

# HedgAI Signals - 11/13/2023

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**- Longs Added:**

**- Shorts Added: Health Care \$XLV**

**- Longs Closed: Microsoft, Consumer Discretionary \$XLY, Wheat**

**- Shorts Closed: Industrials \$XLI**

## HedgAI Signals - Current Signals (Displaying Prediction Z Scores)

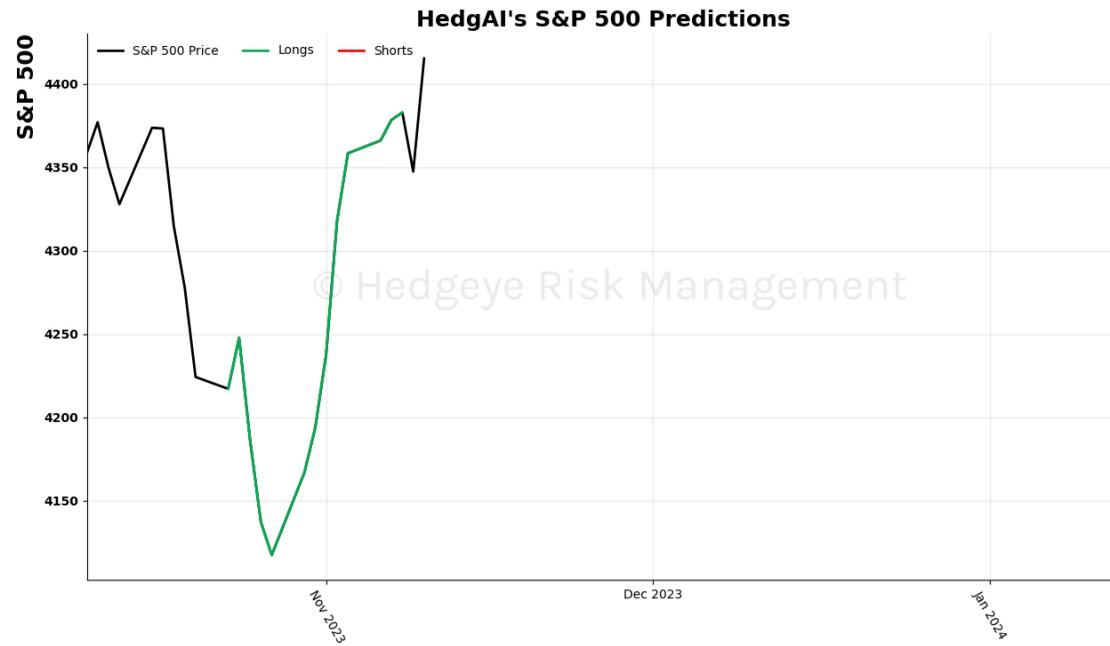
| Asset                  | Current Position | Threshold | Today | 1 Day Ago | 2 Days Ago | 3 Days Ago |
|------------------------|------------------|-----------|-------|-----------|------------|------------|
| Google                 | Long             | 1.0       | 1.06  | 1.01      | 0.98       | 0.98       |
| NVIDIA                 | Long             | 0.7       | 1.37  | 1.29      | 0.36       | 0.09       |
| Consumer Staples \$XLP | Long             | 1.0       | 1.45  | 1.28      | 0.77       | 0.46       |
| Copper Futures         | Long             | 0.7       | 3.17  | 2.31      | 1.17       | -0.15      |
| Steel                  | Long             | 1.0       | 1.52  | 1.41      | 0.7        | 0.04       |
| UST 2yr Yield          | Long             | 1.0       | 1.5   | 1.18      | 0.87       | 0.76       |

| Asset             | Current Position | Threshold | Today | 1 Day Ago | 2 Days Ago | 3 Days Ago |
|-------------------|------------------|-----------|-------|-----------|------------|------------|
| Meta Platforms    | Short            | 0.8       | -2.87 | -2.61     | -1.95      | -1.12      |
| Materials \$XLB   | Short            | 1.0       | -1.23 | -1.17     | -1.01      | -0.75      |
| Health Care \$XLV | Short            | 0.9       | -0.91 | -0.29     | 0.23       | 0.18       |

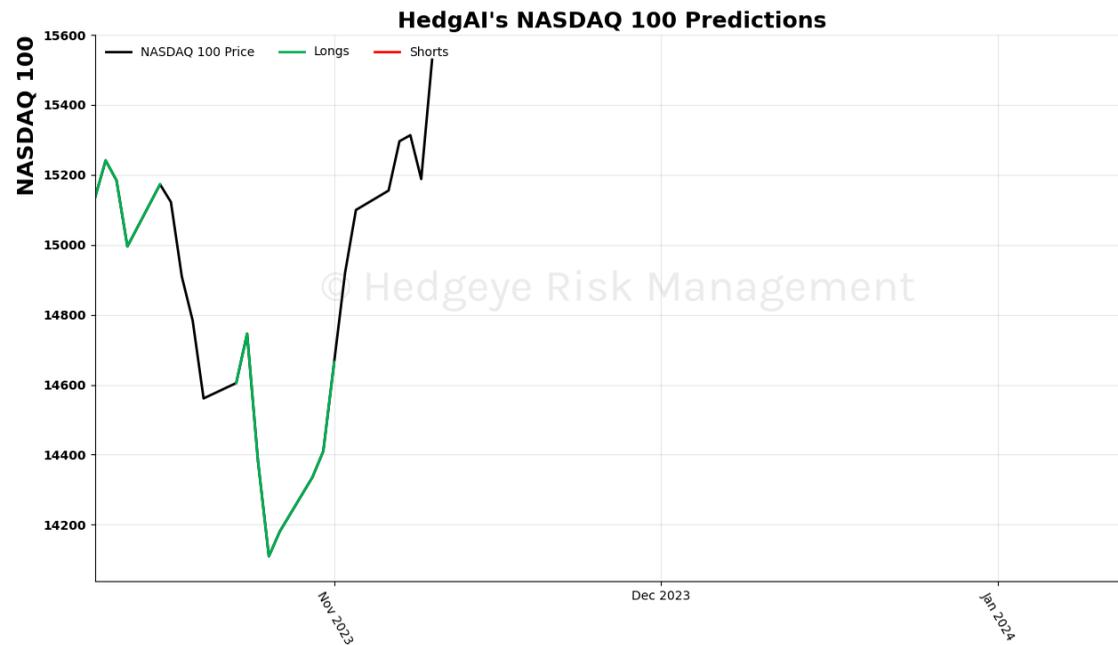
## HedgAI Signals - Summary Signals

| Asset                        | Current Position | Threshold | Today | 1 Day Ago | 2 Days Ago | 3 Days Ago |
|------------------------------|------------------|-----------|-------|-----------|------------|------------|
| S&P 500                      | Wait and Watch   | 0.9       | -0.39 | 0.14      | 0.61       | 0.95       |
| NASDAQ 100                   | Wait and Watch   | 1.0       | -0.4  | -0.41     | -0.28      | -0.27      |
| Apple                        | Wait and Watch   | 0.8       | -0.61 | -0.74     | -0.82      | -0.5       |
| Microsoft                    | Wait and Watch   | 0.8       | 0.51  | 1.04      | 0.04       | 0.3        |
| Google                       | Long             | 1.0       | 1.06  | 1.01      | 0.98       | 0.98       |
| Amazon                       | Wait and Watch   | 1.0       | 0.61  | 0.28      | -0.17      | -0.62      |
| NVIDIA                       | Long             | 0.7       | 1.37  | 1.29      | 0.36       | 0.09       |
| Tesla                        | Wait and Watch   | 0.8       | 0.47  | 0.72      | 0.54       | 0.48       |
| Meta Platforms               | Short            | 0.8       | -2.87 | -2.61     | -1.95      | -1.12      |
| Netflix                      | Wait and Watch   | 1.0       | 0.0   | 0.47      | 0.87       | 1.17       |
| Materials \$XLB              | Short            | 1.0       | -1.23 | -1.17     | -1.01      | -0.75      |
| Energy \$XLE                 | Wait and Watch   | 0.9       | 0.24  | 0.24      | 0.13       | 0.03       |
| Financials \$XLF             | Wait and Watch   | 0.7       | 0.05  | 0.69      | 1.05       | 1.18       |
| Industrials \$XLI            | Wait and Watch   | 0.8       | 0.14  | -0.95     | -1.31      | -0.81      |
| Technology \$XLK             | Wait and Watch   | 1.0       | -0.24 | -0.28     | -0.31      | -0.34      |
| Consumer Staples \$XLP       | Long             | 1.0       | 1.45  | 1.28      | 0.77       | 0.46       |
| Utilities \$XLU              | Wait and Watch   | 0.9       | -0.86 | -0.72     | -0.58      | -0.45      |
| Health Care \$XLV            | Short            | 0.9       | -0.91 | -0.29     | 0.23       | 0.18       |
| Consumer Discretionary \$XLY | Wait and Watch   | 0.5       | 0.15  | 0.71      | 1.14       | 1.03       |
| Retail \$XRT                 | Wait and Watch   | 0.9       | 0.32  | 0.19      | -0.57      | -1.62      |
| Bitcoin                      | Wait and Watch   | 0.8       | 0.0   | -0.04     | -0.3       | -0.3       |
| WTI Crude Oil                | Wait and Watch   | 1.0       | 0.32  | 0.45      | 0.46       | 0.36       |
| Natural Gas Futures          | Wait and Watch   | 1.0       | -0.75 | -0.93     | -0.84      | -0.93      |
| Copper Futures               | Long             | 0.7       | 3.17  | 2.31      | 1.17       | -0.15      |
| Steel                        | Long             | 1.0       | 1.52  | 1.41      | 0.7        | 0.04       |
| Platinum                     | Wait and Watch   | 1.0       | -0.63 | -0.64     | -0.6       | -0.45      |
| Silver                       | Wait and Watch   | 1.0       | -0.35 | -0.3      | -0.35      | -0.47      |
| Gold                         | Wait and Watch   | 1.0       | -0.35 | -0.19     | -0.08      | 0.15       |
| Corn Futures                 | Wait and Watch   | 0.5       | 0.16  | 0.38      | 0.4        | 0.61       |
| Soybean Futures              | Wait and Watch   | 1.0       | 0.4   | 0.36      | 0.31       | 0.21       |
| Wheat                        | Wait and Watch   | 0.7       | 0.54  | 0.83      | 1.32       | 1.4        |
| US Dollar                    | Wait and Watch   | 1.0       | -0.43 | -0.34     | -0.37      | -0.52      |
| UST 2yr Yield                | Long             | 1.0       | 1.5   | 1.18      | 0.87       | 0.76       |
| UST 10yr Yield               | Wait and Watch   | 1.0       | 0.69  | 0.34      | 0.11       | -0.09      |

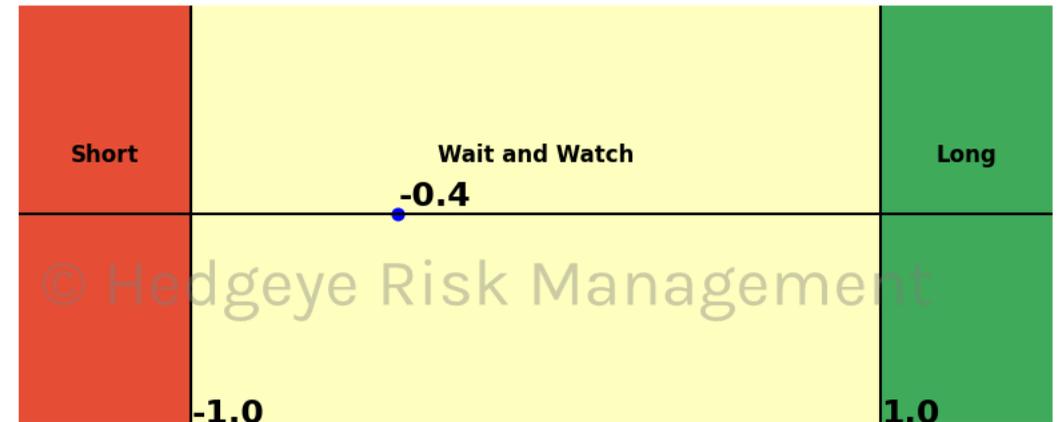
# HedgAI Signals - Asset Charts

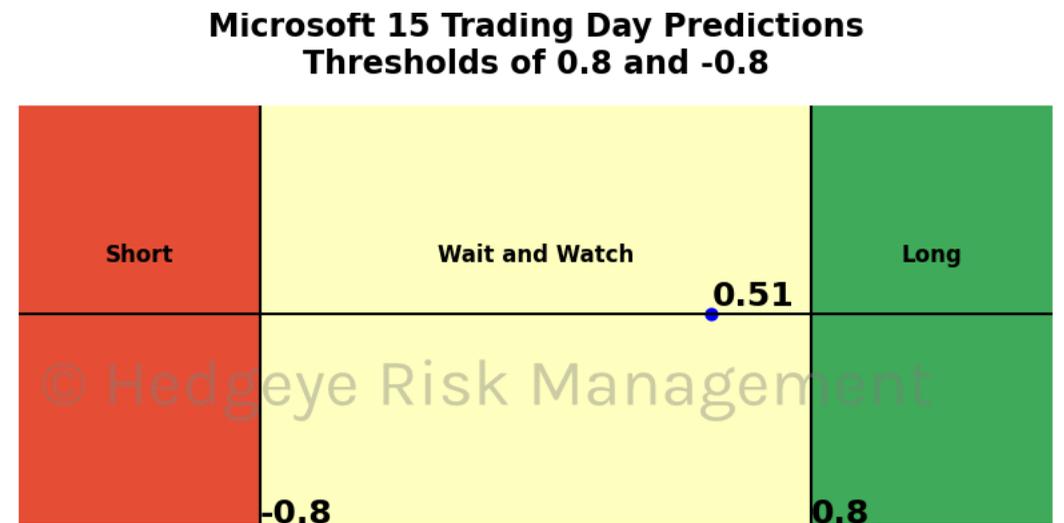
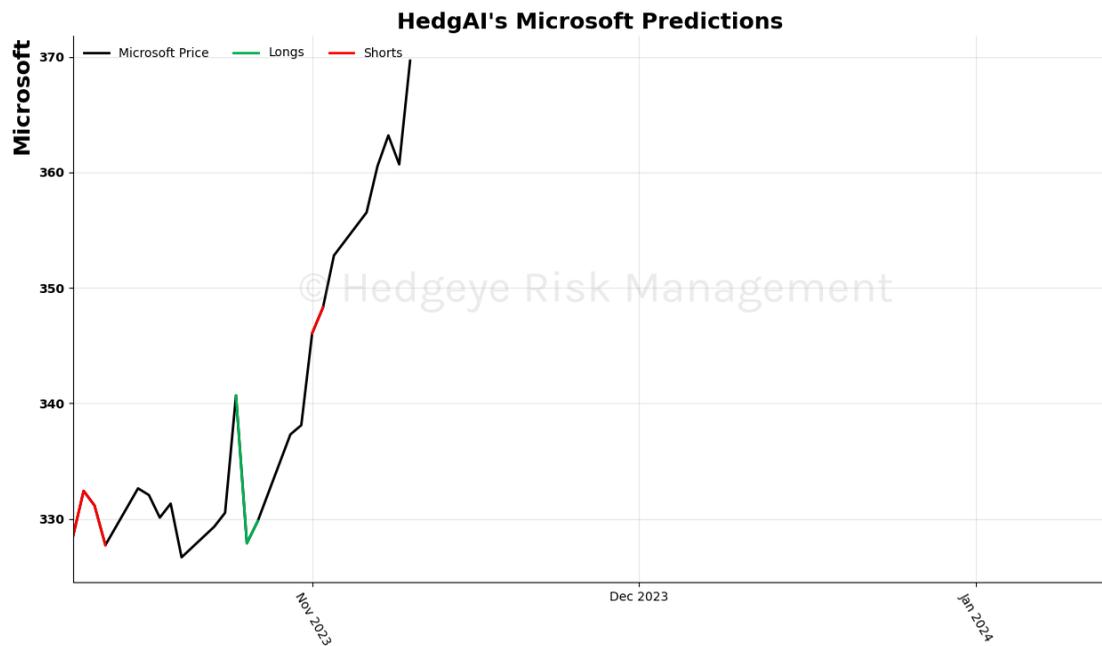
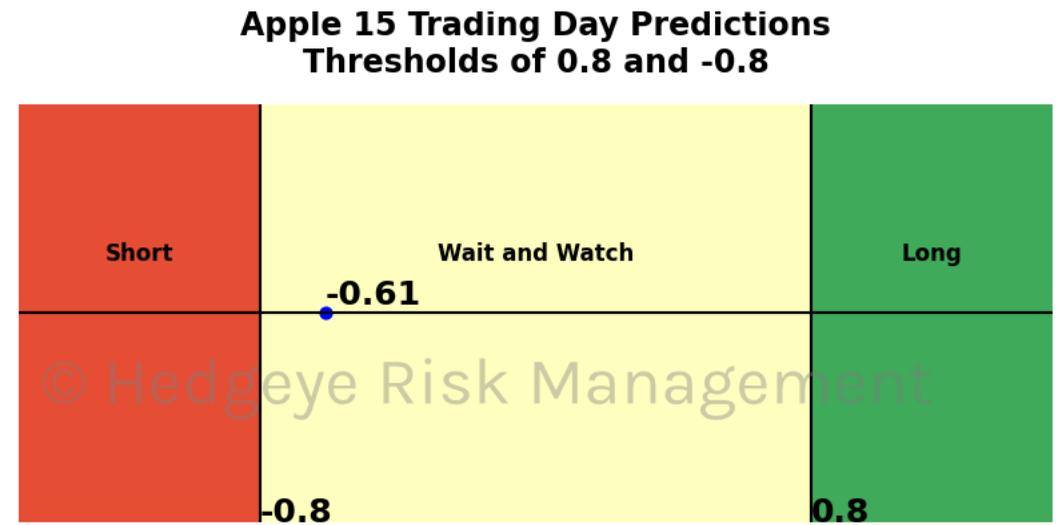
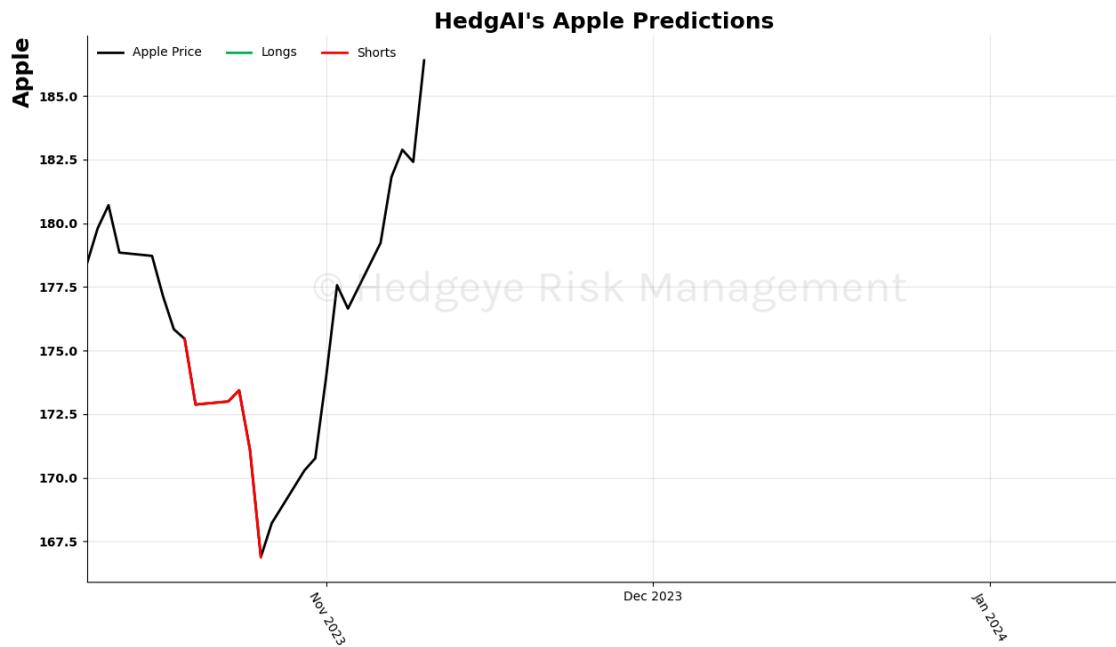


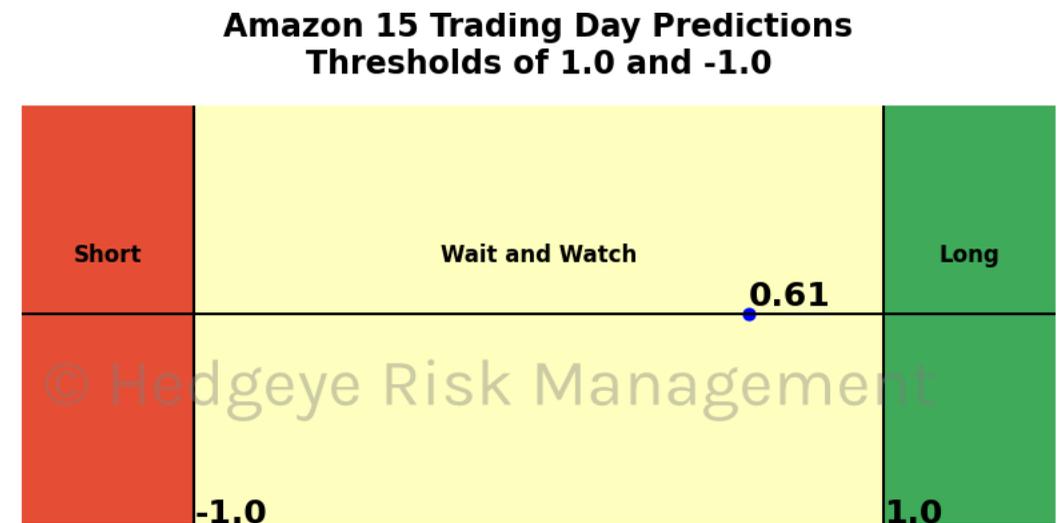
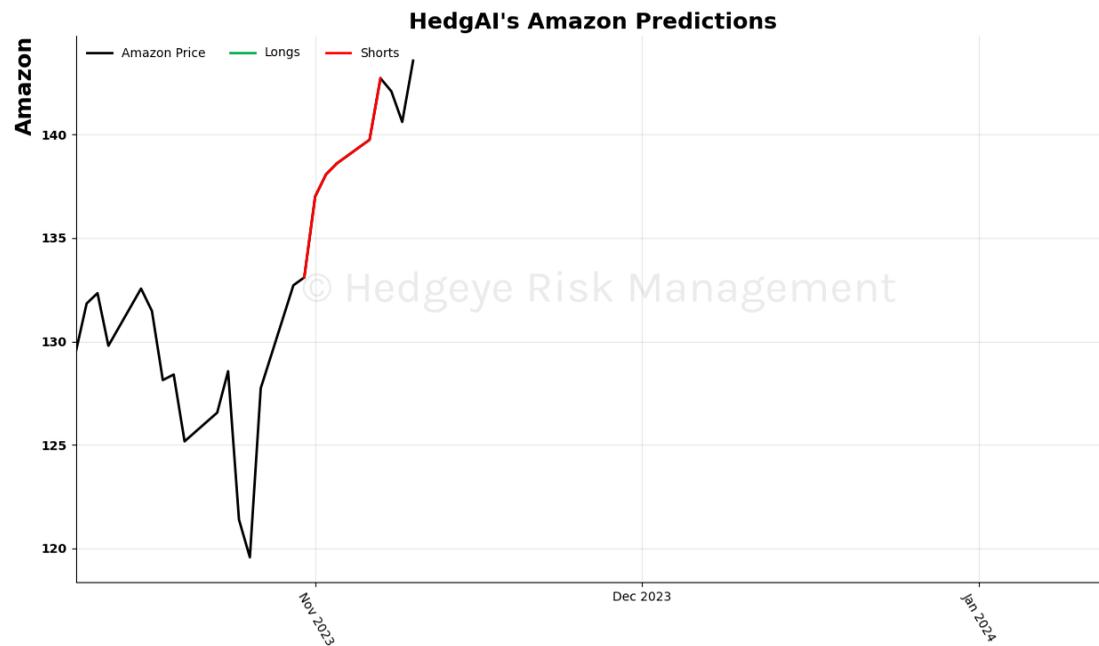
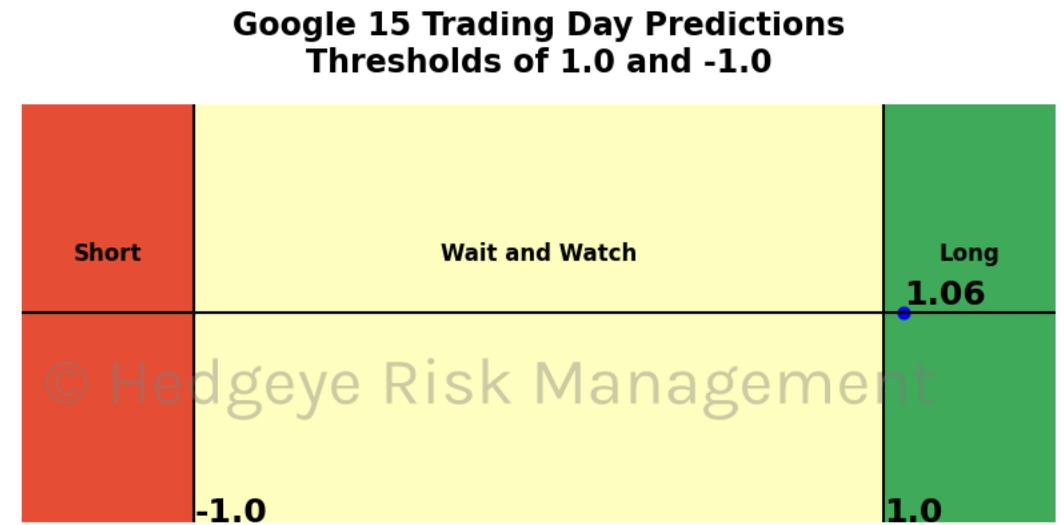
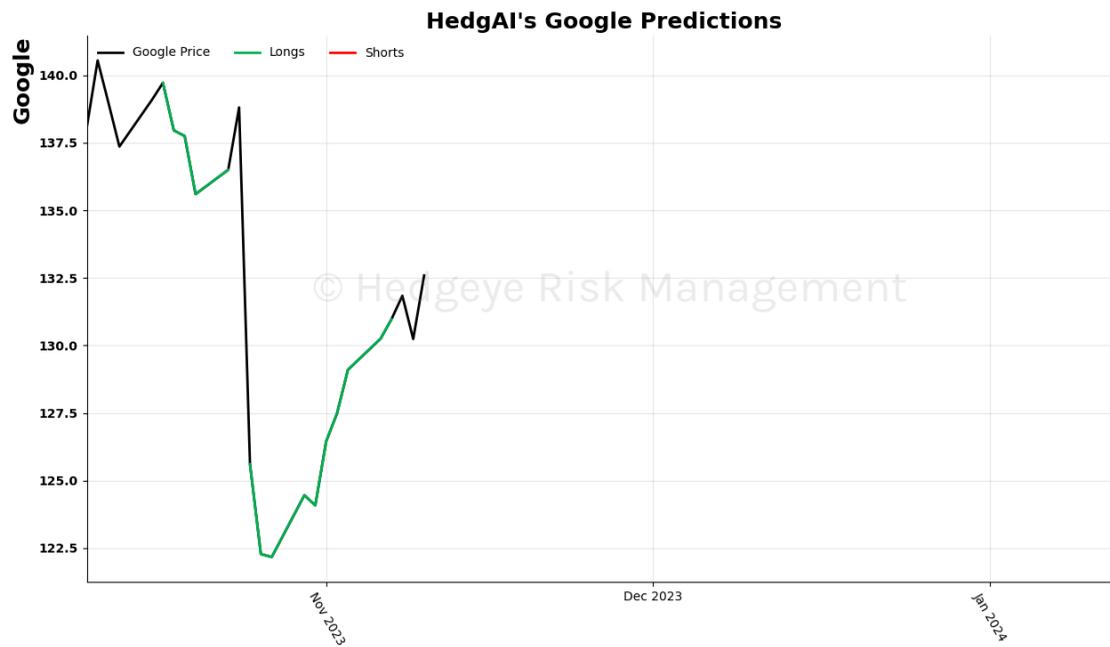
### S&P 500 15 Trading Day Predictions Thresholds of 0.9 and -0.9

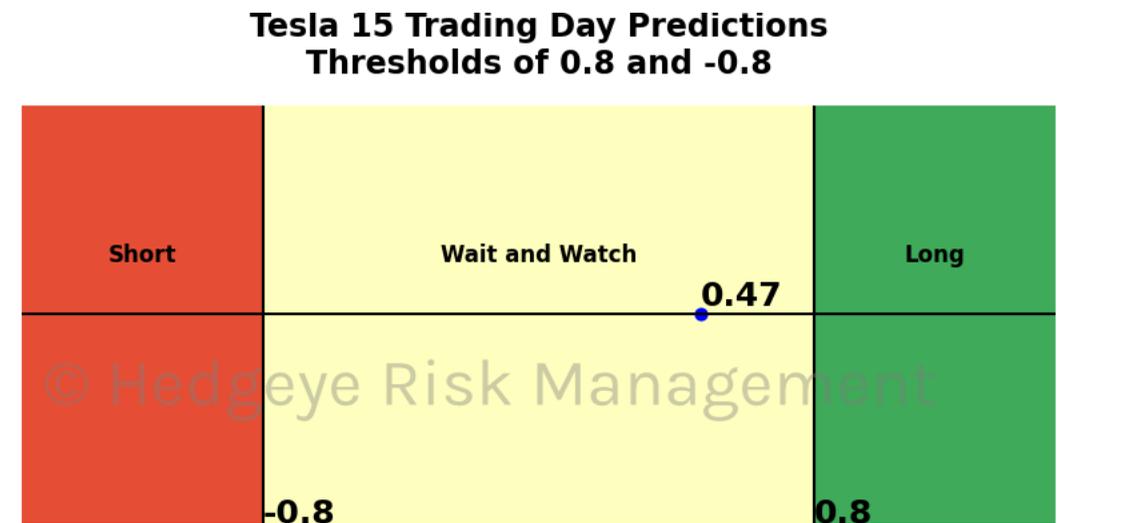
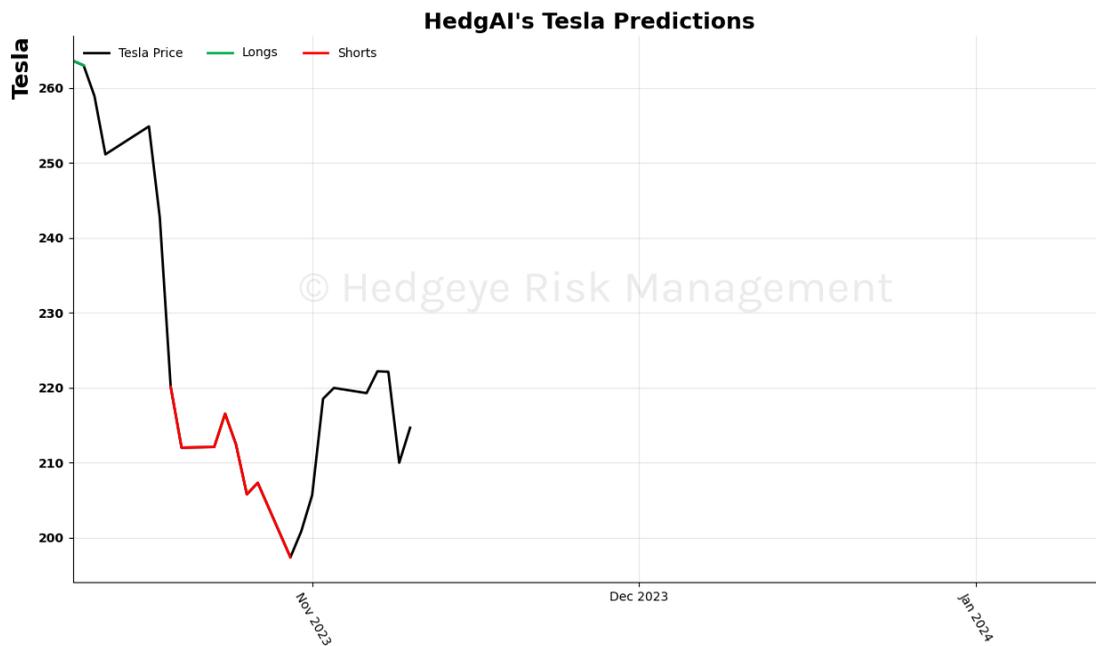
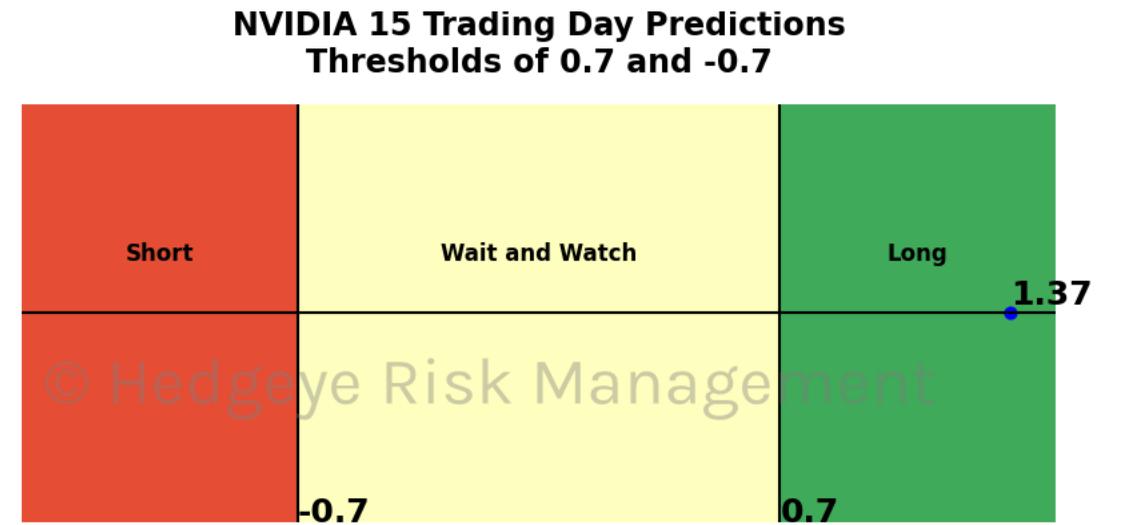
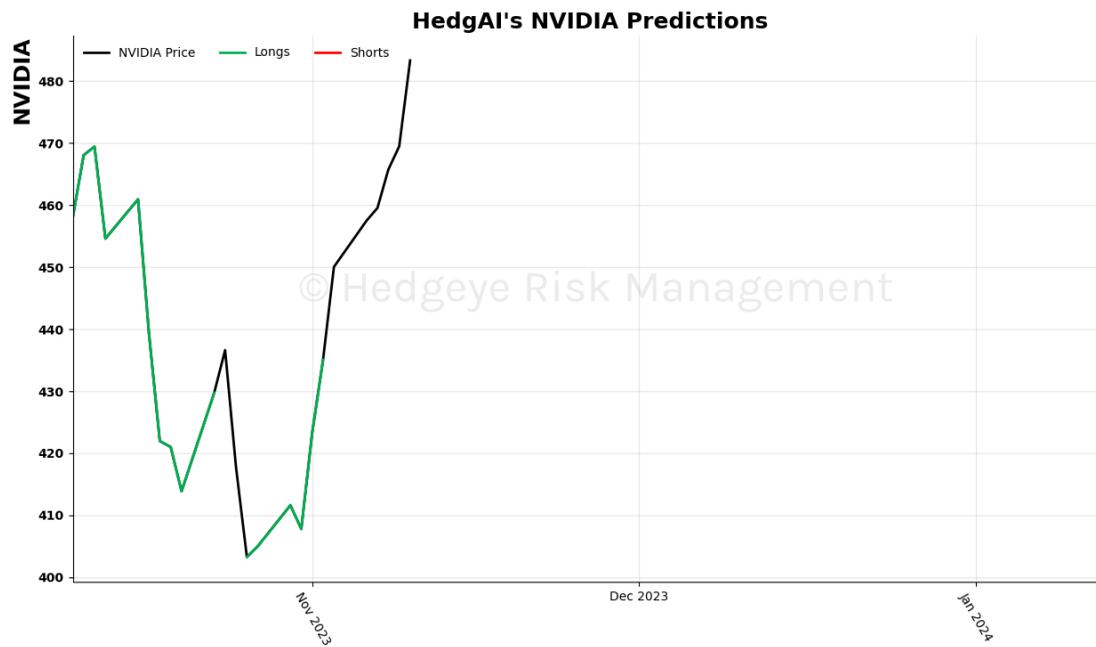


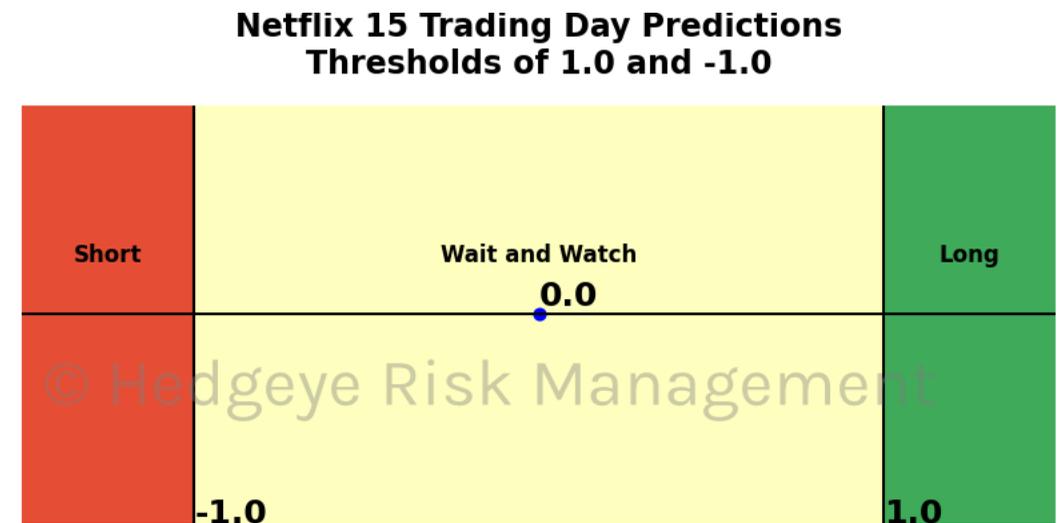
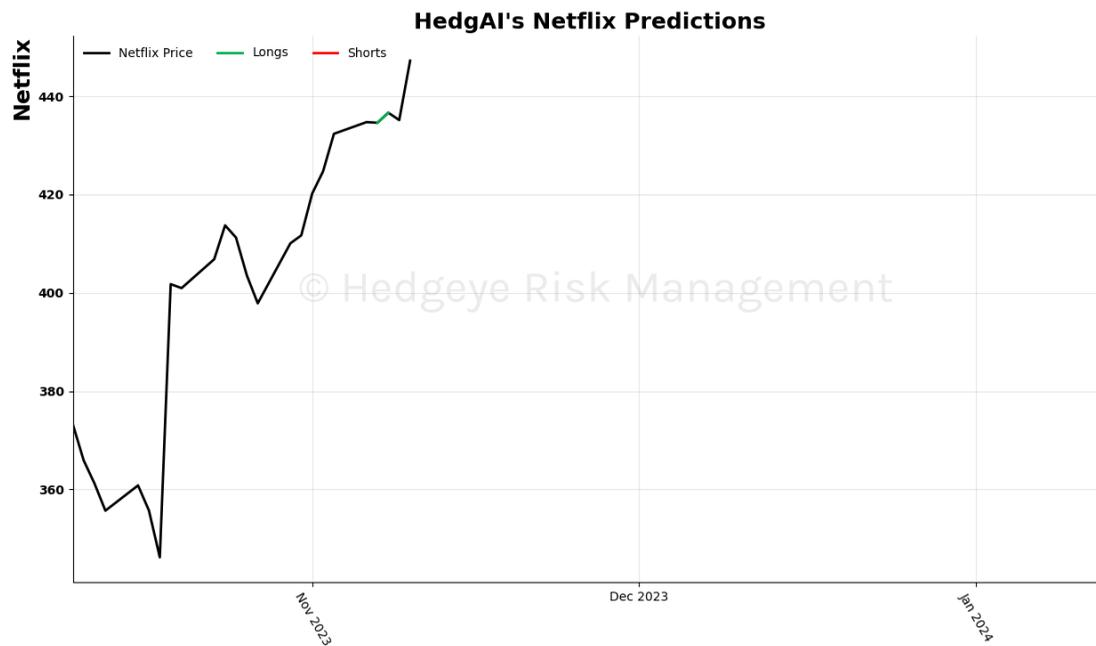
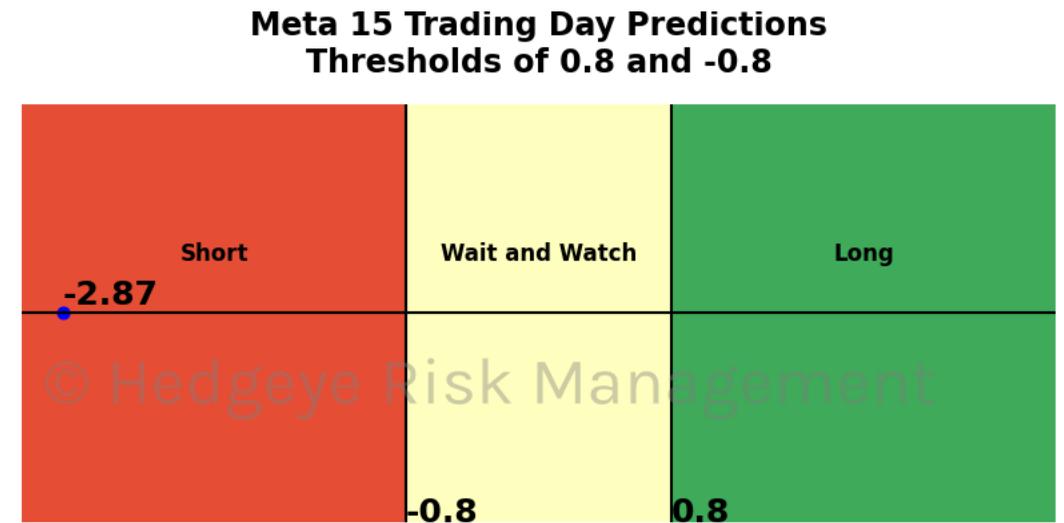
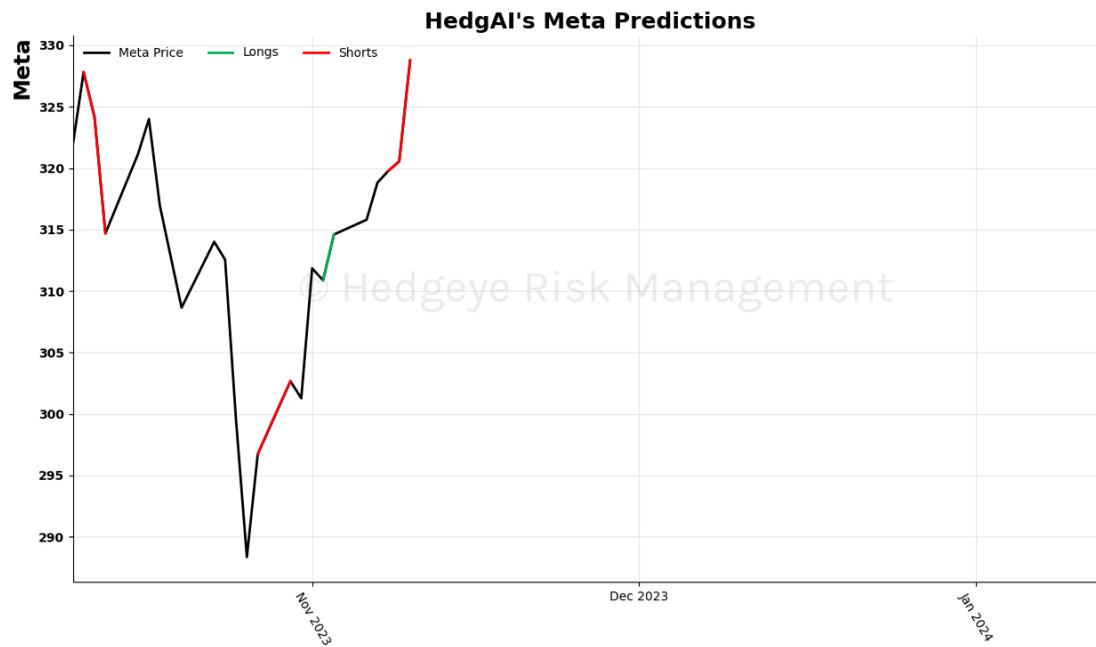
### NASDAQ 100 15 Trading Day Predictions Thresholds of 1.0 and -1.0

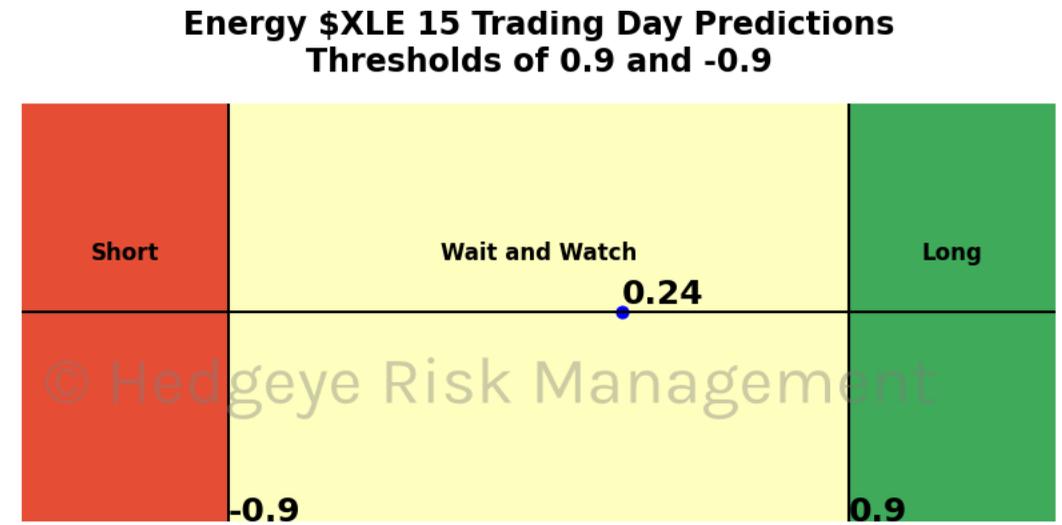
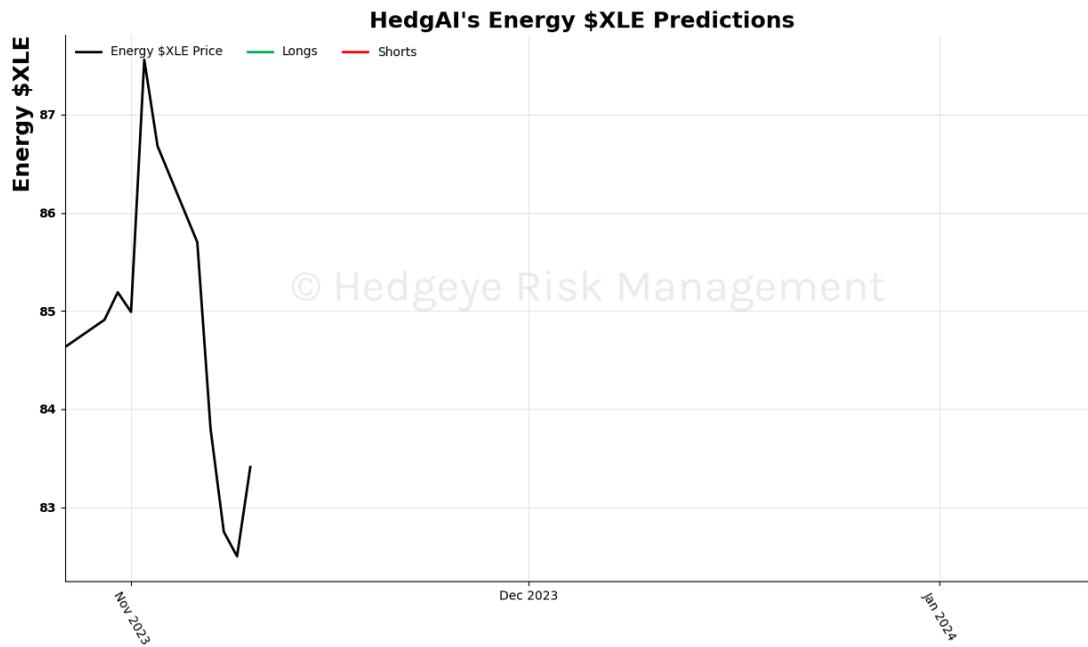
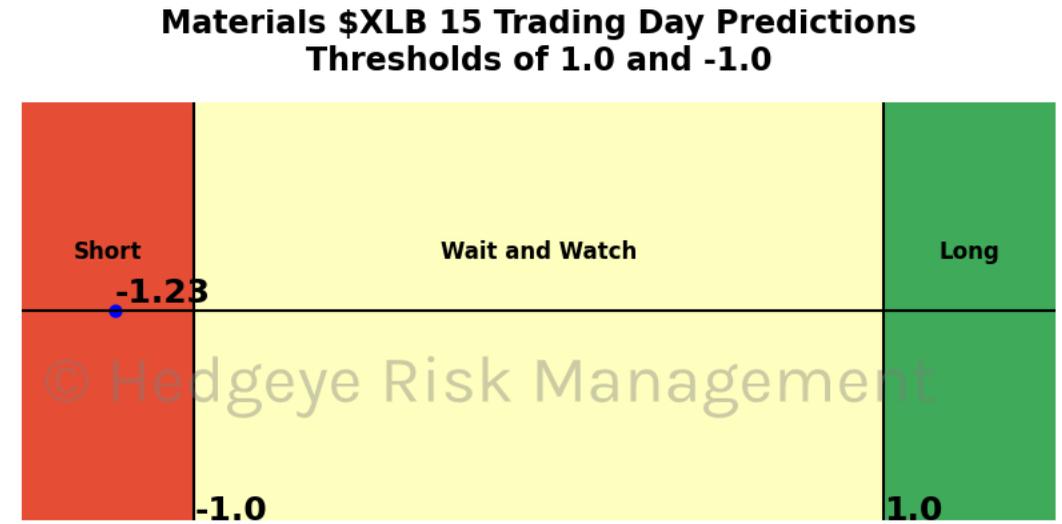
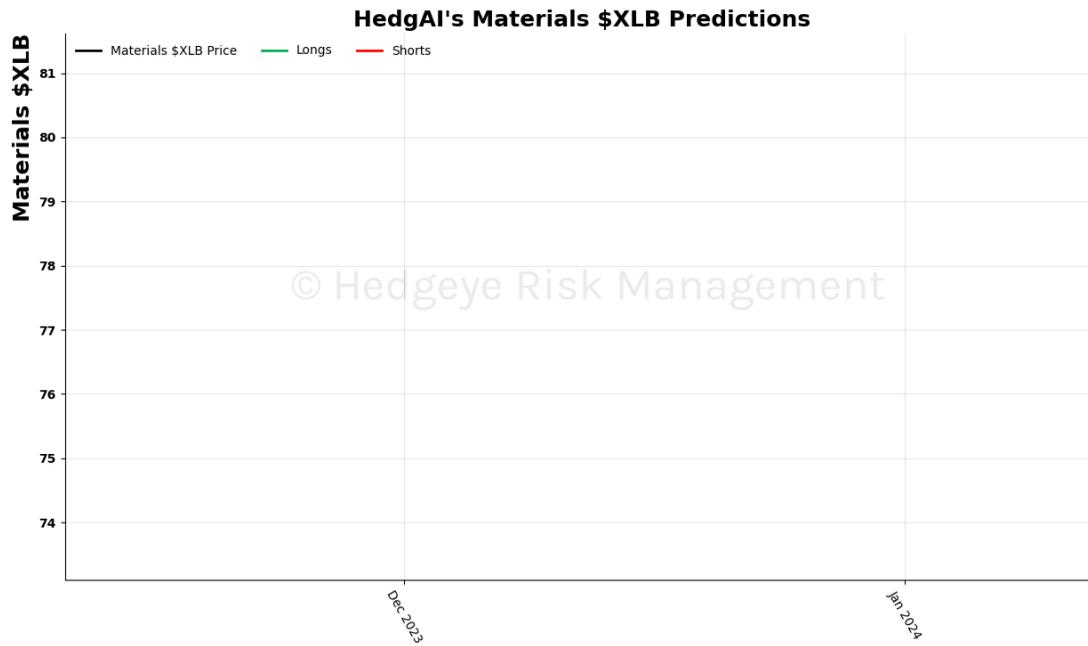


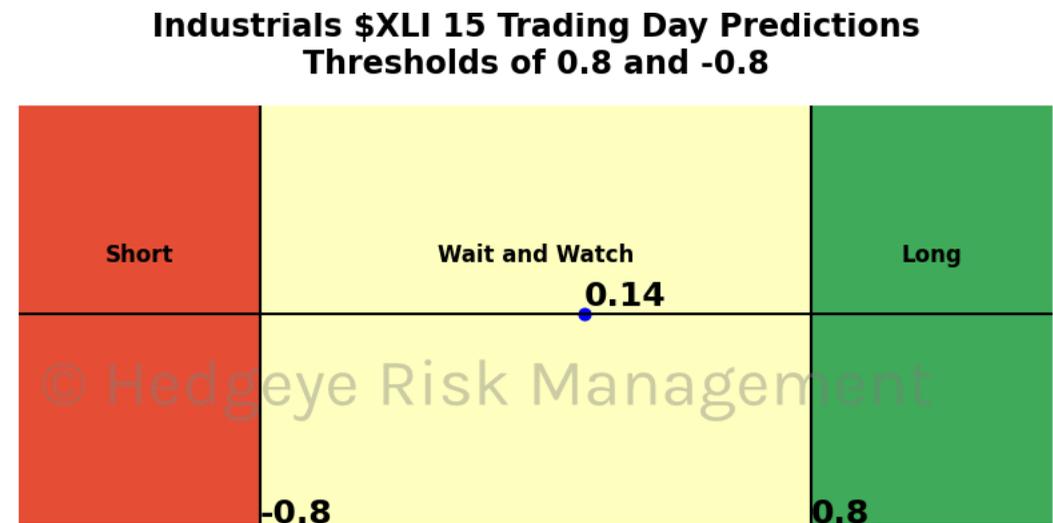
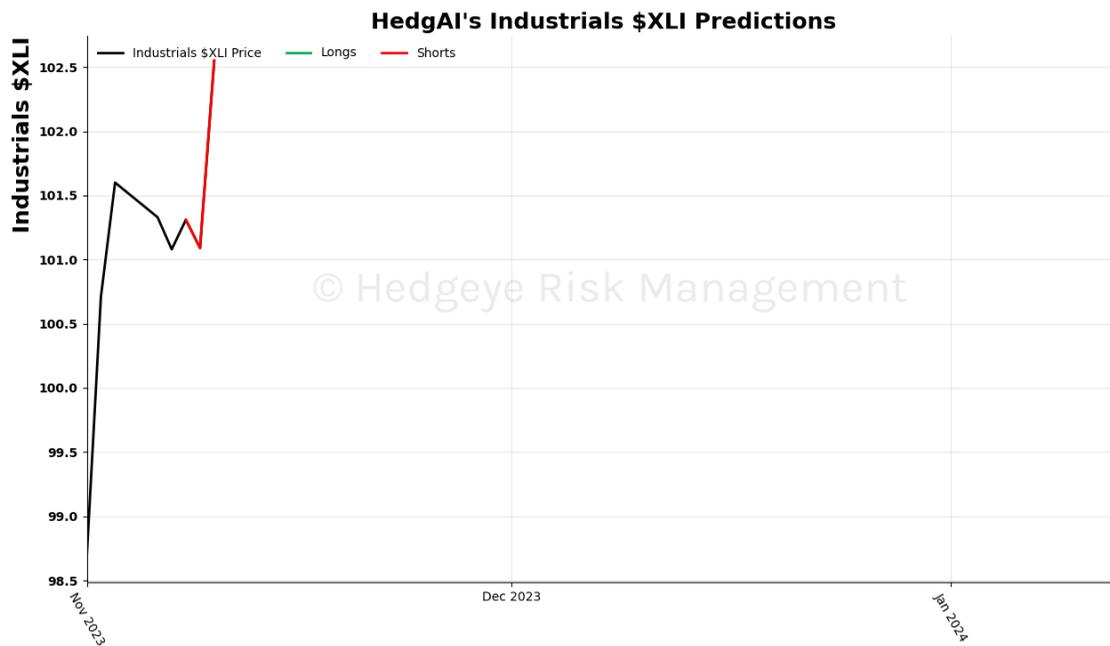
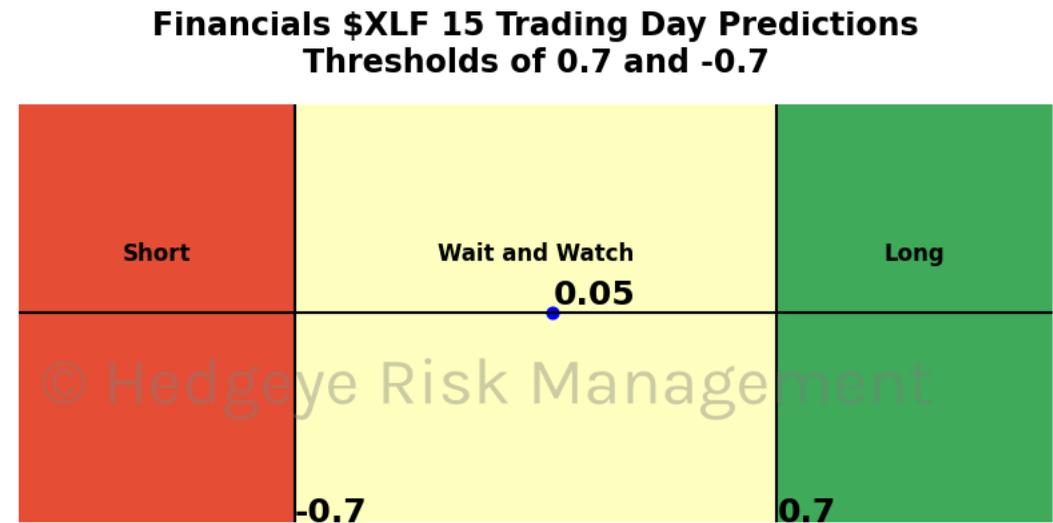
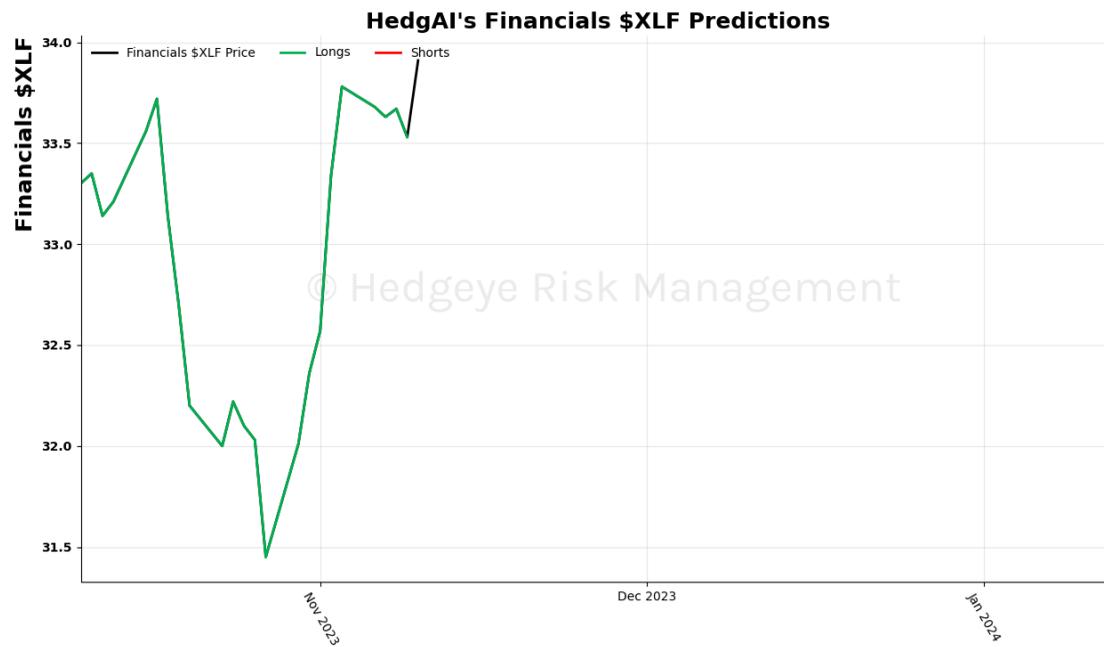


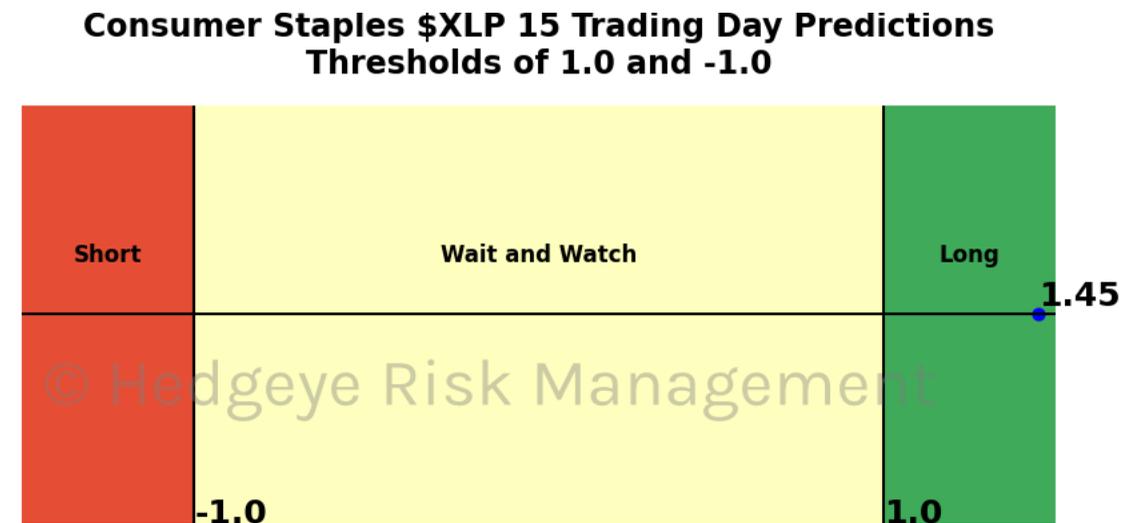
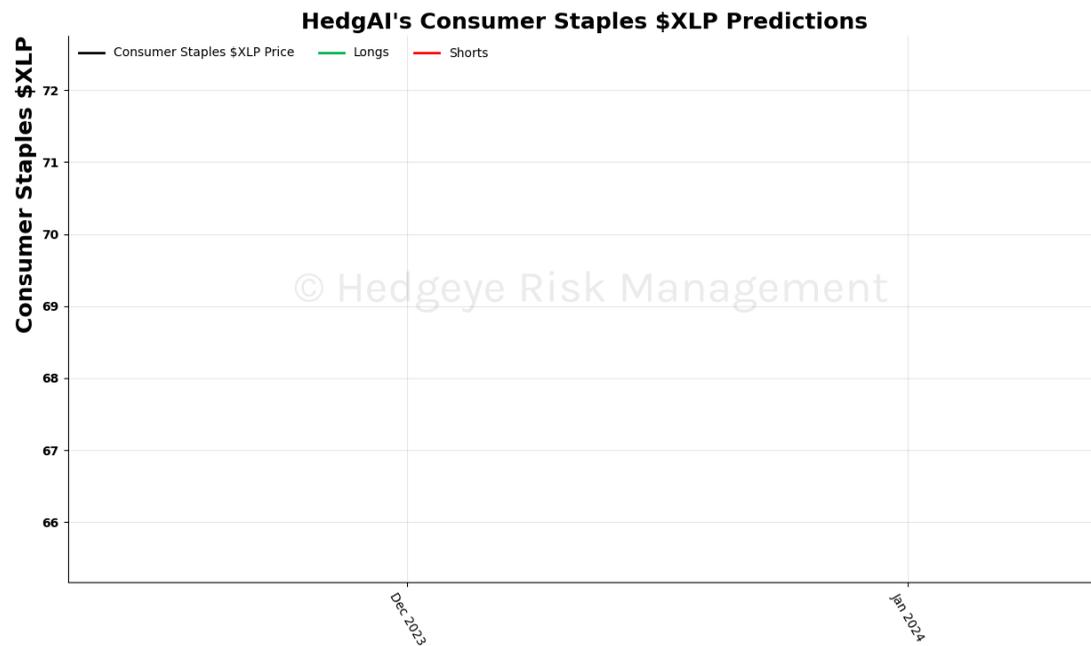
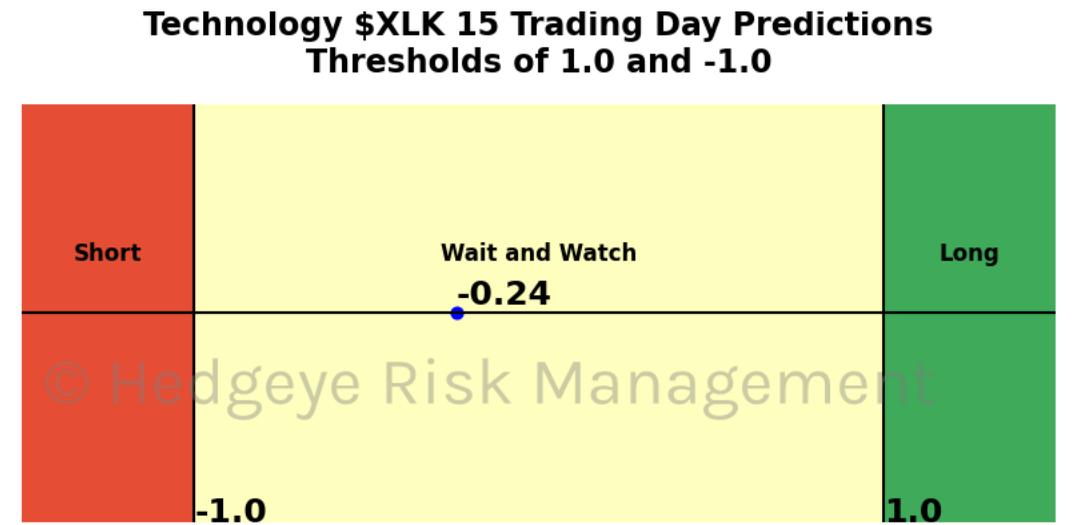
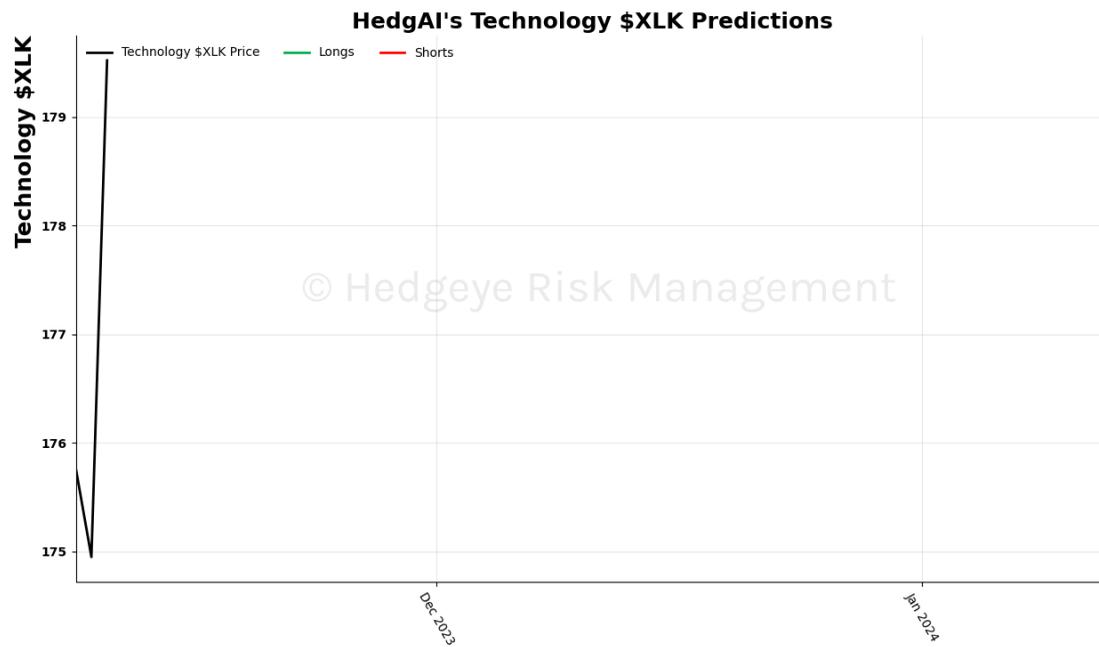


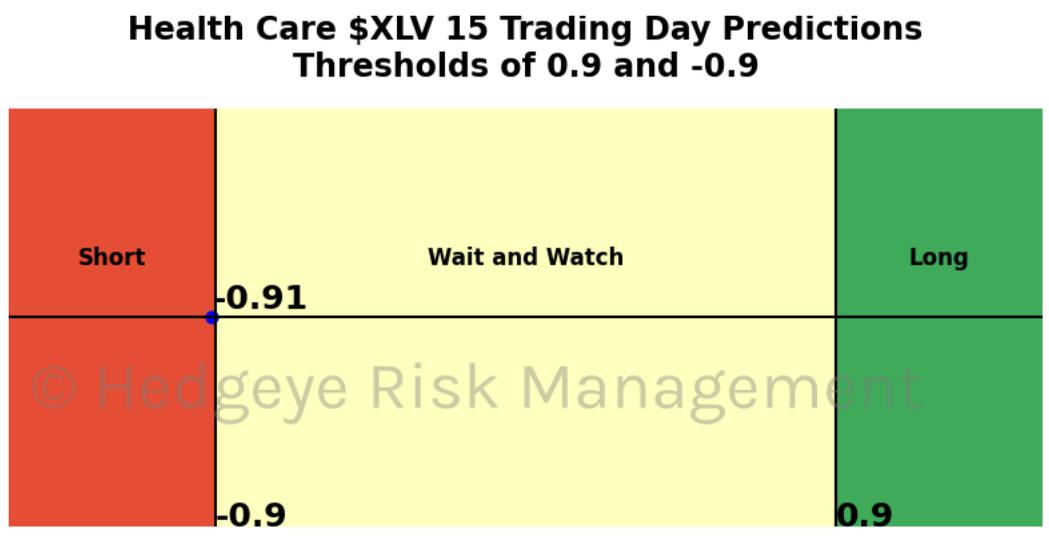
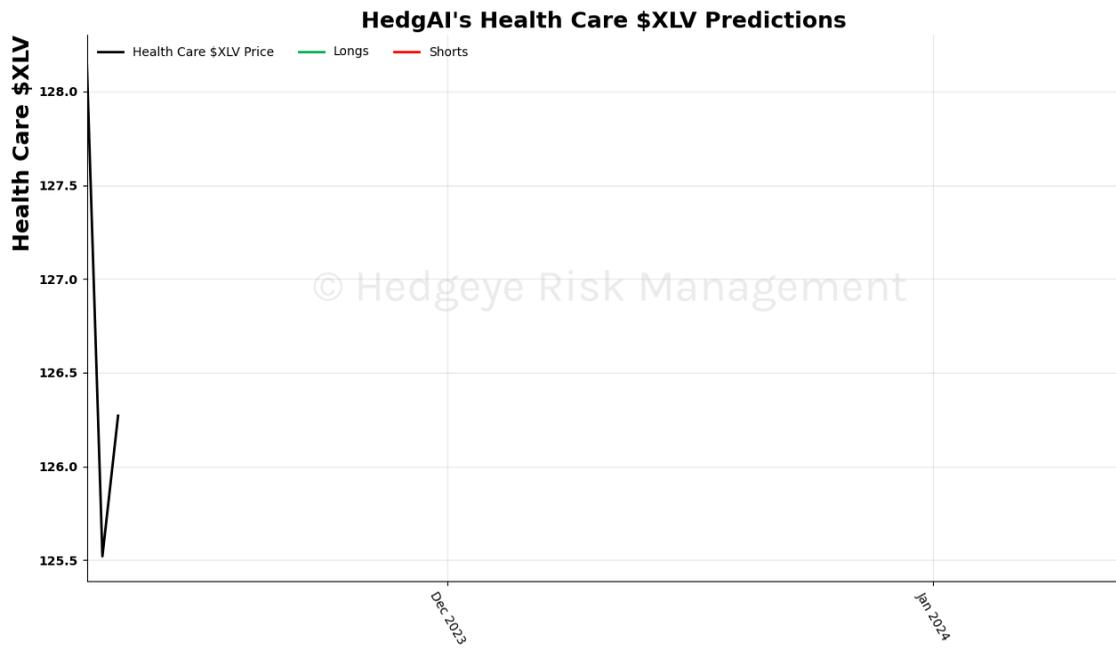
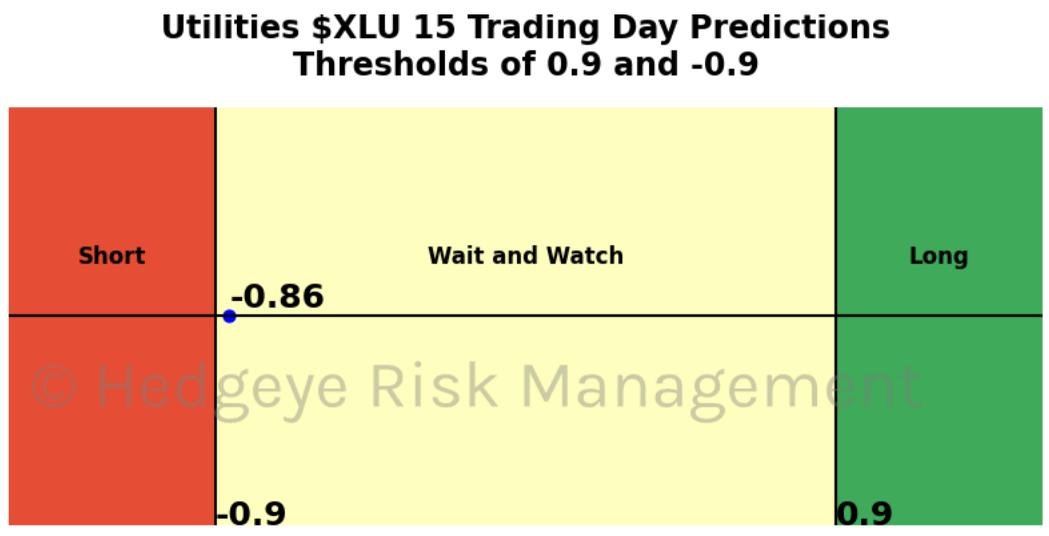
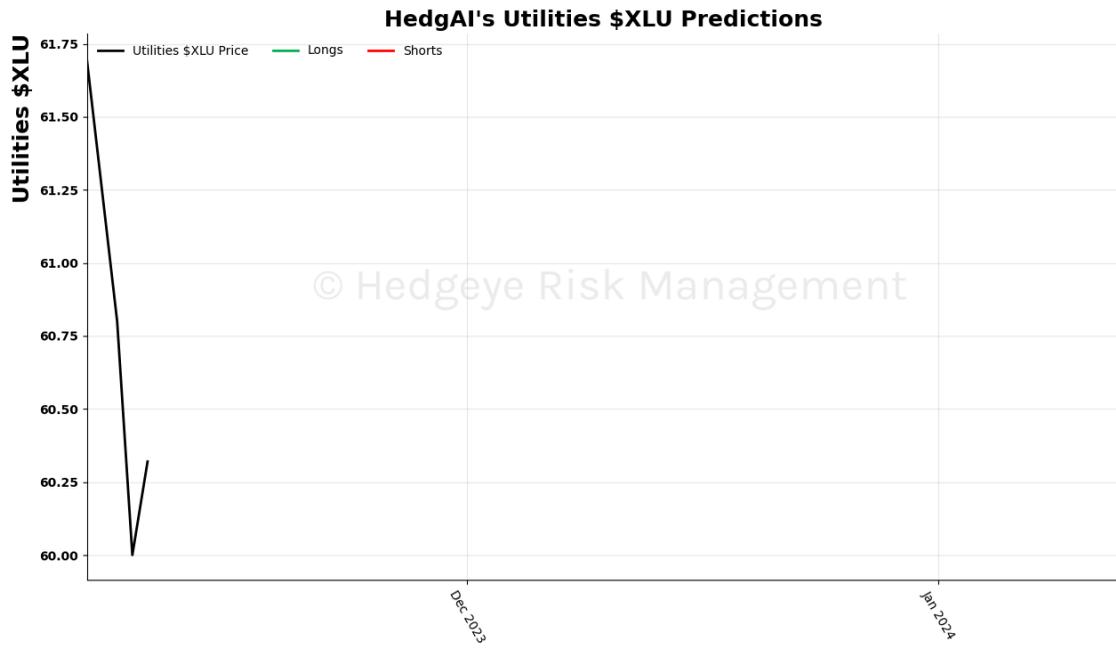


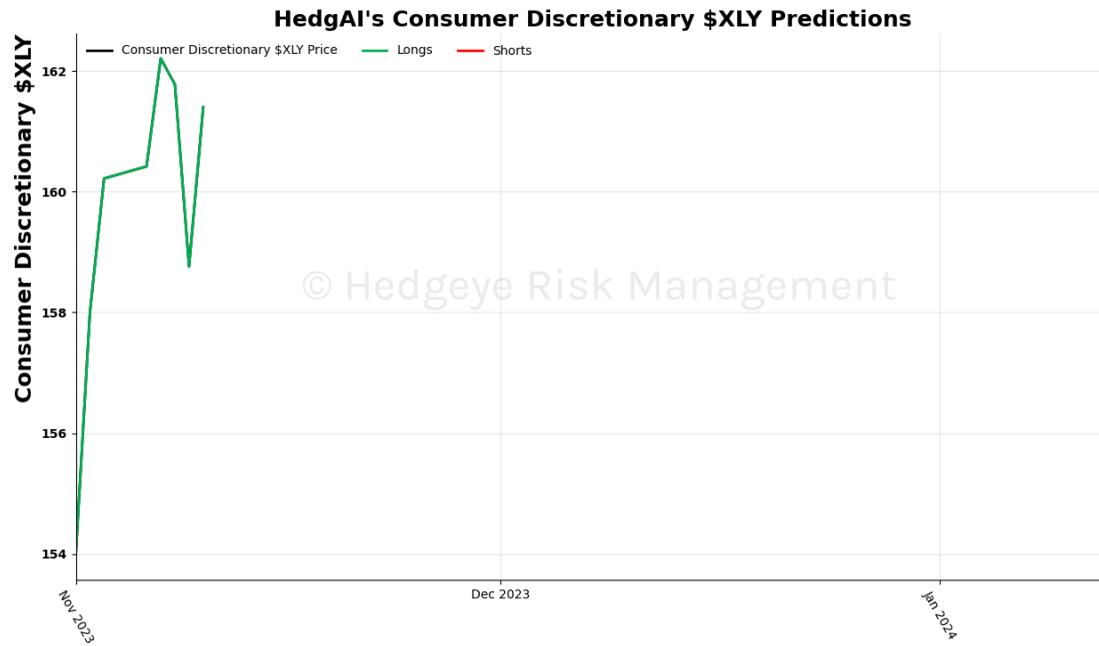




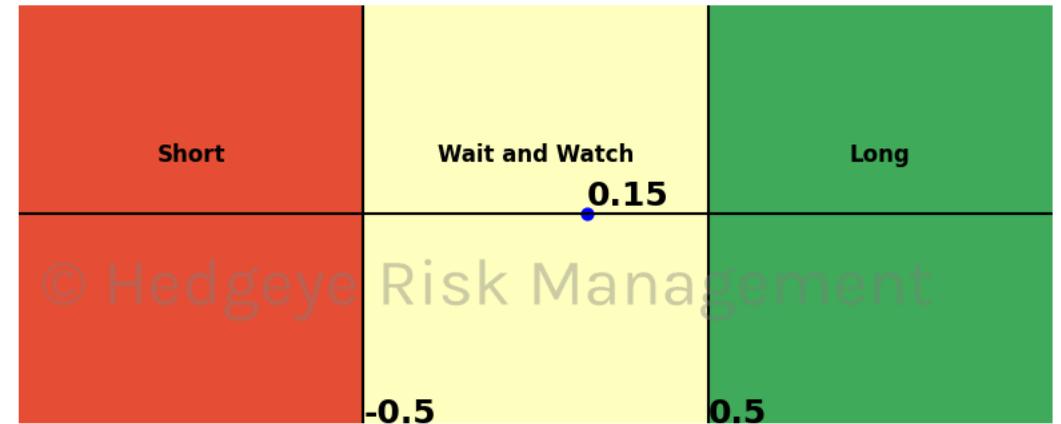




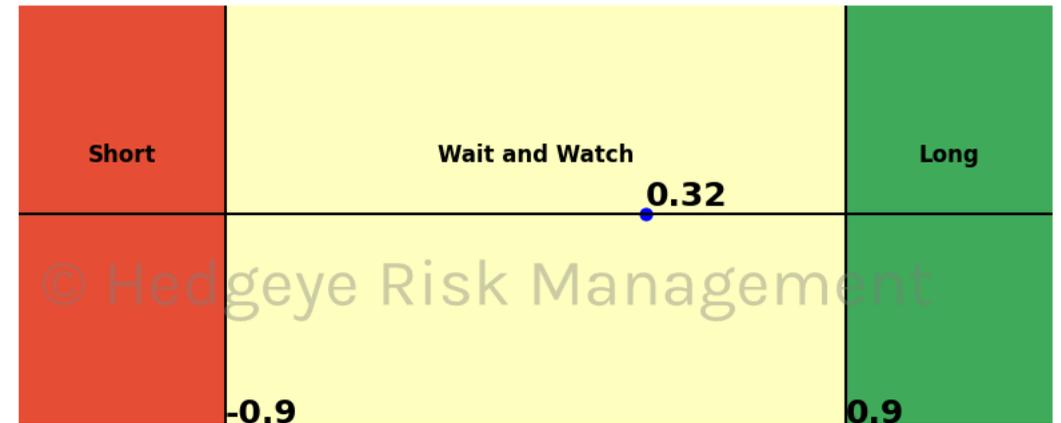


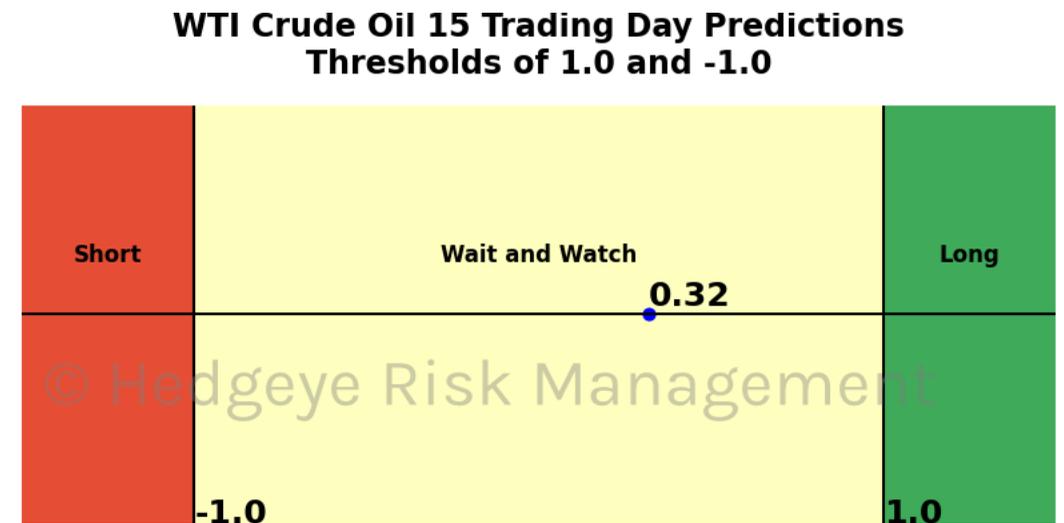
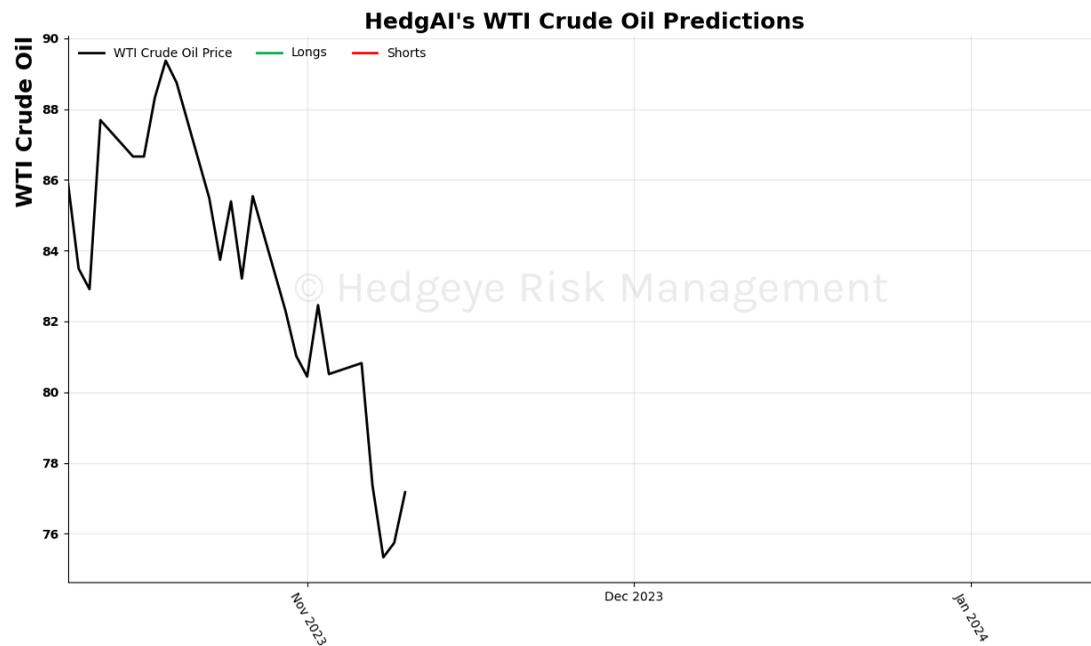
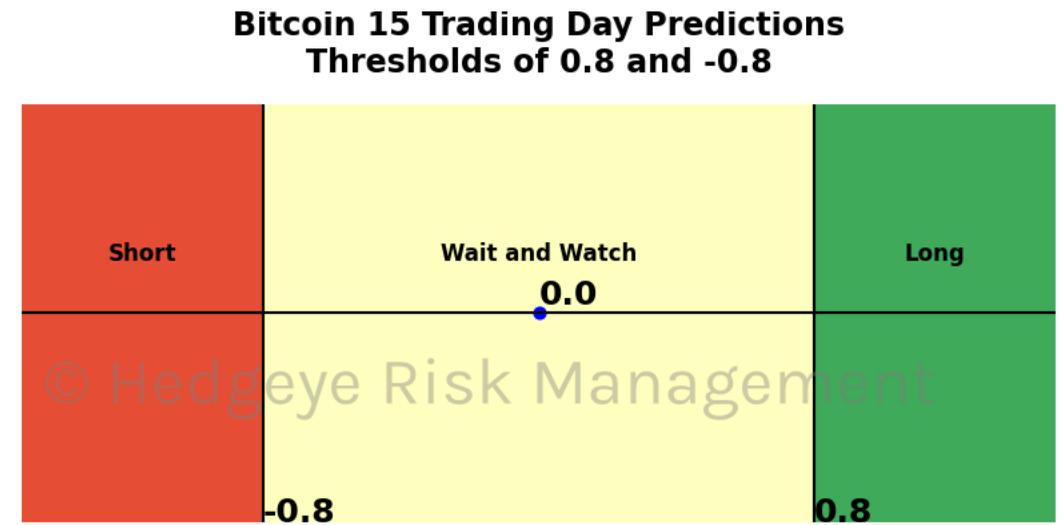
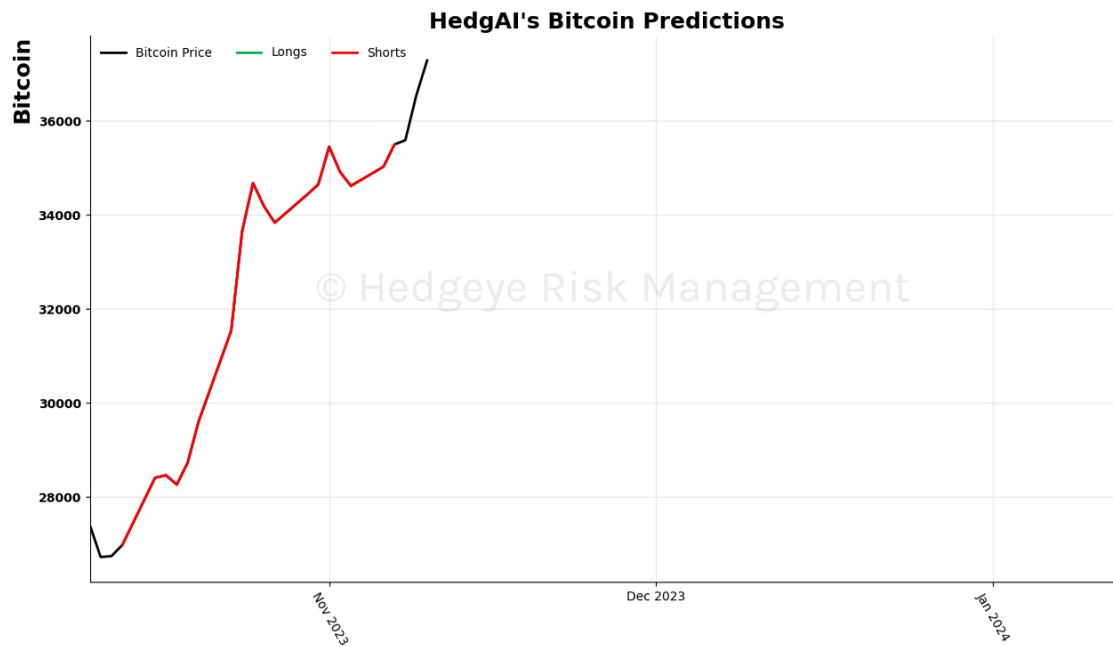


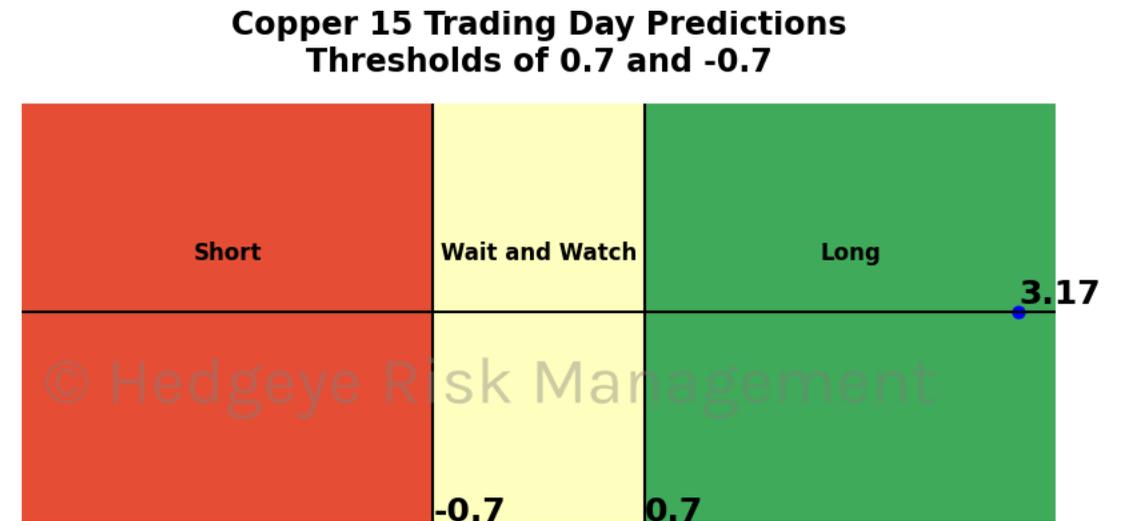
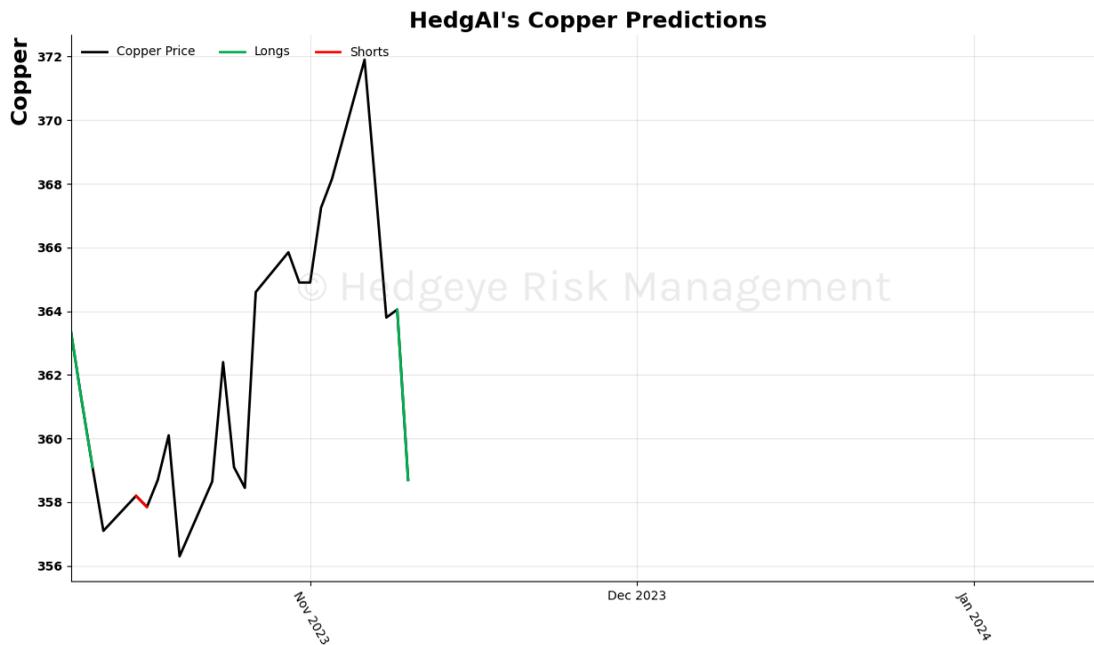
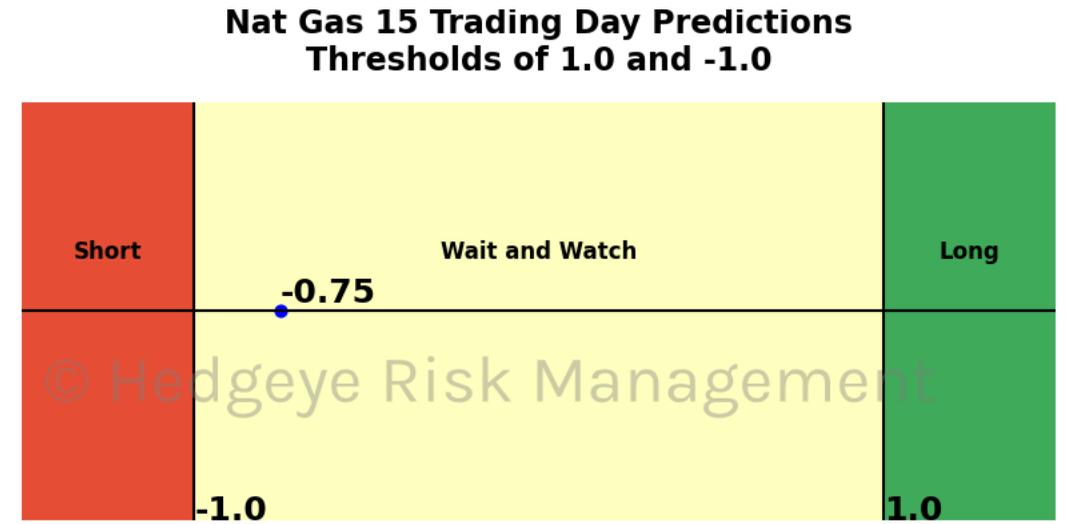
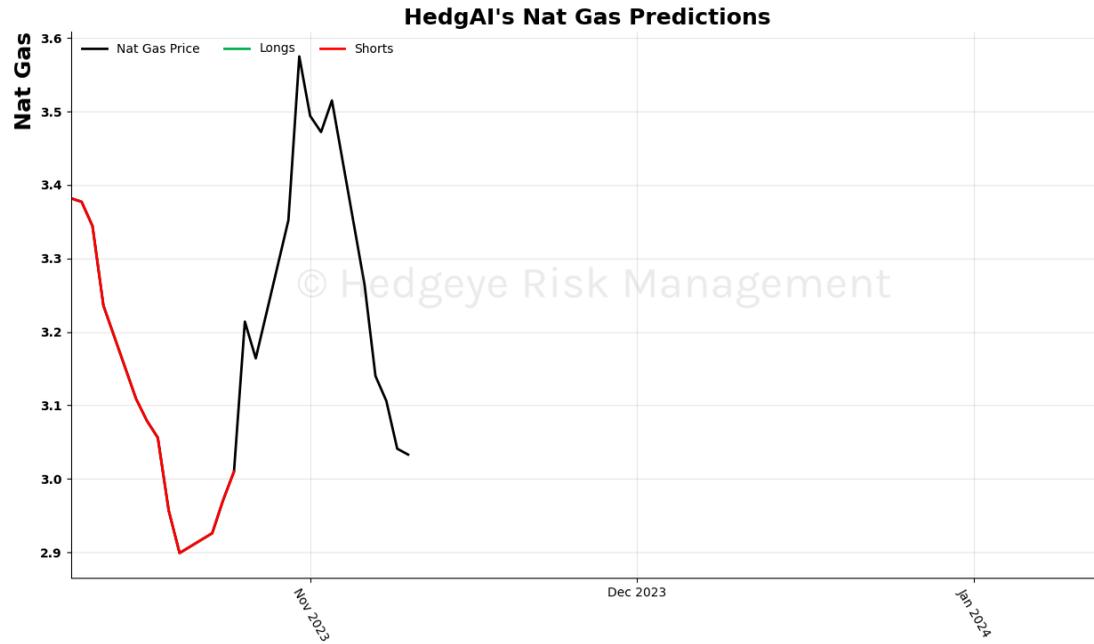
### Consumer Discretionary \$XLY 15 Trading Day Predictions Thresholds of 0.5 and -0.5

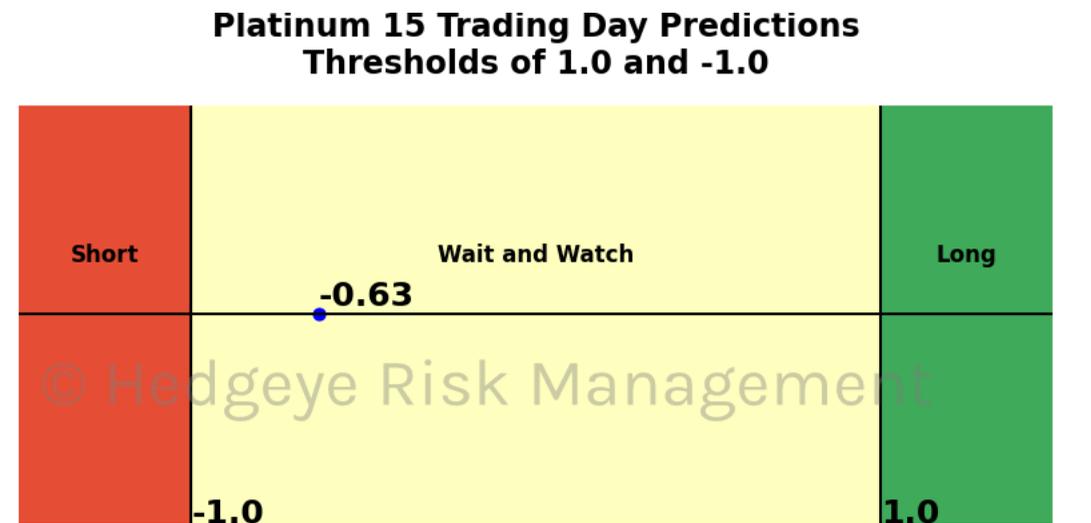
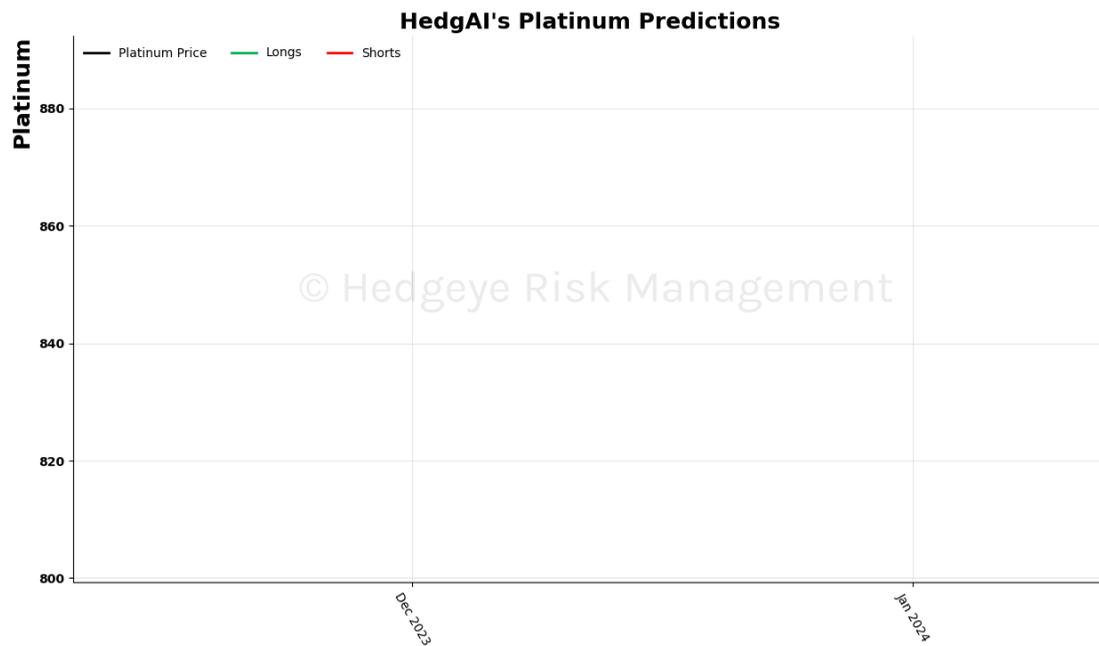
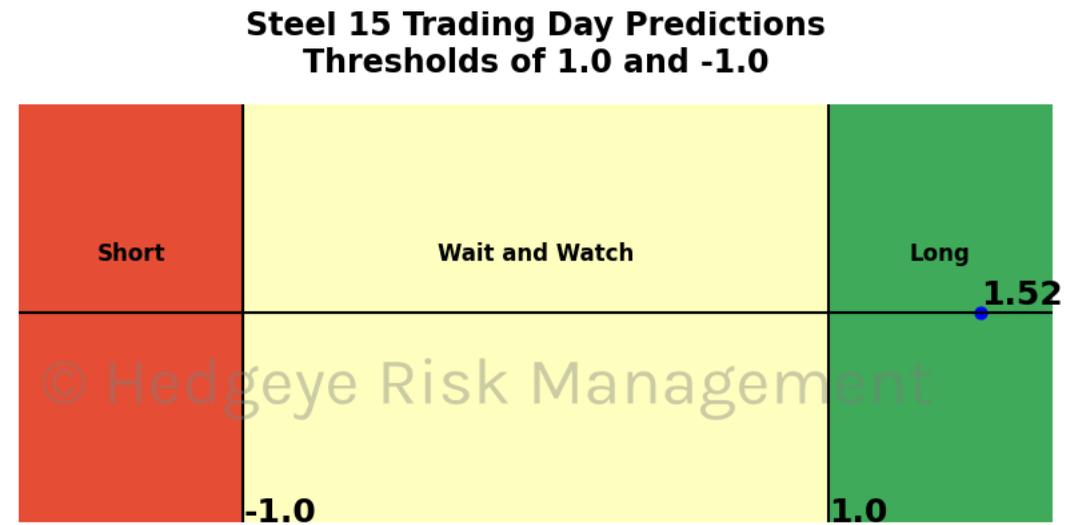
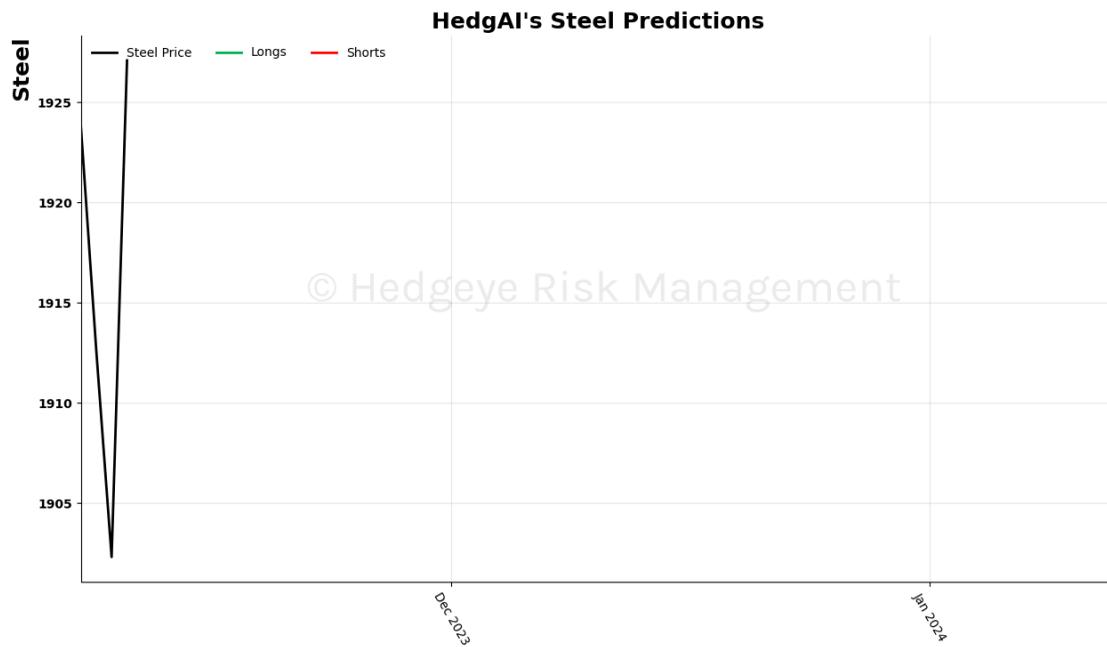


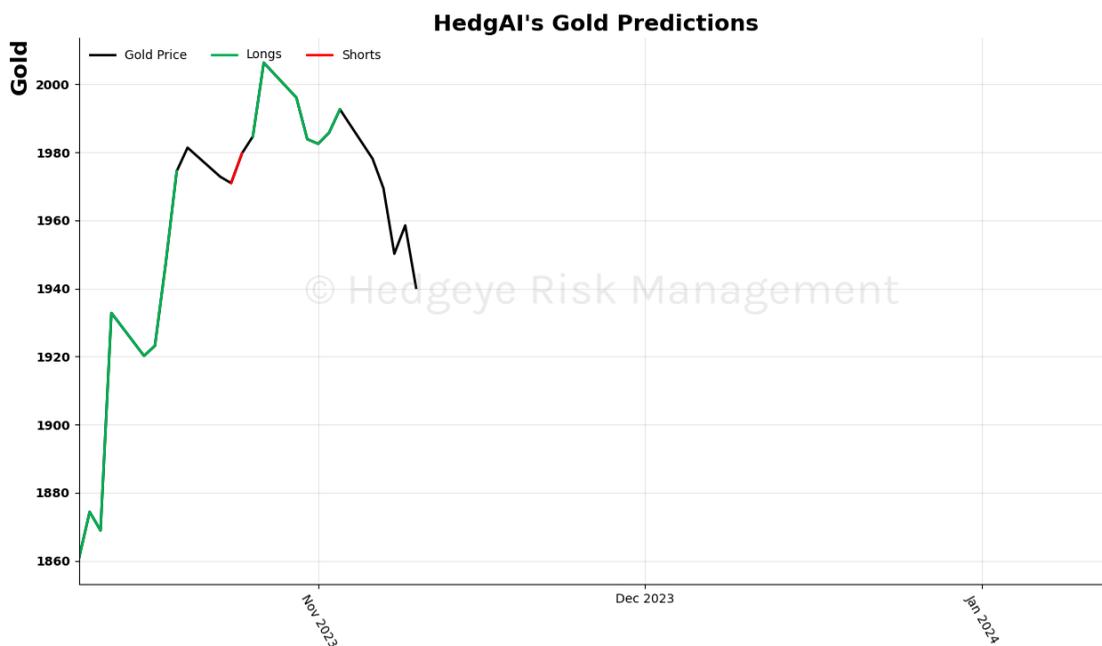
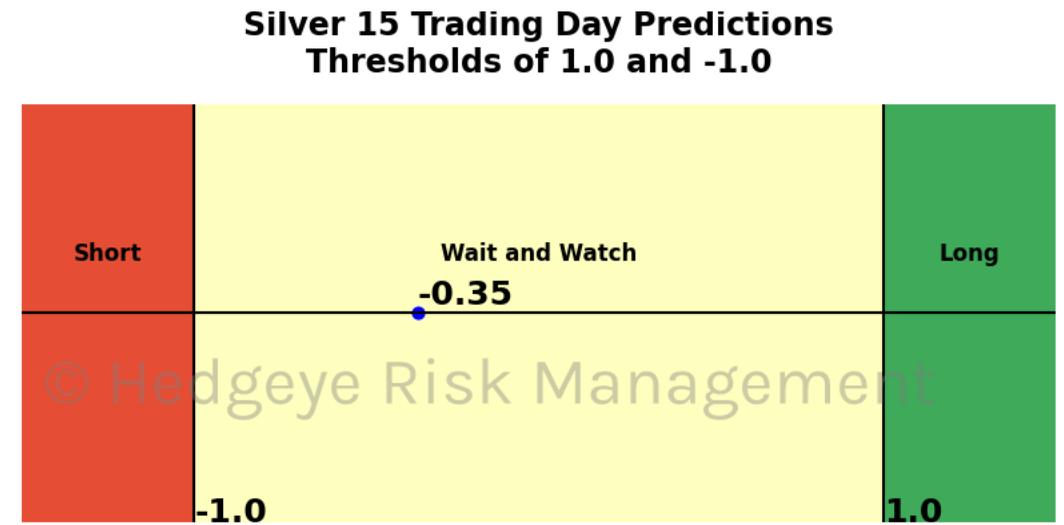
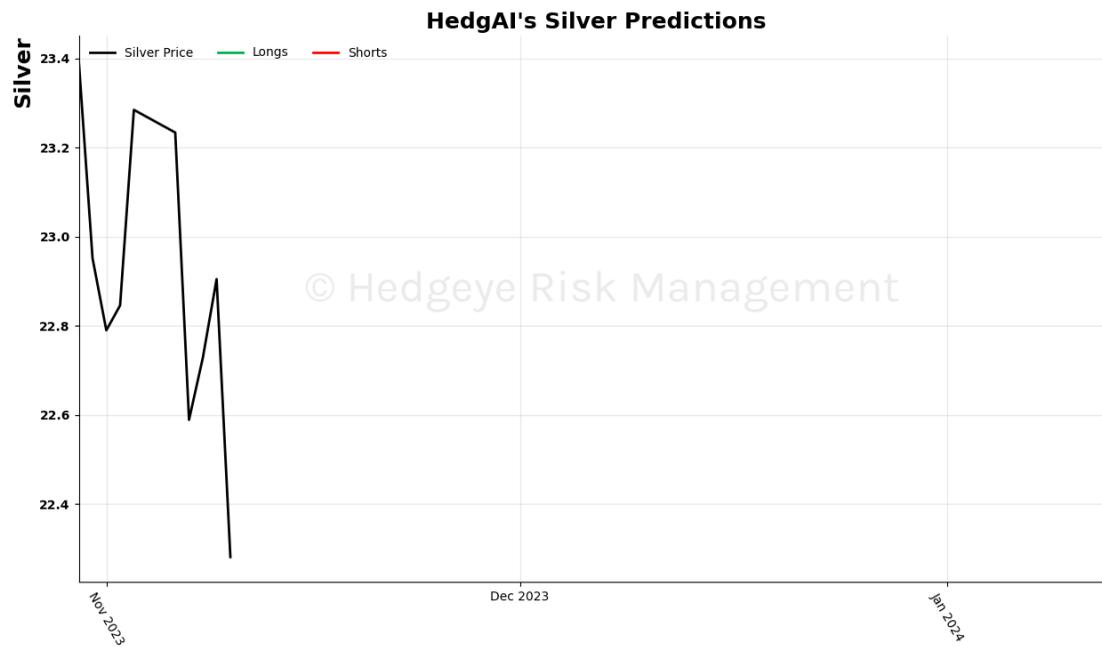
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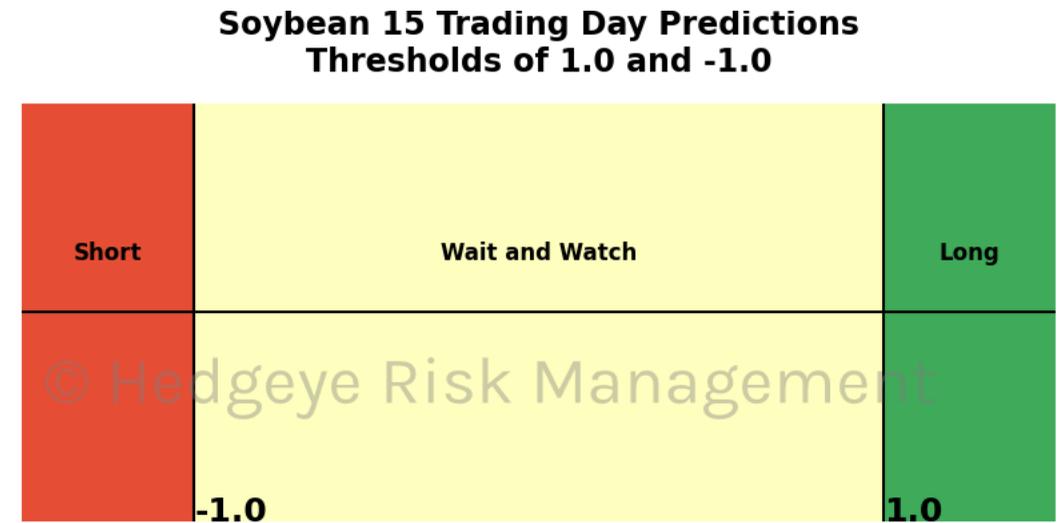
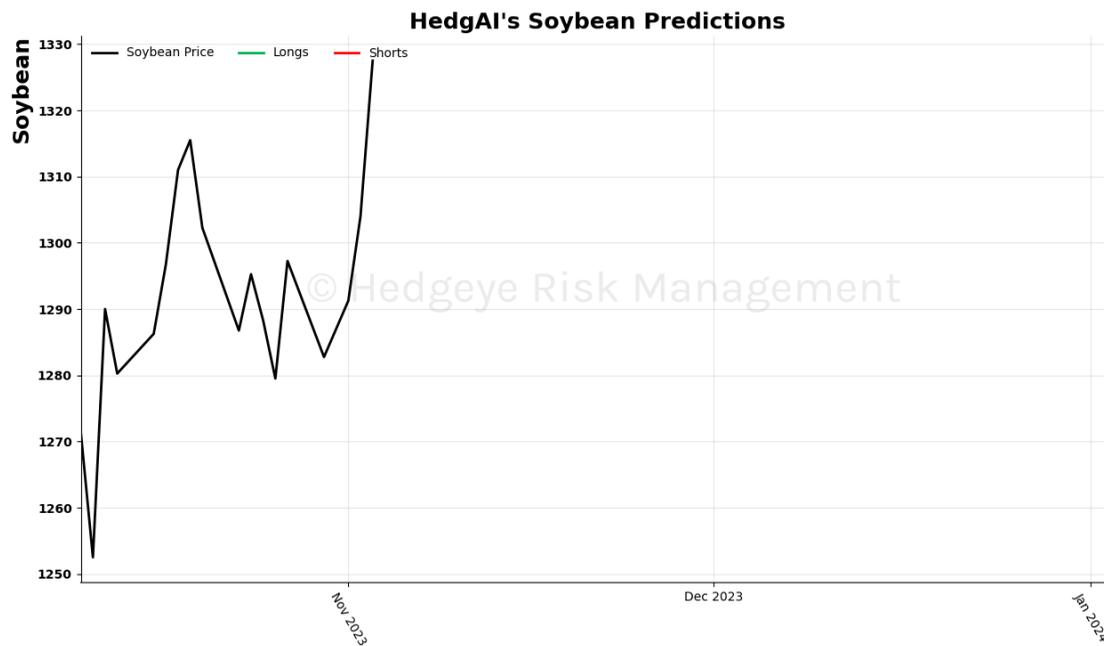
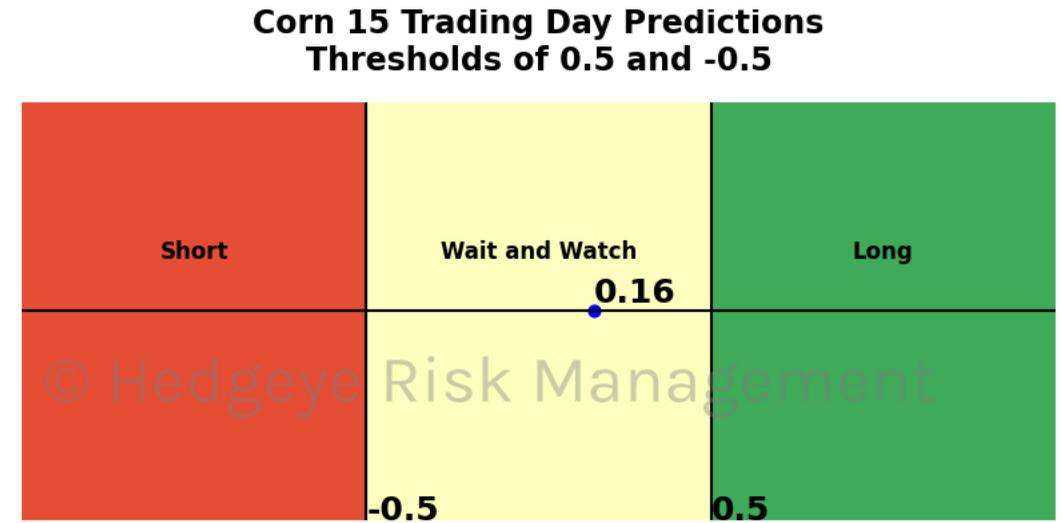
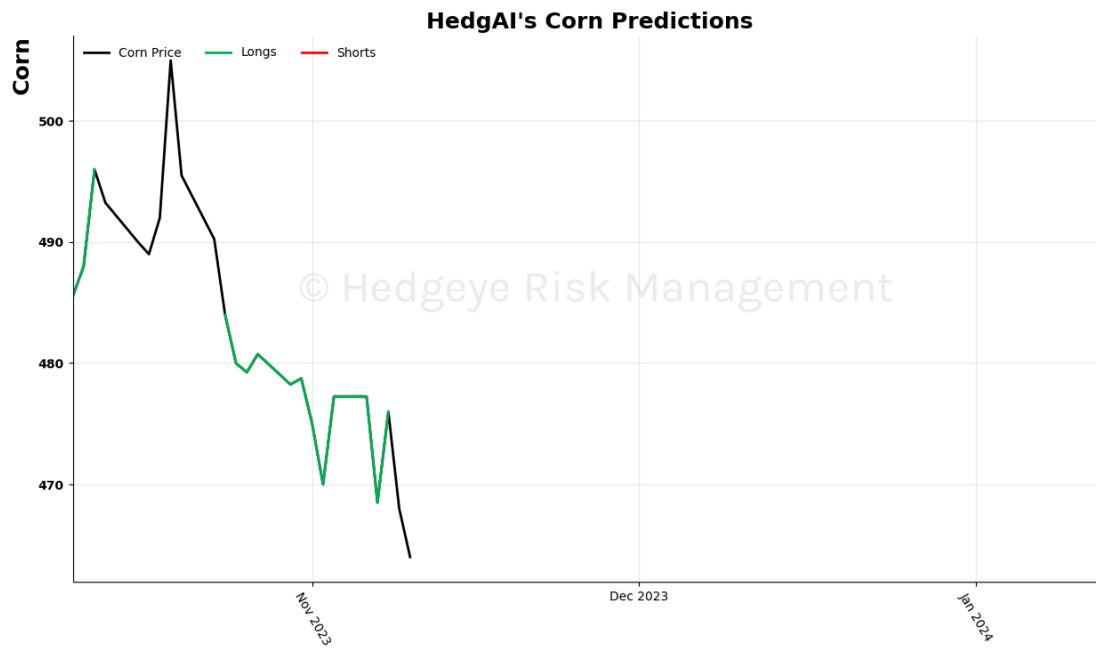


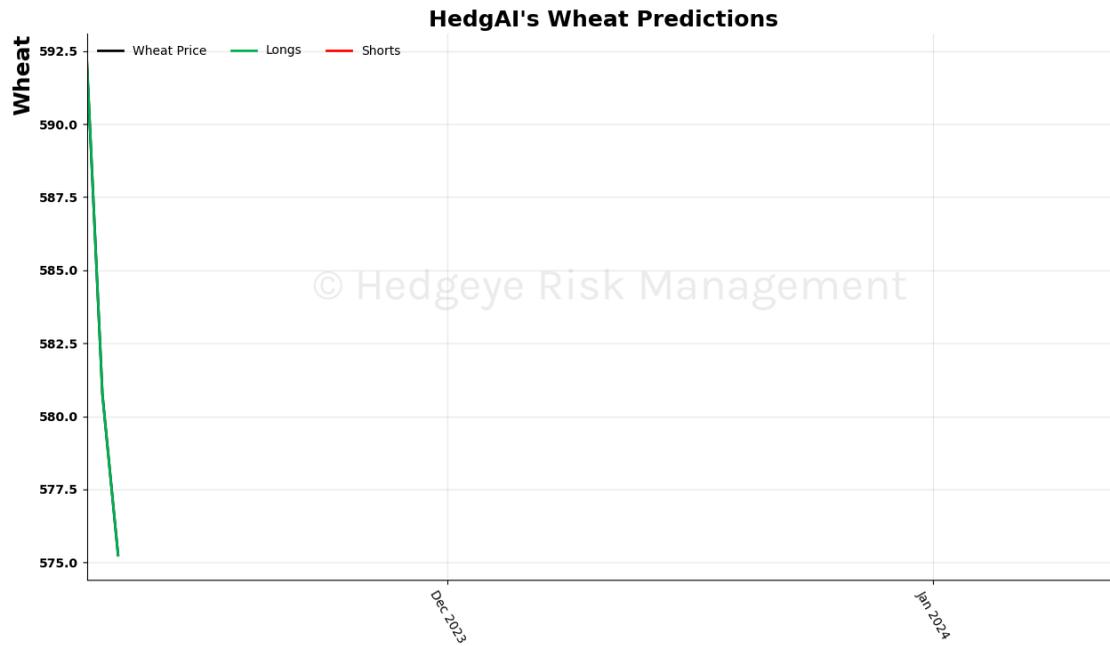




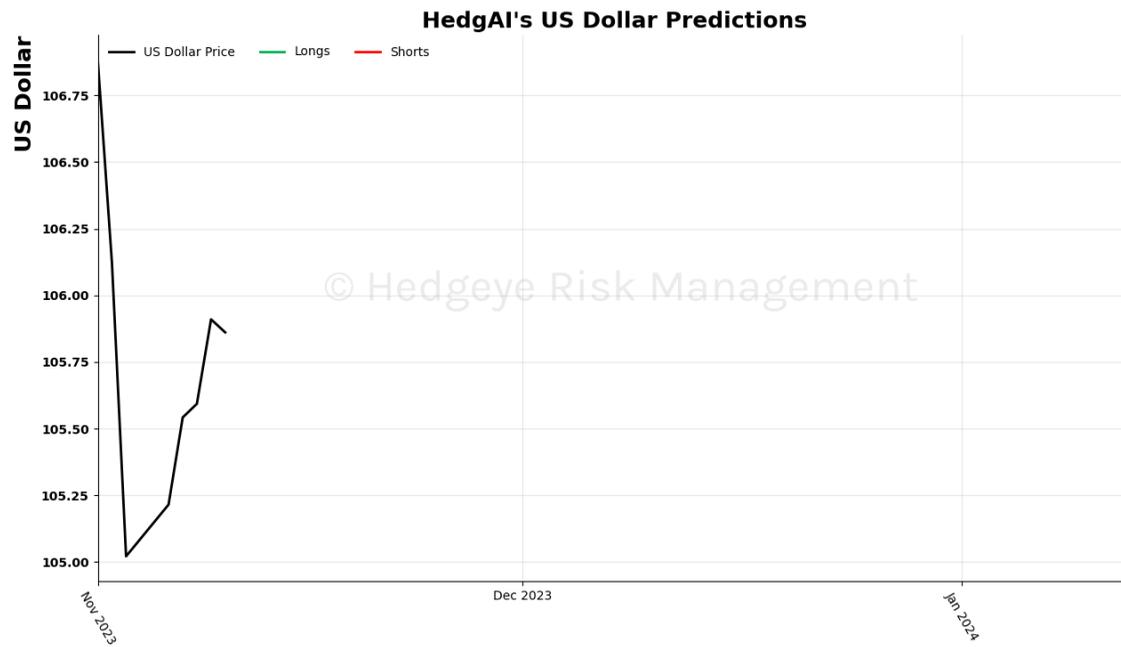
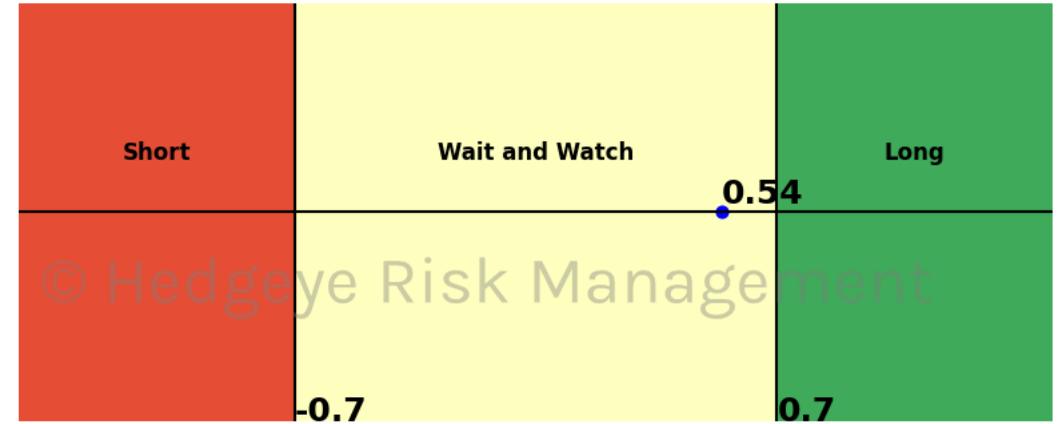




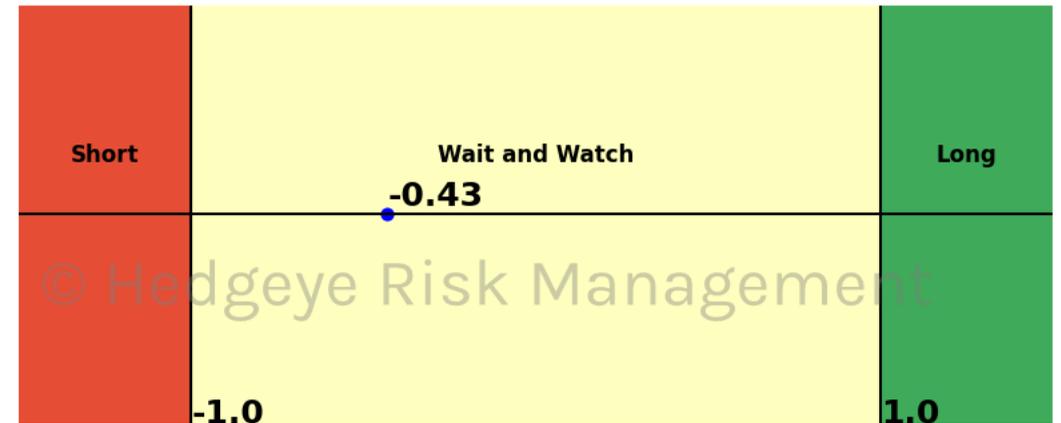


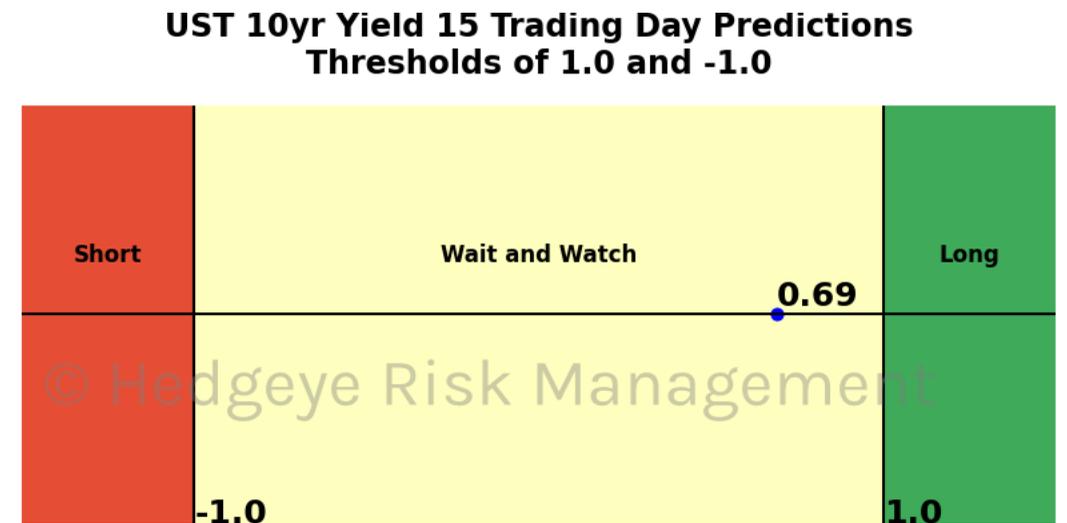
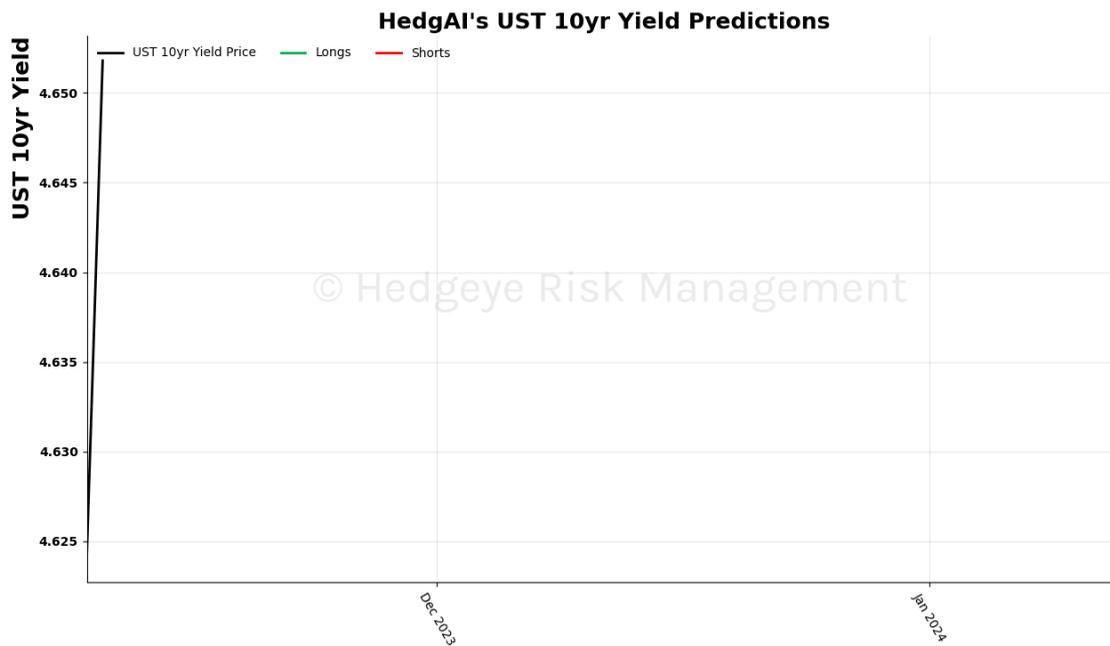
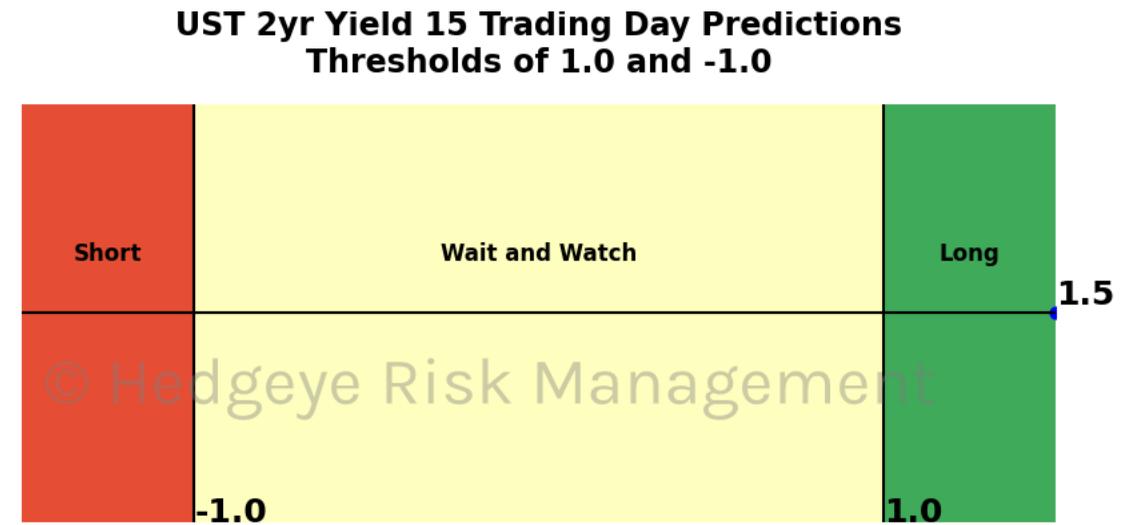
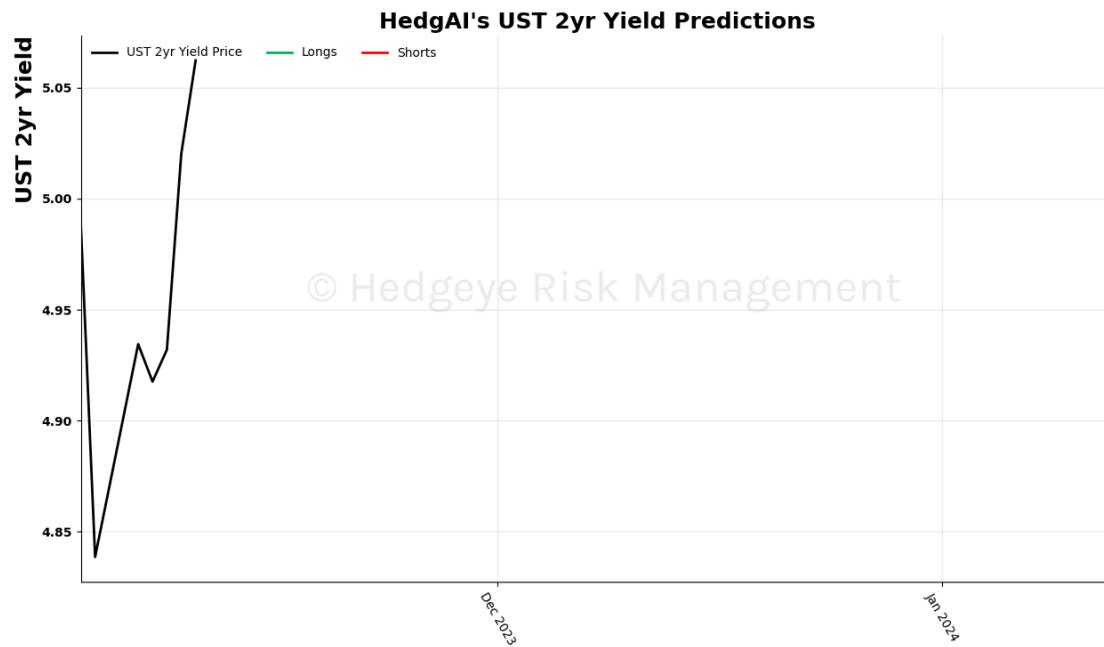


### Wheat 15 Trading Day Predictions Thresholds of 0.7 and -0.7



### US Dollar 15 Trading Day Predictions Thresholds of 1.0 and -1.0





## HedgAI Signals - Description/Tutorial/Disclaimer

### HedgAI Signals – Product Description

HedgAI Signals are simple at their core. The Signals are generated by our proprietary “HedgAI” artificial intelligence (AI) trained algorithms—applying non-linear, squared error methods—to identify relationships between past market data and desired predictive outcomes. Each HedgAI algorithm (the “Algo” or “Algos”) is trained using one data set and validated and operated on a separate data set.

We have back tested each Algo against years of historical market data and have been pleased with the results. We look forward to applying #timestamps to future iterations. Please keep an eye out for that.

Current signals (Long, Short, and Wait and Watch) are a directional call generated by the Algos, as of the date of publication. “Wait and Watch” means the Algo for that asset does not have a directional call as of the date of publication. Signals are updated daily based on the Algos’ daily predictions.

Signaling data for each asset is the result of a unique Algo designed specifically for that asset, and trained using third-party historical market data. Each market day, the Algos ingest market data and update their signal to either a Long, Sell or Wait and Watch. Based on proprietary calculations against historical market data, each Algo then predicts 15 trading days into the future. The resulting published Z Score is a trailing twelve-month (TTM) Z Score of the Algo’s predictions.

Each asset has a unique threshold that marks the point where signals are opened and closed.

The Algo opens a Long signal if the TTM Z Score goes above the published threshold. The Algo closes a Long signal when the TTM Z Score dips back below the same published threshold.

The algorithm opens a Short signal if the TTM Z Score goes below the additive inverse of the published threshold (i.e. if a threshold is 1.0, a Short signal is opened when the TTM Z Score hits -1.0). The Short signal is closed when the TTM Z Score goes back above the same additive inverse of the published threshold.

Wait and Watch is an output generated by the Algo when the TTM Z Score is neither above or below the published threshold or its additive inverse. During Wait and Watch periods, the Algo assumes no signal (Long or Short) in the asset.

## How HedgAI Works

When HedgAI opens a Long or Short signal, on a given day, the Algo notes the available closing price for that same day based on third-party market data available to Hedgeye. The Algo assumes the signal remains open until the TTM Z Score dictates the signal should be closed (above the threshold for a Long signal or below the additive inverse of the threshold for a Short signal). The Algo records the closing price based on third-party market data available to Hedgeye on the day that the Algo selects to close the signal based on the TTM Z Score moving below the threshold for an open Long signal, and above the additive inverse for a Short signal.

Using an example where the asset's threshold (and additive inverse) is 1.0 and -1.0 [Day, TTM Z Score, Closing Price]:

[8/14/2023, 0.9, 11], [8/15/2023, 1.2, 10], [8/16/2023, 1.3, 12], [8/17/2023, 1.4, 10], [8/18/2023, 0.8, 9], [8/21/2023, -1.1, 10], [8/22/2023, -2.0, 11], [8/23/2023, -0.9, 7], [8/24/2023, 0.2, 9].

Using the threshold stated (remember this is different for each Algo) the signals would be as follows: The Algo would open a long on 8/15/2023 at \$10 and close the long on 8/18/2023 at \$9, losing 10% on its signal. The Algo would also open a short on 8/21/2023 at \$10 and close the short on 8/23/2023 at \$7, a 30% positive price movement on the signal.

## Understanding Product Graphics

Every day you will be given a list of 'Longs Added', 'Shorts Added', 'Longs Closed', 'Shorts Closed'

### Current Signals

Each market day, the Current Signals will include any directional signals the Algo has "opened" and not yet closed, the Algo's predicted Threshold and the Z Score calculation against yesterday's closing price, one day prior to yesterday's close, 2 days prior to yesterday's close and 3 days prior to yesterday's close.

### Summary Signals

Each market day, the Summary Signals will include the Current Signals plus "wait and watch" signals.

### Trading Day Threshold Slider Graph

Each market day, the slider chart will illustrate the Algo's current TTM Z Score in relation to the threshold for all signals.

### Algo Signal Graph

Each market day, the Algo Signal Graph will update with the prior day's signal generated by the model. The graph starts from the signal generated the day prior to the first day of publication for each asset. Signals are not actual trades.

#### Asset Non-Stock Asset Classes Models

The Algos designed to make predictions relating to exchange-traded securities are trained and tracked based on the third-party pricing available to those securities. The Algos designed to make predictions relating to assets classes which are not exchange-traded securities, have been trained and tracked based on the following Bloomberg® Tickers. The following chart also provides one example ETF that purports to correlate to the price movement of the corresponding asset.

Hedgeye does not have any influence or control over the management of the example Related ETFs listed and is not responsible for their performance. The Algos' performance in relation to tracking price movement of an asset may vary significantly from any ETF's performance for several reasons outside of Hedgeye's control. Hedgeye does not recommend the investment in any ETF relative to another.

| <u>Asset</u>  | <u>Bloomberg Ticker</u> | <u>Example Related ETF</u> |
|---------------|-------------------------|----------------------------|
| US 30yr yield | USGG30YR Index          | TLT*                       |
| US 10yr yield | USGG10YR Index          | UST*                       |
| US 2yr yield  | USGG2YR Index           | SHY*                       |
| Russell       | RTY Index               | IWM                        |
| S&P 500       | SPX Index               | SPY                        |
| Nasdaq        | NDX Index               | QQQ                        |
| Shanghai      | SHCOMP Index            | FXI                        |
| Japan         | NKY Index               | EWJ                        |
| Germany       | DAX Index               | EWG                        |
| Dollar        | DXY Curncy              | UUP                        |
| EUR/USD       | EURUSD Curncy           | FXE                        |
| USD/YEN       | USDJPY Curncy           | FXJ*                       |
| GBP/USD       | GBPUSD Curncy           | FXB                        |
| CAD/USD       | CADUSD Curncy           | FXC                        |
| Brent Oil     | CO1 Comdty              | BNO                        |
| Copper        | HG1 Comdty              | CPER                       |
| Silver        | SI1 Comdty              | SLV                        |
| Sugar         | SB1 Comdty              | CANE                       |
| Steel         | STEEL Index             | SLX                        |
| Uranium       | URA US Equity           | URA                        |
| Lithium       | LIT US Equity           | LIT                        |
| Wheat         | W 1 Comdty              | WEAT                       |
| Palladium     | XPD Curncy              | PALL                       |
| Platinum      | XPT Curncy              | PPLT                       |
| Crude Oil     | CL1 Comdty              | USO                        |
| Corn          | C 1 Comdty              | CORN                       |
| Natural Gas   | NG1 Comdty              | UNG                        |
| Soybean       | S 1 Comdty              | SOYB                       |
| Gold          | XAU Curncy              | GLD                        |
| Cotton        | CT1 Comdty              | None                       |
| Coffee        | KC1 Comdty              | None                       |
| Bitcoin       | XBTUSD Curncy           | BITO                       |

## **Disclaimer**

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