price increases. In this simulation spanning five weeks, the initial two weeks are dedicated to acquiring stocks and analysing technical patterns to pinpoint favourable entry points for selected companies. If there are entry points, we will sell the selected stocks, otherwise all stocks are sold by the end of the fifth week.

To effectively track our position trading progress, we rely on concise "Buy Asset" tables. These tables capture essential details such as purchase price, shares, current and previous Friday prices, weekly change, and total profit for each stock in our portfolio. By regularly updating and analyzing these records, we gain insights into performance, enabling data-driven decisions and accountability for our trading strategy. This system empowers us to adapt to market fluctuations, optimize our approach, and strive for sustainable success in position trading.

### 6.1 Week One Observations

During Week 1, which concluded on June 11, our approach involved utilizing fundamental analysis techniques to monitor the selected companies. Among them, Apple garnered attention due to the launch of their new product called the Apple Vision Pro. However, we chose not to invest in Apple stocks immediately following the product's release due to the associated risks. There was considerable uncertainty regarding market reactions, particularly due to factors such as product pricing.

Proceeding to the stocks that were acquired, Tesla and Amazon were chosen. However, the fundamental analysis did not yield substantial evidence to ascertain the bullish or bearish nature

of these companies. Consequently, the focus shifted toward technical analysis to gain further insight in this regard.

The two technical analysis that were performed were moving averages analysis and trend lines. The Exponential Moving Average (EMA) of 213 suggests that recent price movements have had a stronger impact on the average price over the past month. This indicates potential price increases or heightened volatility during that period. On the other hand, the Simple Moving Average (SMA) of 200 represents a smoother average price over the same timeframe, giving equal weightage to all prices. The EMA being consistently above the SMA indicates a bullish signal, suggesting positive momentum and a potential upward trend for Tesla in the medium term.

From November to June, Tesla has exhibited an upward trend in its price movements according to figure 6.11. This implies that the stock has experienced a consistent and sustained increase in value over this period. The technical analysis supports this observation, particularly when considering the Exponential Moving Average (EMA) of 213 and the Simple Moving Average (SMA) of 200.



*Figure 6.1: TSLA Nov-June 1 Day from Trading View*

The consistent upward trend in Tesla's stock price, coupled with the EMA of 213 above the SMA of 200, suggests a bullish sentiment in the market. Investors and traders may interpret this as a positive sign, indicating that the stock has been attracting buying interest and experiencing price appreciation. However, it is important to consider other factors, such as market conditions, industry trends, and company-specific fundamentals, before making any investment decisions. Technical analysis, including moving averages, provides valuable insights into price trends, but it should be used in conjunction with comprehensive analysis to make informed investment choices.

Moving on to AMZN, there was no fundamental analysis that was worthy of considering whether to buy or sell, so the decision of looking at the moving averages and trend analysis were made as well. Analyzing the moving averages for Amazon over a one-month period, we observe that the Exponential Moving Average (EMA) stands at 112, while the Simple Moving Average (SMA) is at 104. The EMA of 112 indicates that recent price movements have had a notable influence on the average price over the past month. Being higher than the SMA of 104 suggests

that there have been stronger price increases or heightened volatility in recent periods. This could potentially indicate positive momentum or an upward trend for Amazon in the medium term. On the other hand, the SMA of 104 represents a smoother average of the price data over the same one-month period. It considers an equal weightage of prices, thus providing a less responsive picture of recent price movements compared to the EMA. Considering these moving averages, we can infer that there is a bullish sentiment surrounding Amazon's stock price in the medium term. The EMA being above the SMA strengthens this notion, suggesting positive momentum and a potential upward trend. Now moving onto the trend analysis.

A trend analysis of a company's stock price from November to June reveals a consistent upward trend in Figure 6.2. This suggests that the stock has been experiencing a sustained increase in value over this period.



Figure 6.2: AMZN Nov - June 1 Day from Trading View

This observation aligns with the technical analysis, specifically considering the Exponential Moving Average (EMA) and Simple Moving Average (SMA) values. This overall

upward trend can be interpreted as a bullish sentiment in the market, indicating positive investor sentiment and potential price appreciation.

Figure 10 shows the transactions of Week 1 where only AMZN and TSLA were seen to have favourable entry points, we plan to buy the rest of the company's stocks next week with potential entry points and hold them until week 5. The total gain is \$1,238.39 which is a 10.04% increase in the original amount of money in the simulator which was \$100,000.

This week, two investments were made in the stock market. The first investment was in Tesla Inc. (TSLA), where 50 shares were purchased at a buy price of \$219 per share. By the end of the week, on the following Friday, the stock price had risen to \$260.54 per share. This resulted in a weekly gain of \$1,900 for the Tesla investment. Taking into account the initial investment cost and the change in stock price, the total gain for the Tesla investment was also \$1,900. The second investment was in Amazon.com Inc. (AMZN), with 11 shares acquired at a buy price of \$124.19 per share. By the end of the week, the stock price had increased to \$125.49 per share, resulting in a weekly gain of \$200 for the Amazon investment. Similar to Tesla, the total gain for the Amazon investment was \$200, considering the initial investment amount and the change in stock price. The table below (6.1) shows the Week 1 Asset changes for our position trading simulation.

*Table 6.1: Week 1 Asset changes (Unit: \$)*

Start Date	Symbol	Buy Price	Shares	Price Last Friday	Price This Friday	Week Gain/Loss	Total/Asset Gain/Loss
06/07/2023	TSLA	\$219	50	\$219	260.54	\$1,900	\$1,900
06/07/2023	AMZN	\$124.19	11	\$124.19	\$125.49	\$200	\$200

During the next week, the goal is to enhance technical analysis skills in the stock market by learning about candlestick analysis and Bollinger bands. Candlestick analysis provides visual insights into price movements and patterns, while Bollinger bands help gauge volatility and potential breakouts. The aim is to improve the ability to identify market trends and make informed trading decisions.

## 6.2 Week Two Observations

In the second week of our position trading journey, we devoted significant attention to evaluating the remaining companies that we had not yet traded with. Our focus was to identify potential entry points for profitable positions. Among the remaining options, two companies stood out: DKS and APPL, both showing promising indicators for potential trades. To make informed decisions, we relied on a comprehensive analysis using various technical tools. Trend line analysis provided insights into the overall direction of the stock's price movement, allowing me to identify potential support and resistance levels. Candlestick analysis helped me gauge market sentiment by interpreting the patterns formed by the price bars.

Additionally, we utilized moving averages, which helped smooth out short-term fluctuations and provided a clearer picture of the stock's trend. By examining the relationship between different moving averages, such as the 50-day and 200-day moving averages, we gained insights into potential buying opportunities.

Furthermore, we incorporated Bollinger Bands into our analysis. These bands provided a visual representation of price volatility, helping me identify periods of contraction or expansion.

Bollinger Bands acted as a guide, signaling potential breakouts or reversals in price, assisting me in timing our entry points.

Firstly, we will talk about why we didn't buy any Ethereum, based on the technical analysis that we conducted. In the case of Ethereum, we have three moving averages to consider: the Exponential Moving Average (EMA) with a period of 10, and the EMA with a period of 20. Analyzing these moving averages collectively, we observe a mixed picture. The Exponential Moving Average (20) is at 1773.8, indicating a sell signal. This suggests that the longer-term trend might be shifting towards a bearish direction. The Exponential Moving Average (10) is currently at 1739.6. Its value suggests a sell signal, indicating that the short-term trend may be bearish. The short-term EMA (10) suggests a bearish sentiment and the longer-term EMA (20) leans towards a bearish outlook.

Figure 6.3 shows a downward trend analysis of the Ethereum stock based on weeks.



Figure 6.3: ETH May 2022- June 2023 Weekly from Trading View



Based on the analysis of weekly Ethereum price movements from May 2022 to May 2023, a consistent downward trend is observed. This observation is supported by the bearish signals derived from the moving averages discussed earlier. The Exponential Moving Average (10) and Exponential Moving Average (20) both indicate sell signals, suggesting a negative sentiment and potential for further price decline.

Considering the prolonged downward trend and the confirmation from the moving averages, we have decided not to buy Ethereum for position trading during this period. Position trading involves holding positions for an extended duration, often months or even years, with the expectation of capturing significant price movements. However, in the current market conditions, where Ethereum has demonstrated a consistent downward trend, the risk of holding a long position outweighs the potential rewards.

Moving onto the stocks that were bought this week, we focused more on Bollinger bands and moving averages since it was a combination, we didn't consider in week 1 of the trading simulation. we have decided to prioritize Bollinger Bands over Bollinger Bands %B for our analysis and decision-making process. The reason behind this choice is the specific time frame of our position trading, which spans 5 weeks. Bollinger Bands provide a comprehensive representation of price volatility and potential trading opportunities. By considering the width and positioning of the bands, we can assess the level of price volatility and identify potential support and resistance levels. This information is crucial for making informed trading decisions, especially when holding positions for several weeks.

In contrast, Bollinger Bands %B, while useful in certain situations, focuses more on the relative position of the current price within the Bollinger Bands. It provides insights into overbought or oversold conditions and potential trend reversals. However, given the 5-week

timeframe of our position trading, we believe that a more comprehensive understanding of price volatility and potential trading ranges offered by Bollinger Bands is more suitable.

Figure 6.4 shows the Bollinger Bands indicators of AAPL based on weeks. In this case, the Maximum Lower Band is 130.65, which indicates a potential support level for the price. If the price were to approach or drop below this level, it may suggest a bounce or a buying opportunity. The Current Price on 06/15/2023 is 184.92. This value represents the actual price of the asset at that time and can be used as a reference point for analyzing its relationship with the Bollinger Bands. The Maximum Upper Band is 230.4, which serves as a potential resistance level for the price. If the price were to approach or rise above this level, it may indicate a potential reversal or a selling opportunity.

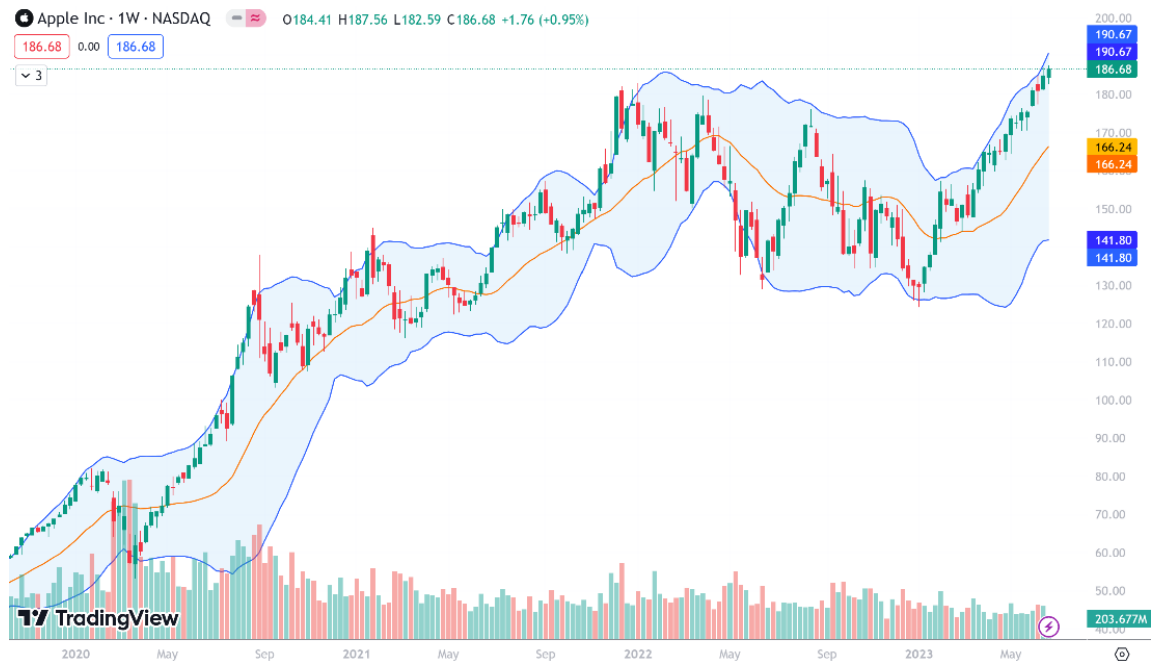


Figure 6.4: Sep 2021 –June 2023 Bollinger Bands of APPL

The Simple Moving Average (10) is at 182.01 and Exponential Moving Average (20) is at 179.56, they both indicating a buy signal. These moving averages are commonly used to identify

trends and potential trading opportunities. With the current price of 184.92 being higher than both moving averages, it suggests a positive trend in the short to medium term. The fact that the price is above both moving averages indicates potential bullish momentum and a favorable trading environment.

Furthermore, we also wanted to include fundamental analysis to support our technical analysis. The fundamental analysis of Apple Inc. (AAPL) indicates strong performance in terms of return on assets (ROA) and return on equity (ROE) compared to its industry peers. According to ChartMill, AAPL's Return on Assets of 28.40% is significantly higher than the industry average of 10.24%. This suggests that Apple is generating substantial profits relative to its total assets. Furthermore, being amongst the best returns in the industry indicates the company's efficient utilization of its assets to generate profits.

These strong fundamental indicators for Apple support the potential for a favorable position trading strategy. The robust ROA and ROE figures suggest that Apple has a solid financial foundation and the ability to sustain its profitability over the long term.

Moving on to the other stock we purchased this week, we decided to look at Bollinger Bands of DKS. Figure 6.5 shows the Bands of DKS along with the moving average.

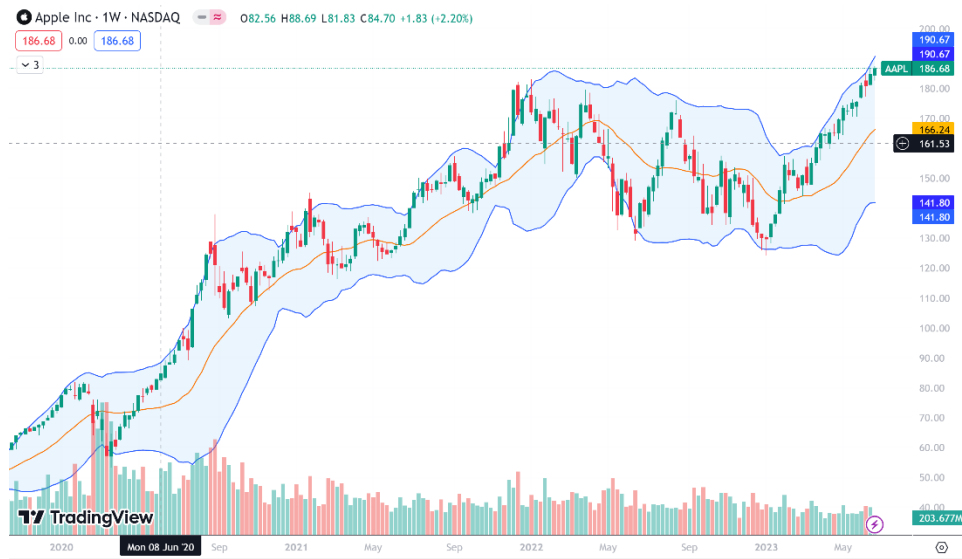


Figure 6.5: May 2021- June 2023 Weekly DKS Bollinger Bands form Trading View

The Upper Bollinger Band represents a potential resistance level, indicating that prices approaching or exceeding this level may face selling pressure. On the other hand, the Lower Bollinger Band suggests a potential support level, indicating prices approaching or dropping below this level may find buying interest. With the Simple Moving Average (10) indicating a buy signal and having a value of 126.72, it suggests that the recent prices have been higher, supporting a positive trend. Additionally, the Exponential Moving Average (20) is also indicating a buy signal with a value of 115.78, further reinforcing the positive sentiment. The fact that the Simple Moving Average (10) and Exponential Moving Average (20) are both signaling a buy suggests a potential upward trend in the stock. When combined with the Bollinger Bands, we can infer that the price is trading within a range defined by the upper and lower bands. This implies that the stock's price is currently within a period of consolidation.

By the end of Week 2 for position trading, the current asset table looks as follows.

Table 6.2: Asset changes (Unit: \$)

Start Date	Symbol	Buy Price	Shares	Price Last Friday	Price This Friday	Week Gain/Loss	Total/Asset Gain/Loss
06/15/23	DKS	\$134.34	25	\$135.41	\$135.10	\$19	\$19
06/15/23	AAPL	\$184.92	2	\$177.82	\$184.92	\$60	\$60
06/07/2023	TSLA	\$219	50	\$219	260.54	\$1,900	\$1,900
06/07/2023	AMZ	\$124.19	11	\$124.19	\$125.49	\$200	\$200
						Total: \$2,179	

Next week's goal is to observe more entry levels for the remaining companies and keep track of daily news.

### 6.3 Week Three Observations

During the third week of position trading, we executed a purchase of the remaining two stocks in our portfolio, namely NVIDIA and AMD, albeit in small quantities. This decision was motivated by a cautious outlook on the potential for high returns from these stocks. As we proceed to discuss the performance of our other stocks, it is noteworthy that they have experienced certain fluctuations.

Starting off with AMD, we looked at oscillators, moving averages, trend line analysis and fundamental analysis to cement our decision. The analysis of the moving averages and oscillators reveals a positive outlook for the asset being analyzed. Both the Exponential Moving Average (10) and Simple Moving Average (10) indicate an upward trend, with values of 93.91 and 83.52, respectively. This suggests a buying opportunity for investors. Additionally, the oscillators, including the Relative Strength Index (14), Stochastic %K (14, 3, 3), and Commodity Channel Index (20), all fall within the neutral range. The RSI sits at 56.03, indicating that the asset's price

is neither overbought nor oversold. Similarly, the Stochastic %K at 67.76 and the Commodity Channel Index at 68.24 also reflect a neutral stance without providing strong indications of a trend.

In summary, based on the analysis of the moving averages and oscillators, the asset shows positive signs for investment. The upward trends indicated by the moving averages support a buying action, suggesting potential price growth. Although the oscillators indicate a neutral stance, with no extreme overbought or oversold conditions, they also do not reveal any negative signals.

To further our analysis, we have conducted a Bollinger bands and a line chart to see if the investment would turn out in our favour. Figure 6.6 shows both the aspects, we can observe a falling wedge pattern, along with supportive signals from the moving averages and oscillators. A falling wedge pattern typically indicates a bullish trend reversal, as it suggests a narrowing range and diminish selling pressure.



Figure 6.6: May 2021- June 2023 Weekly AMD Bollinger Bands from Trading View

The downward sloping top line represents weakening resistance, while the upward sloping bottom line indicates strengthening support. This pattern often precedes a breakout to the upside.

Furthermore, the moving averages are signaling a buy recommendation. Considering a position trading style, which involves holding positions for an extended period to capture larger price moves, it appears that the overall analysis leans toward a buy decision for AMD.

The moving averages for NVDA (NVIDIA Corporation) provide a clear signal of a positive trend in the stock. The exponential moving average (10) stands at 276.69, while the simple moving average (10) is at 235.50, both indicating a "Buy" recommendation. These moving averages consider recent price data and suggest that the stock's value has been consistently rising. Additionally, the exponential moving average (20) further supports the positive trend with a value of 235.61, reinforcing the buy signal. These moving averages provide a strong indication that NVDA's stock price has been on an upward trajectory.

On the other hand, the oscillators present a more cautious stance. The relative strength index (RSI) (14) sits at 73.83, just above the overbought threshold of 70, but still within the neutral zone. Similarly, the stochastic %K (14, 3, 3) stands at 91.62, indicating a neutral signal despite being close to the overbought territory. Lastly, the commodity channel index (CCI) (20) displays a high value of 198.53, suggesting a bullish sentiment but still within the neutral range. While the moving averages provide a positive outlook, the oscillators advise exercising caution and conducting further analysis before making investment decisions related to NVDA's stock.

Figure 6.5 shows the NVDA candlesticks with an upper trend line and Bollinger bands. Based on the information provided, it appears that NVDA (NVIDIA Corporation) is experiencing an upward trend. The lower band is at 305.44, the current price is 422.09, and the upper band is at 551.19.

The lower band represents a support level, indicating the lower boundary of the price range. In this case, the lower band at 305.44 suggests that there has been buying pressure and support for the stock at this level. It indicates that the stock price has consistently stayed above this support level during the analyzed period.

The current price of 422.09 is significantly higher than the lower band, indicating that the stock is currently trading above its support level. This suggests that there is positive momentum in the stock.

The upper band at 551.19 represents a potential resistance level, indicating the upper boundary of the price range. It suggests that there might be selling pressure or hesitation from buyers around this level. If the stock continues its upward trend and reaches the upper band, it could face some resistance, potentially leading to a slowdown or reversal in the price movement.

Regarding NVDA, we have decided to take a low-risk investment and invest in only 10 stocks in result of the analysis above.





Figure 6.7: May 2021- June 2023 Weekly NVDA Bollinger Bands from Trading View

Table 6.3 shows that there was an overall loss for all the stocks below, our hypothesis is that this could be a weekly fluctuation, and the positive aspect to position trading is that it allows you to ride out the weekly fluctuations, to receive a positive end goal. Table 6.3 shows the Week 3 asset changes.

Table 6.3: Week 3 Asset changes (Unit: \$)

Start Date	Symbol	Buy Price	Shares	Price Last Friday	Price Friday	This	Week Gain/ Loss	Total/Asset Gain/Loss
6/23/23	AMD	\$ 110.01	20	\$124	\$110.01	-	-	-
6/23/23	NVDA	\$422.09	10	\$426	\$ 422.09	-	-	-
06/15/23	DKS	\$134.34	25	\$135.10	\$134.57	- \$2	\$17	
06/15/23	AAPL	\$184.92	2	\$184.92	\$186.68	-\$3	\$57	
06/07/2023	TSLA	\$219	50	260.54	\$256.60	-\$5	\$1,895	
06/07/2023	AMZN	\$124.19	11	\$125.49	\$129.33	-\$3	\$197	
							Total: \$2,166	

For the next following weeks, we will keep observing the changes of the stocks, to check for weekly gains and losses, since most of the chosen companies are bought.

## 6.4 Week Four Observations

During the fourth week of our position trading journey, we observed the performance of the stocks we had purchased, closely monitoring their movements, and analyzing market trends. Among the selected companies, we consciously chose not to invest in Ethereum (ETH), the cryptocurrency known for its volatility and potential for growth. As we observed the rapid fluctuations in ETH's price, we realized the intricate nature of the crypto market and the importance of thorough research. Despite not investing in ETH, closely monitoring its performance provided valuable insights and reinforced the significance of understanding before venturing into any investment.

After analyzing the moving averages and conducting trend analysis on ETH (which can be found in week 2), it became evident that if the simulation were to extend for a few more months, purchasing ETH would have been a viable option. However, considering that the simulation is set to conclude next week, we determined that it may not be worth buying ETH at this point. The limited timeframe does not provide sufficient room for potential long-term gains and may expose the investment to unnecessary volatility. Therefore, based on the simulation's imminent end, we made the decision to forgo purchasing ETH and focus on other opportunities with a more favorable risk-reward profile.

Table 4 shows the assets of all the shares that have been held for four weeks. Several investments showcased positive gains, exemplified by the increase in the stock price of AMD, TSLA, and AMZN. AMD displayed a notable week gain of +\$29.60, while TSLA exhibited significant growth, resulting in a week gain of +\$220. Similarly, AMZN demonstrated a modest

week gain of +\$2. However, not all investments were profitable, as evidenced by the losses experienced in NVDA and DKS. NVDA incurred a week loss of -\$15, while DKS suffered a decline in value, leading to a week gain of +\$36 but an overall loss of -\$53.75.

In the fourth week of our trading journey, we closely examined the weekly asset changes presented in Table 6.4. This crucial data provided us with valuable insights into the performance of our investment portfolio during that particular period. Analyzing the weekly asset changes allows us to assess the impact of market fluctuations and make informed decisions to optimize our trading strategy.

*Table 6.4: Week 4 Asset changes (Unit: \$)*

Start Date	Symbol	Buy Price	Share	Price Last Friday	Price This Friday	Week Gain/Loss	Total/Asset Gain/Loss
6/23/23	AMD	\$ 110.01	20	\$110.01	\$113.91	+ \$29.60	\$29.60
6/23/23	NVDA	\$422.09	10	\$ 422.09	\$423.02	-\$15	-\$15
06/15/23	DKS	\$134.34	25	\$134.57	\$132.19	+ \$36	-\$53.75
06/15/23	AAPL	\$184.92	2	\$186.68	\$193.97	+\$22	\$70
06/07/2023	TSLA	\$219	50	\$256.60	\$261.77	+\$220	\$2,115.25
06/07/2023	AMZN	\$124.19	11	\$129.33	\$130.36	+\$2	\$199
						Total: \$2,413	

Among the investments, Apple (AAPL) stands out with significant growth and gains. Apple recently achieved a momentous milestone by becoming a trillion-dollar company, which propelled its stock price and resulted in substantial gains.

Despite the losses experienced in DKS and NVDA shares, it is important to consider the possibility that these downturns are merely week fluctuations, like what Tesla (TSLA) experienced the previous week. Just like Tesla's stock price rebounded and showcased significant growth, there remains hope that DKS and NVDA may also recover in the coming weeks. Market fluctuations

are a common occurrence, and it's essential to monitor the trends and analyze the underlying factors that contribute to these changes. By staying informed and exercising patience, investors can navigate through such fluctuations and potentially benefit from future positive developments in these companies' stock prices.

Next week we have made the decision to sell all our investments on Thursday. After careful consideration and evaluation of our investment portfolio, we believe it is the right time to capitalize on potential gains and reallocate our assets. By selling everything, we aim to lock in profits and mitigate any potential risks or uncertainties that may arise in the market.

#### 6.5 Week Five Observations

In the fifth week of our position trading, we collectively decided to sell our DKS (Dick's Sporting Goods) stock. Through thorough analysis, we identified a suitable exit point based on the moving averages. The Exponential Moving Average (10) indicated a sell signal at 133.52, while the Simple Moving Average (10) confirmed the sell signal at 133.03. Furthermore, the Exponential Moving Average (20) also aligned with a sell indication at 133.00. Moreover, over the past two weeks, the stock consistently resulted in losses exceeding 100 dollars. As a team, we carefully evaluated these factors and concluded that selling the DKS stock was the prudent choice to mitigate further losses and safeguard our investment. This decision was a collective effort, highlighting our collaborative approach to decision-making and risk management in position trading. Table 6.5 shows the asset changes this week since last Friday to this Friday. Figure 6.9 showcases the DKS Trending Line Analysis spanning from March 23 to July 9. This graph provides a visual representation of the price trends and movements observed in the stock of DKS (presumably

referring to a specific company or stock symbol). Analyzing this timeframe allows us to gain valuable insights into the performance and behavior of the stock over a significant period.

By examining the line plotted on the graph, we can identify key patterns and trends that emerged during this period. It enables us to assess the stock's overall trajectory, including any notable fluctuations or consistent upward or downward movements. This analysis provides investors and traders with a comprehensive understanding of how DKS has performed, potentially aiding in making informed decisions regarding buying, selling, or holding the stock.

Moreover, the duration covered in this analysis, from March 23 to July 9, spans several months and encompasses various market conditions. This extended timeframe allows for a more comprehensive assessment of the stock's performance, capturing both short-term fluctuations and long-term trends.



Figure 6.8 DKS Trending Line Analysis from March 23 – July 9

Table 6.5 shows the asset changes that are being held in the position trading simulator.

Table 6.5: Week 5 Asset changes (Unit: \$)

Start Date	Symbol	Buy Price	Shares	Price Last Friday	Price This Friday	Week Gain/Loss	Total/Asset Gain/Loss
6/23/2023	AMD	\$110.01	20	\$113.91	\$113.17	+\$8.31	\$37.91
6/23/2023	NVDA	\$422.09	10	\$423.02	\$423.22	+\$19.2	\$10
06/15/2023	AAPL	\$184.92	2	\$193.97	\$190.68	+\$7	\$77
06/07/2023	TSLA	\$219	50	\$261.77	\$278.43	+\$633	\$2,748.25
06/07/2023	AMZN	\$124.19	11	\$130.36	\$129.78	+\$5	\$204
						Total: \$2,413	

In the realm of financial markets, Table 6.5 Tesla witnessed a remarkable weekly improvement, displaying an impressive surge in value by approximately 600 dollars. As enthusiastic observers of this market, we are eagerly anticipating the unfolding events of the upcoming week, particularly about tracking this notable increase. The absence of any declines in value during the past week is undoubtedly a positive development and bodes well for investors.

Moving forward, we intend to closely monitor the fundamental analysis aspect of Table 6.5 Tesla by actively staying updated with relevant news and market trends. Understanding the underlying factors that contribute to the fluctuation in stock prices can provide valuable insights and aid in making informed investment decisions. This approach will help us stay abreast of any potential shifts in market sentiment or major announcements that may impact the stock's performance.

## 6.6 Week Six Observations

During the sixth week of position trading, our analysis of the stock market's moving averages and oscillators left us in a rather puzzling situation. Despite carefully evaluating the

performance of the stocks we had purchased in previous weeks, we found ourselves unable to identify any suitable exit spots for selling. The moving averages, which typically help gauge the overall trend and potential reversal points, showed relatively stable and consistent patterns. However, this stability also meant that there were no clear signs of significant price movements or ideal selling opportunities.

Furthermore, the oscillators, which we rely on to identify overbought or oversold conditions, failed to provide any standout signals. The market seemed to be treading within a range, not showing any extreme conditions that would justify selling our positions. While this might suggest that our chosen stocks were exhibiting a strong underlying trend, it also posed a challenge in terms of determining the optimal time to exit for maximum profit.

Given the absence of clear exit signals, we decided to exercise patience and refrain from making any hasty decisions. As position traders, we understand the importance of adhering to a well-thought-out strategy and not succumbing to impulsive actions driven by short-term market fluctuations. Instead, we chose to closely monitor the stocks in our portfolio and keep a vigilant eye on any potential shifts in the market sentiment that could serve as indicators for future exit points. By maintaining a disciplined approach and staying true to our trading plan, we remain confident that the right opportunities to sell our stocks at favorable prices will eventually present themselves in the coming weeks.

During the sixth week of position trading, one of the stocks we closely monitored was Nvidia (NVDA). We observed that there were about two days of bearish indicators, raising initial concerns that it might be an opportune time to sell. However, upon further examination of the weekly moving averages, we noted that both the Exponential Moving Average (10) and Simple Moving Average (10) were indicating a "Buy" sentiment, with values of 393.93 and 391.82,

respectively. Additionally, the Exponential Moving Average (20) further reinforced the bullish sentiment with a value of 342.43, signaling another "Buy" recommendation.

Considering these positive indications from the moving averages, we decided not to sell our Nvidia positions at that time. It appeared that despite the brief bearish signals, the broader trend was still showing strength and potential for further growth. Table 6.6 shows the weekly table on the assets that are being held now.

*Table 6.6: Week 6 Asset changes (Unit: \$)*

Start Date	Symbol	Buy Price	Shares	Price Last Friday	Price This Friday	Week Gain/Loss	Total/Asset Gain/Loss
6/23/2023	AMD	\$110.01	20	\$113.17	\$115.94	+ \$11.99	\$49.90
6/23/2023	NVDA	\$422.09	10	\$423.22	\$454.69	+\$290	\$300
06/15/2023	AAPL	\$184.92	2	\$190.68	\$190.69	+\$1	\$78
06/07/2023	TSLA	\$219	50	\$278.43	\$281.38	+\$347.5	\$3,095.75
06/07/2023	AMZN	\$124.19	11	\$129.78	\$134.68	+\$7	\$211
						Total: \$3,733	

Looking back at Table 6.6, we observed positive developments in both Nvidia (NVDA) and Tesla (TSLA) stocks. Both companies experienced increases in their stock prices, indicating favorable market conditions. However, let's focus on Nvidia in particular.

We made a strategic decision not to sell our Nvidia shares during the middle of the week, and this choice proved beneficial. At the end of the week, the closing price of Nvidia was 454, while we had initially bought it at 420. As a result, we realized a significant profit of 290 per share over the course of the week.

This outcome reaffirms the value of our trading approach, which involves carefully analyzing technical indicators, such as moving averages, to make informed decisions. By staying



true to our strategy and not reacting impulsively to short-term fluctuations, we were able to capitalize on the stock's upward momentum and achieve a favorable outcome.

Next week the stocks will be sold and hopefully the profits are at the same level as this week or even better.

## 6.7 Week Seven Observations

Last week, we experienced some exciting developments in our financial journey as our assets reached an all-time high of around \$103,700. It was a result of our combined efforts and smart investment choices, leading to significant growth in our portfolio.

Now, with this week being our only chance to make transactions, we've been carefully examining different market indicators and studying the current trends. Our goal is to gain a deep understanding of how the stock market is likely to perform in the coming days.

Unfortunately, our analysis has indicated that the market is headed for a downturn in the next week. As a result, we find ourselves in a position where it makes sense to be cautious and consider selling all the stocks we currently hold.

To come to this conclusion, we first looked at the stock which was making the most money which is the TSLA stock and performed a trendline analysis for the next week to see how it was moving on. Figure 6.9 shows the stocks for Tesla with a trending line, Bollinger bands, and the RSI (Relative Strength Index) from July 16 to July 21 by the hour.



Figure 6.9 TSLA Trending Line Analysis and RSI from July 16 to July 23 (hourly)

The Relative Strength Index (RSI) for Tesla's stock was observed to be at 33 this week. An RSI value of 33 suggests that the stock is currently in oversold territory. This means that the stock price may have experienced a significant decline recently, potentially leading to an imbalance between buying and selling pressure. Traders often interpret an RSI value below 30 as an indication of oversold conditions, implying that the stock might be undervalued and due for a potential price rebound.

Additionally, the trending analysis for Tesla's stock indicates a downward direction, revealing a bearish trend in recent trading sessions. This implies that the stock's price has been consistently declining, and investors have been generally more inclined to sell rather than buy.

So, our decision to sell TSLA was justified enough since taking a risk would be detrimental because TSLA holds most of the profits.

We decided to look through the indices to get a general overlook of the stock market, with indicators such as Bollinger bands, RSI, and candlesticks, which are shown in figure 6.11.



Figure 6.10 Chosen Figures Trending Line Analysis and RSI

Around Tuesday this week, we closely observed the selected indices - NASDAQ, S&P 500, and Dow Jones - and noticed a significant decline in their values. The market sentiment seemed to be influenced by various factors, leading to a bearish trend in the indices. In particular, the NASDAQ index's Relative Strength Index (RSI) was observed at 33, indicating that the market for NASDAQ-listed stocks was in oversold territory.

The RSI value of 33 for NASDAQ signals that the index had experienced a notable decline, potentially leading to a situation where stocks were undervalued and might be due for a rebound.

The bearish trend and the RSI value for NASDAQ prompted us to approach our trading decisions with a disciplined mindset, focusing on long-term goals and the overall health of our portfolio.

Throughout the week, we continued our technical and fundamental analysis of the stocks in our portfolio. By staying true to our approach and relying on efficient analysis methods, we aimed to navigate through the short-term fluctuations while ensuring that our trades align with our investment objectives.

In conclusion, the observation of the selected indices' downturn around Tuesday, particularly the NASDAQ's RSI of 33, served as valuable insights for our position trading strategy. We remain committed to our patient and careful approach, focusing on well-analyzed entry and exit points to capitalize on favorable market conditions in the coming weeks. As position traders, we understand that short-term fluctuations are part of the market's natural ebb and flow, and we aim to leverage our analysis to make informed decisions for the long-term growth of our portfolio.

## 6.8 Final Thoughts

Overall, our position trading strategy has proved to be successful, allowing us to achieve positive returns and reach an all-time high in our portfolio. The technical analysis helps us identify key trends, support and resistance levels, and potential entry and exit points for our trades. By carefully studying chart patterns, moving averages, and indicators like RSI and Bollinger Bands, we can pinpoint opportune moments to enter or exit positions. This ensures that our trades align with the overall market sentiment and reduce the impact of short-term fluctuations.

On the other hand, fundamental analysis provides us with valuable insights into the underlying financial health and prospects of the companies we invest in. Instead of being swayed by momentary market movements, we remain steadfast in our investment thesis and allow our trades to develop over time. This patient outlook allows us to capitalize on the long-term growth potential of our selected stocks while minimizing the impact of short-term noise.

Table 6.7 shows the profits/loss of each company to get a better idea of how the position trading performed.

*Table 6.7: Position Trading Simulation Profit/Loss for Each Company*

Company (Ticker)	Sector	Buy Price	Total Profit/loss
Advanced Micro Devices (AMD)	Semiconductor	\$ 110.01	+ \$49.90
NVIDIA Corporation (NVDA)	Semiconductor	\$422.09	+ \$300
Dick's Sporting Goods (DKS)	Specialty Retail	\$134.34	- \$53.75
Apple (AAPL)	<i>Information Technology</i>	<i>\$184.92</i>	+ \$78
Tesla (TSLA)	Automobile Manufacturers	\$219	+ \$3,095.75
Amazon (AMZN)	Internet & Direct Marketing Retail	\$124.19	+ \$211
Total			3,733

Within the semiconductor sector, Advanced Micro Devices (AMD) shows promising prospects. The stock's buy price is \$110.01, indicating its strength in the face of market volatility. It has generated a total profit of +\$49.90, showcasing its ability to capitalize on market movements and deliver favorable returns to investors. Another significant player in the semiconductor sector is NVIDIA Corporation (NVDA). The stock's buy price is \$422.09, indicating a strategic entry

point. With a total profit of +\$300, NVIDIA exhibits its capacity to seize opportunities in the semiconductor sector and provide substantial returns to investors. Transitioning to the Specialty Retail sector, Dick's Sporting Goods (DKS) stands out with a buy price of \$134.34. The total loss was at -\$53, which following the week of the loss, we saw it as an exit point to sell it. However, we did not anticipate this loss since the weeks prior, following the technical analysis was showing signs of buying and a bullish pattern. It could be that we had to dig further into the fundamental analysis side.

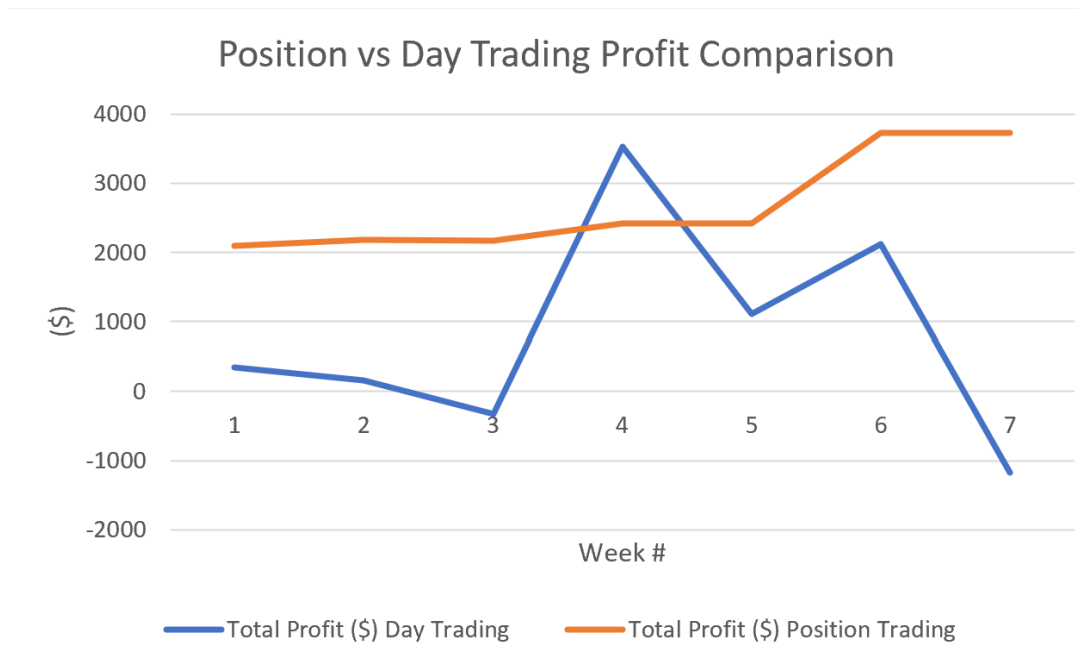
In the Information Technology sector, Apple Inc. (AAPL) shows promise with a buy price of \$184.92. The total profit of +\$78 reflects Apple's ability to navigate technological innovations effectively and reward investors with positive returns. In the Automobile Manufacturers sector, Tesla, Inc. (TSLA) demonstrates strength with a buy price of \$219. The impressive total profit of +\$3,095.75 underlines Tesla's adeptness at capitalizing on market trends and generating substantial gains for shareholders. Finally, on the Internet & Direct Marketing Retail sector, Amazon.com, Inc. (AMZN) shines with a buy price of \$124.19. The total profit of +\$211 showcases Amazon's dominance in the digital landscape and its ability to provide favorable returns to investors.

The one mistake we made with the position trading aspect was not buying enough shares, since it is normally a lower risk than day trading. Buying more shares would have earned more profits, however that is an aspect and risk every trader has to deal with.

## 7 Comparison

After conducting two trading simulators, one focused on day trading and the other on position trading, we have gained valuable insights into these distinct trading approaches. Day trading involves making multiple trades within the same trading day, aiming to profit from short-term price movements. It requires constant attention, quick decision-making, and a high level of focus throughout the trading session. While day trading can be exciting and potentially profitable, it also comes with significant risks due to the rapid changes in stock prices. Looking at the results, position trading had an overall 19 percent return rate with an addition of \$3,700, while day trading made an additional \$5,774.

Figure 7.1 shows the price comparison between the two trading styles in a line graph, to get a better and clearer picture.



*Figure 7.1 Position vs Day Trading Profit Comparison*

Through week 1 to week 6, the pattern between the two trading styles follows a similar ups and downs, however day trading is more extreme ups and downs while position trading is softer. The best weeks for both the trading styles were between week 5 and 6. However, at the end day trading made much more overall profit than position trading which lives up to its high-risk high reward standard. If market conditions were more bearish, we can safely assume that day trading would have been harder to do and would have more indicators to look out for normal, while position trading would just iron out all the weekly fluctuations.

Comparing the two trading approaches, day trading offers the potential for quick profits but requires constant vigilance and quick decision-making. On the other hand, position trading emphasizes patience, discipline, and thorough analysis, allowing us to ride out short-term market fluctuations and make well-considered decisions.

It is hard to say which trading style is overall better since it depends on how much free time you have, since day trading needs a lot of time per day. In addition to position and day trading, another key aspect to consider is the use of fundamental and technical trading strategies. Technical trading was far easier to do for day trading than fundamental, because fundamental trading brings some uncertainty on a day-to-day basis.



## 8 Key Insights

Throughout our experience in both day trading and position trading, we have gained valuable insights and lessons that have contributed to our understanding of the financial markets. In day trading, our focus on technical indicators allowed us to make quick trades based on objective analysis of price movements and market trends. We successfully achieved a 5.77% Return on Investment (ROI) amounting to \$5,774.00. Our disciplined approach and avoidance of emotional influence from news and media surrounding companies enabled us to make data-driven decisions and maintain consistency in our strategy.

In position trading, our success was attributed to a balanced approach combining technical and fundamental analysis. We meticulously studied chart patterns, moving averages, and indicators like RSI and Bollinger Bands to identify opportune entry and exit points for our trades. Additionally, we relied on fundamental analysis to gain insights into the financial health and growth potential of the companies we invested in. This combination of technical and fundamental analysis allowed us to capitalize on long-term growth while minimizing the impact of short-term fluctuations.

Throughout our trading journey, we have learned the importance of continuous learning and adaptation. The dynamic nature of the market requires us to stay updated on new indicators, market trends, and company developments. In day trading, we realized the significance of risk management and not being overly influenced by momentary market movements. Position trading taught us the value of patience, allowing trades to develop over time based on thorough analysis. Furthermore, we learned from the importance of diversification and not putting all our capital into a single trade, as exemplified by Dick's Sporting Goods (DKS) in position trading.

The week-to-week performance revealed a lot of observations to us. In day trading, week 3 stood as a challenging period, leading to a loss of \$320. However, we adapted our approach, resulting in positive returns in the subsequent weeks. In position trading, we achieved significant profits with Tesla (TSLA) while Dick's Sporting Goods (DKS) posed a challenge, emphasizing the necessity of comprehensive analysis and balancing technical and fundamental aspects. Moreover, we recognized the importance of considering position size, as not buying enough shares in position trading limited potential profits.

In conclusion, our trading experiences have seen the importance of a systematic and data-driven approach, combining technical and fundamental analysis, and continuously adapting to market dynamics. The results demonstrated our ability to navigate the complexities of the financial markets and achieve favorable returns while managing risk. Looking forward, we aim to further refine our strategies, expand our knowledge base, and embrace the dynamic nature of the financial markets to continue achieving success in our trading endeavors.

## 9 Conclusion

The project that was conducted over a 7-week period taught us many things about the behaviour of the stock market. By using many techniques that are under the umbrella of fundamental and technical analysis, we also utilized these along with position trading and day trading, each of which gave us their own lessons. We used different types of tools and techniques to find the most effective way of making profits.

In the beginning we were focusing on certain techniques like trending analysis, moving averages, and Bollinger bands and then later we expanded our use of techniques. By the 3<sup>rd</sup> week we found what worked best for each trading style given how different they are from each other.

We also compared the two different trading styles to see which was more profitable and which had better value. As stated before, the simulator which included position trading had an overall 19 percent return rate with an addition of \$3,700, while day trading made an additional \$5,774. However, day trading had more variations in the weekly earning while position trading had fewer extreme variations and less risk associated with it. It was also an honour to do this project when the market was mostly bullish in behaviour.

In conclusion, this project was a very rewarding experience that has many beneficial applications in the future regarding our own individual financial wants.

## 10 References

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