

# NASDAQ ANALYSIS & PREDICTION MODELING

## Purpose:

Understand Nasdaq industries and how they impact the index

## Questions:

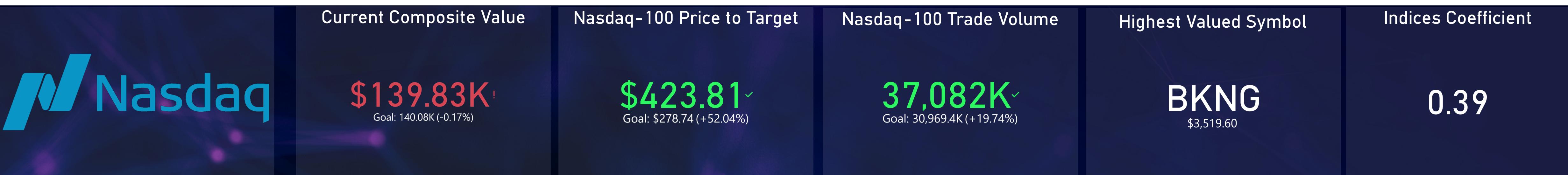
1. Which Industry most closely resembles the Nasdaq Index (using sybl: QQQ)?
2. Which symbols are amongst the top 10, and do these symbols carry a significant correlation to the index?
3. Which symbol carries the most significant correlation to the index?
4. Can we predict the future of the Nasdaq using various Machine Learning techniques and options?
5. Which symbols consistently outperform the index?

## Process:

1. Collect data using Python's yFinance library
2. Store Symbol data into SQL database for warehousing
3. Create predictions with and without predictors
  - a. Linear Regression
  - b. Random Forest Classifier

## Considerations:

1. Data collected from yFinance .History and .Info is the extent of market data
2. Reduced Symbol population to only analyze stocks which have 10 years history



## Findings:

- The Nasdaq is up 152% in last 4 years
- Trading volume has increased 20% in the last 4 years
- The top 10 traded stocks have a low correlation to the Nasdaq-100 (.35 coefficient)
- Biotech industry has the largest amount companies traded
- Gambling industry carries the highest average stock price



Company

All

Highest Correlated Industry

Uranium

Current Avg. Value

\$3.85  
Goal: 7.60 (-49.28%)

Correlation Score

0.61

Calendar Year

All

Industry

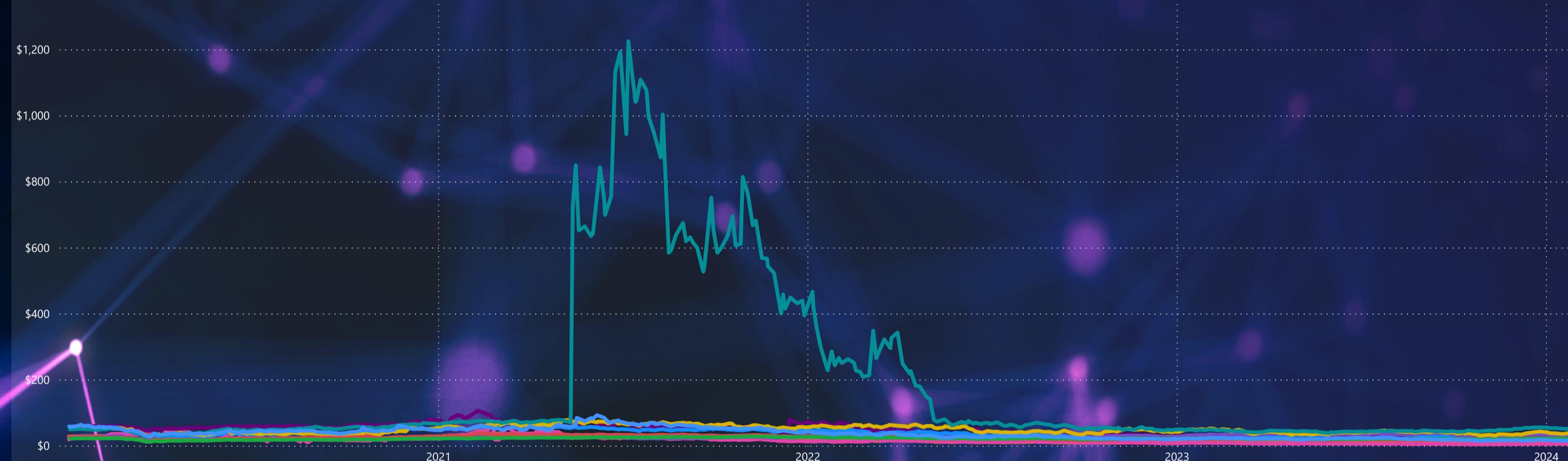
- Select all
- Advertising Agencies
- Aerospace & Defense
- Agricultural Inputs
- Airlines
- Airports & Air Services

Symbol

Select all	--	AACG
AACI	AACIU	AACIW
AADI	AADR	AAGR

### Average Prices Among Industries

Advertising Agencies Aerospace & Defense Agricultural Inputs Airlines Airports & Air Services Aluminum Apparel Manufacturers Apparel Retail Asset Management Auto & Truck D...



### Trade Volume



### Findings:

Despite having very low average value, the Uranium industry and the Nasdaq-100 have the tightest correlation coeff. (I understand this doesn't make sense but I not have market cap or other figures to analyze legitimately)

### Questions:

If we are to grow our portfolio, is Uranium the best option to outpace the market average?



Company

AAPL

Industry

Consumer Electronics

Current Composite Value

\$261.33

Goal: 263.77 (-0.92%)

Correlation Score

Little Correlation  
0.01

Calendar Year

All

Industry

- Advertising Agencies
- Aerospace & Defense
- Agricultural Inputs
- Airlines
- Airports & Air Services
- Aluminum

Symbol

Select all	AAPL	FEBO
GPRO	HEAR	KOSS
MICS	PXDT	SONO

Average Prices Among Profiles

● Nasdaq100Price ● Closing Price

450

400

350

300

250

200

150

100

50

0

2021

2022

2023

2024

Trade Volume

Sum of Volume

0.5bn

0.0bn

Findings:

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