ETHEREAL CRYPTO

ADVENTURES IN MACHINE LEARNING, DASHBOARDING & DAY TRADING

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PROJECT OVERVIEW

- Make a small initial investment/purchase of Ethereum Classic crypto currency.
- Use machine learning algorithms to predict when to buy/sell.
- Complete the project with a servable dashboard to showcase the success (or failure!) of the predictions made.

WHY CHOOSE ETHEREUM CLASSIC?

AFFORDABLE

With an initial investment reserve of $50, only certain crypto currencies made sense. Crypto under $4 per coin allowed for maximum purchase.

ACCESSIBLE

Originally we chose Stellar Lumen at only $.08 per coin, but access to an exchange (Kraken) took too long, so we chose ETC which is more widely available.

RELIABLE - ISH?

Though work only a small fraction of its original value, ETC is still what Ethereum as we know it today was born from, so of all the ‘cheap’ crypto this one seemed most reliable.

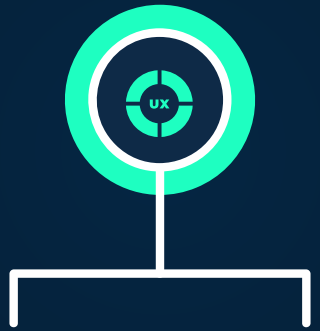
PURCHASING
ETHEREUM CLASSIC

- Kraken required lots of documentation to begin trading with USD.
- Through research, Robinhood was discovered.
- Robinhood allows near instant deposit of USD and free trading.

MAJOR REQUIREMENTS

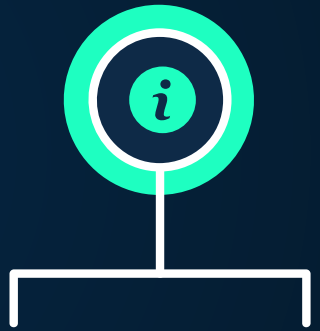
ETL & ANALYSIS

Using Jupyter Notebook, data imported, cleaned, and loaded for analysis and machine learning.



MACHINE LEARNING

After playing with several models, the SciKit Learn Gradient Boosting Regressor was chosen.



VISUALIZATIONS

Interactive visualizations were produced using Streamz, HVPlot, and Panel.

MACHINE LEARNING

GRADIENT BOOSTING REGRESSOR

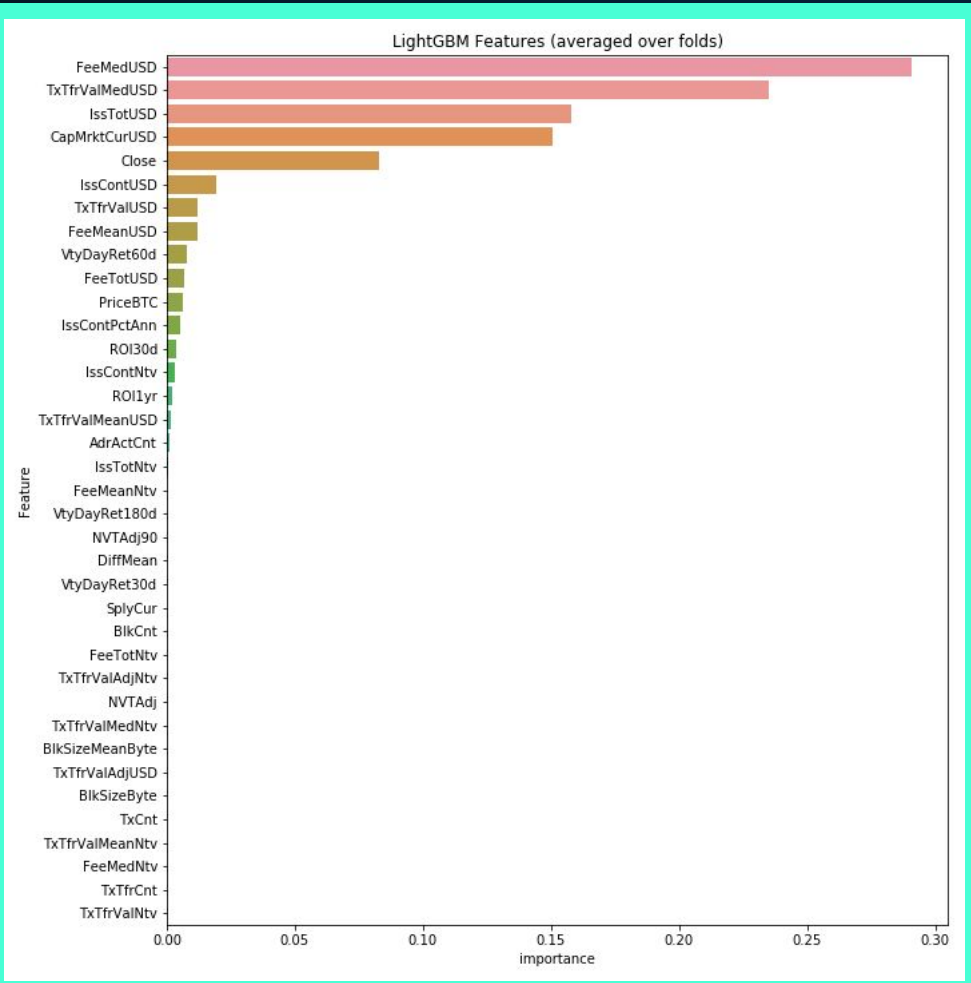
FEATURES
Which features produce best results?

TESTING
Using techniques from class, chose the best learning rate and narrowed modes down to 3

FINAL MODEL
Used all features and had 97% accuracy for predictions.

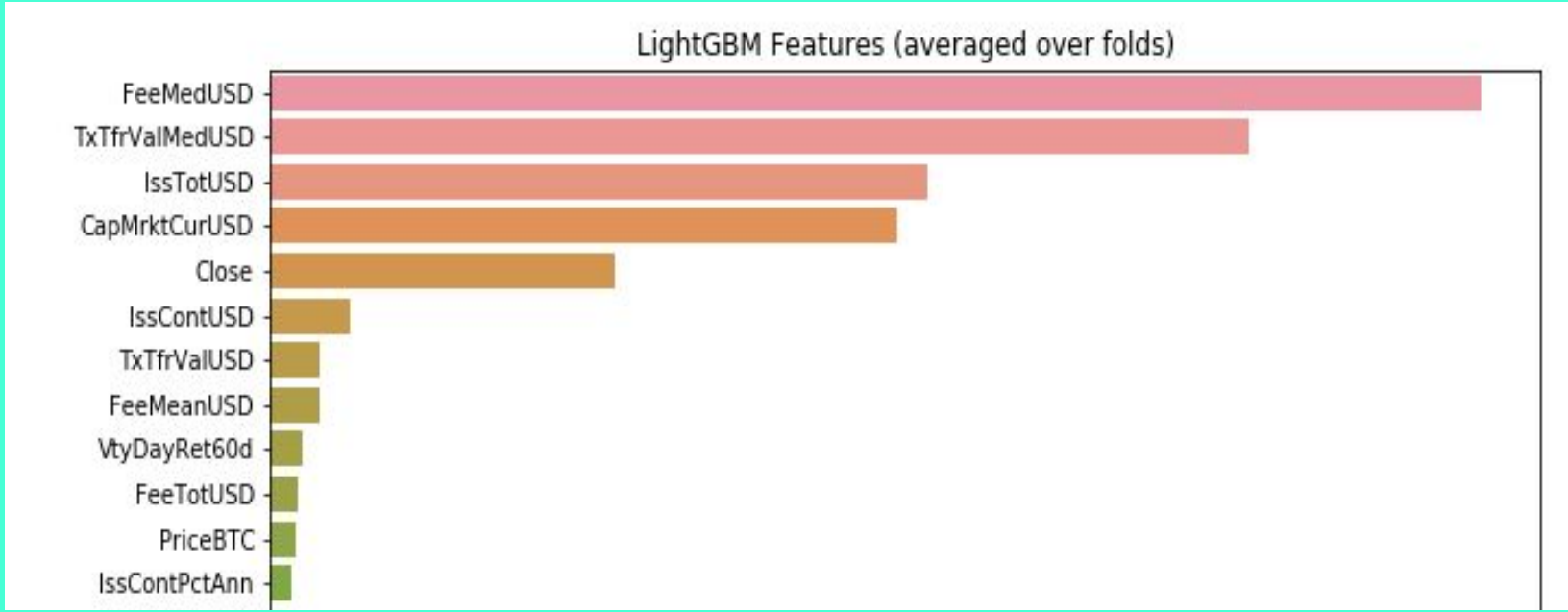
JOBLIB
Using JOBLIB, the model was exported and then loaded in our deployed app

MODEL DISPLAYS ON WEBAPP



FEATURE IMPORTANCES

FEATURE IMPORTANCES

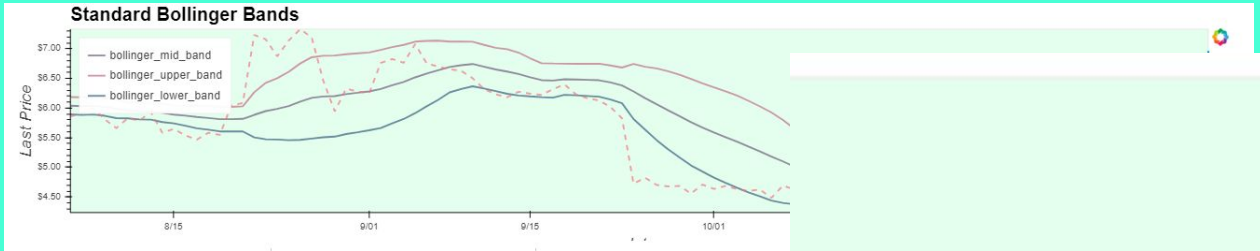


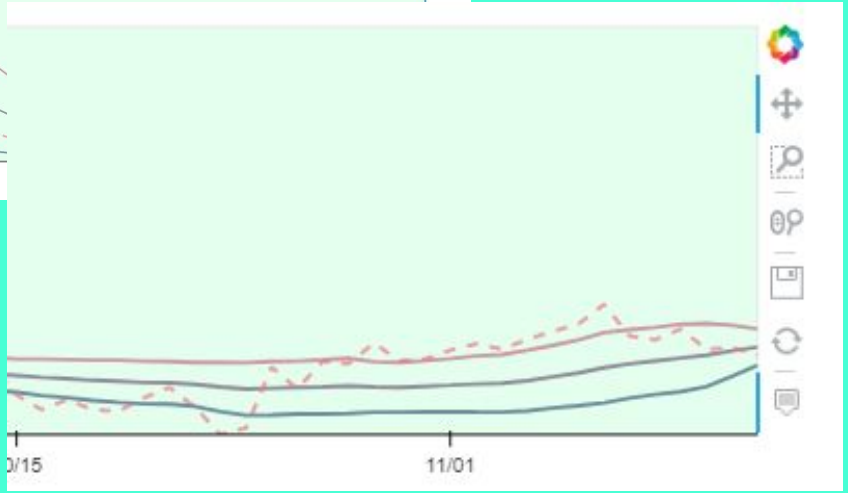
```
# Create GradientBoostingClassifier model
#Changed from .75 to .25 11/8
#on 11/8 .75 gave an accuracy score of .929
#model0
model = GradientBoostingRegressor(
    n_estimators=500,
    learning_rate=.25,
    max_features=5,
    max_depth=3,
    random_state=0)

# Fit the model
model.fit(X_train_scaled,y_train.ravel())

# Score the model
print("Accuracy score (training): {0:.3f}".format(
    model.score(
        X_train_scaled,
        y_train)))
print("Accuracy score (validation): {0:.3f}".format(
    model.score(
        X_test_scaled,
        y_test)))
```

```
Accuracy score (training): 1.000
Accuracy score (validation): 0.973
```

MODEL SUCCESS!

BOLLINGER BAR ANALYSIS



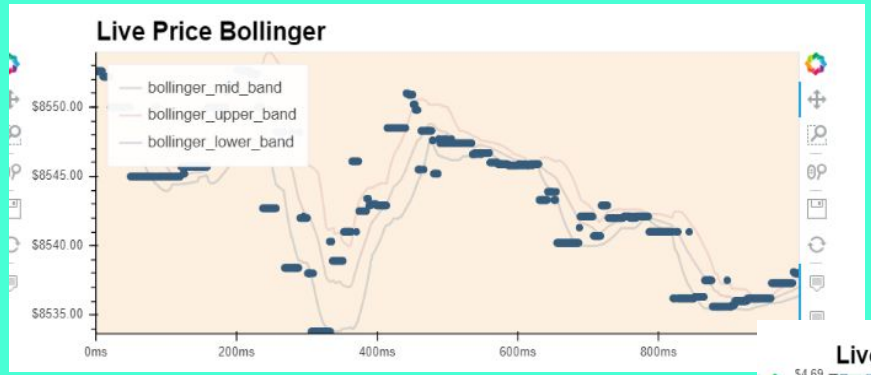


Using these bands, you can see that ETC is approaching a BUY signal!

Unfortunately, I bought during a SELL signal, without realizing it.

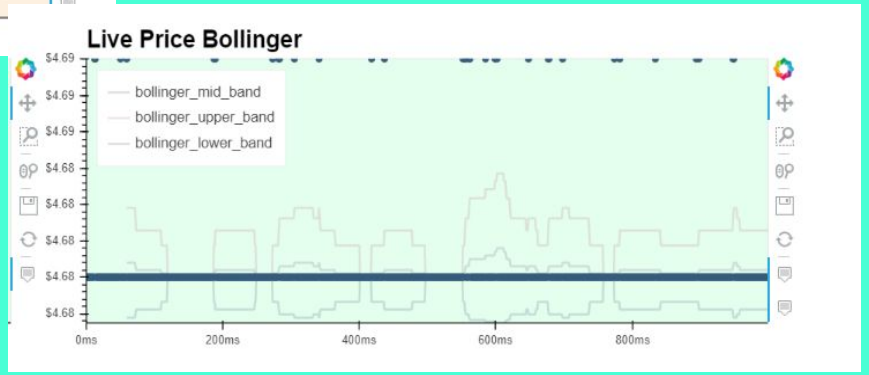
This was the only part of the dashboard using static data. All other data was pulled live from Kraken API.

LIVE BOLLINGER BAR ANALYSIS



I saw these in my research incorporated with candlestick charts, and would like to refine these.

Attempting a live price bollinger band series with BTC and ETC. They need finessing to gain usefulness.



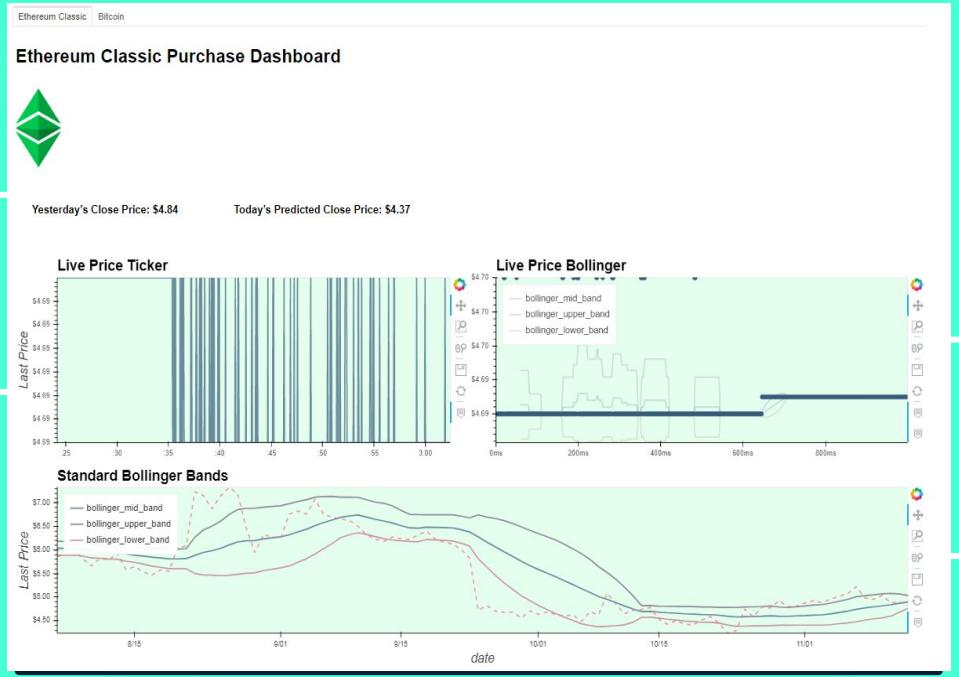
ETC DASHBOARD

MODEL PREDICTION and CLOSE PRICE

LIVE PRICE TICKER

LIVE BOLLINGER

BOLLINGER BANDS



The price movements were so small, the charts showed little movement, so Bitcoin was brought in for comparison.

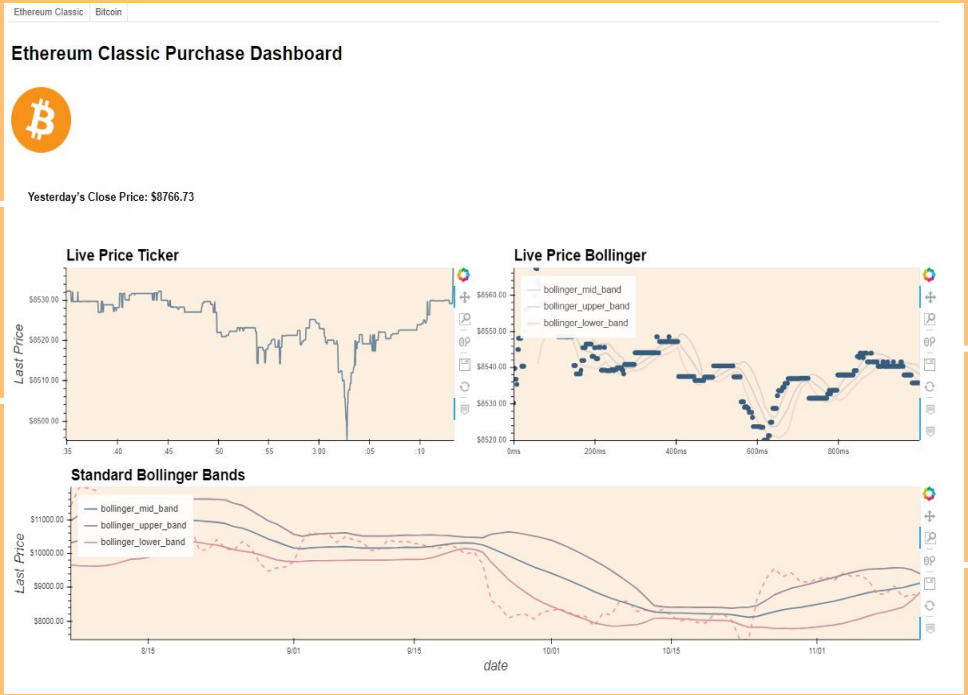
BTC DASHBOARD

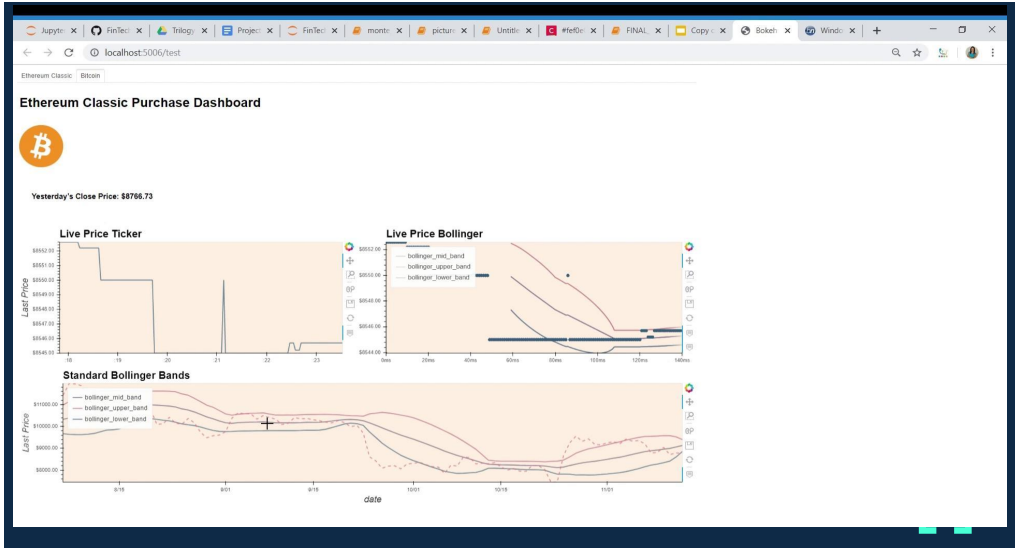
PREVIOUS DAY'S CLOSE PRICE

LIVE PRICE TICKER

LIVE BOLLINGER

BOLLINGER BANDS



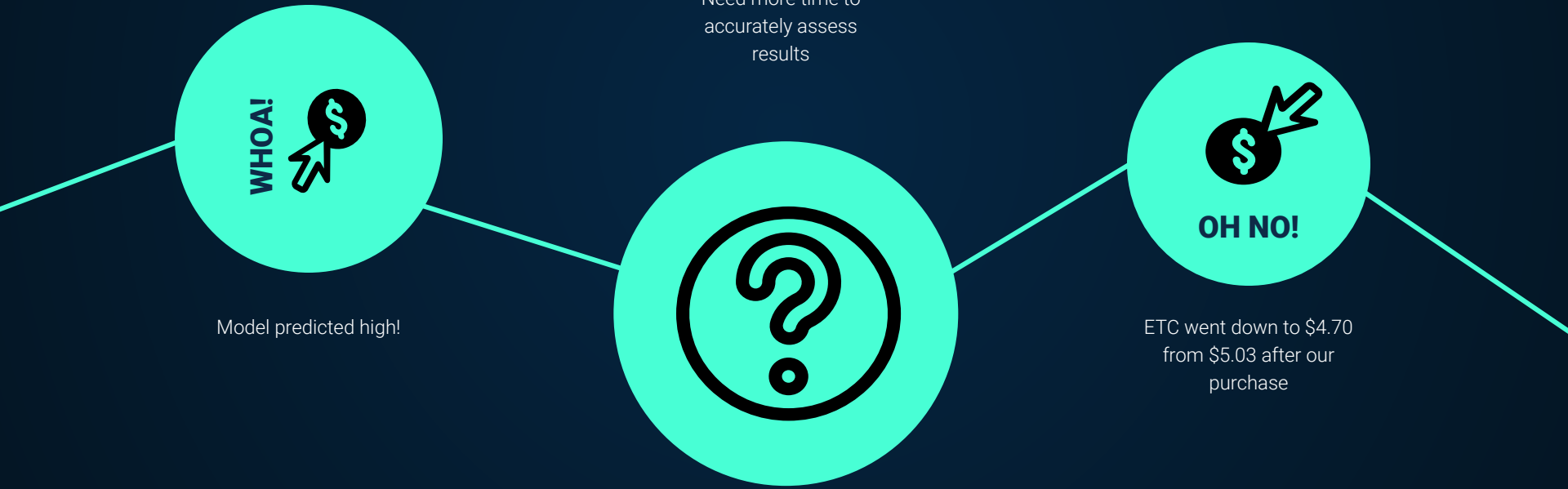


SEE IT IN ACTION!

SUBSCRIBE

SO - HOW'D WE DO?

FROM *“WHOA!”* TO *“OH NO!”*



What Next?

CURRENT APP

- LACKS LIVE DEPLOYMENT
- NOT ALL DATA IS DYNAMIC
- MODEL NEEDS REFINEMENT

FUTURE APP

- FULLY DEPLOYED WEB APP
- AUTOMATED MODEL SIGNALS
- IMPROVED INTERFACE

WRAPPING UP

ONE:

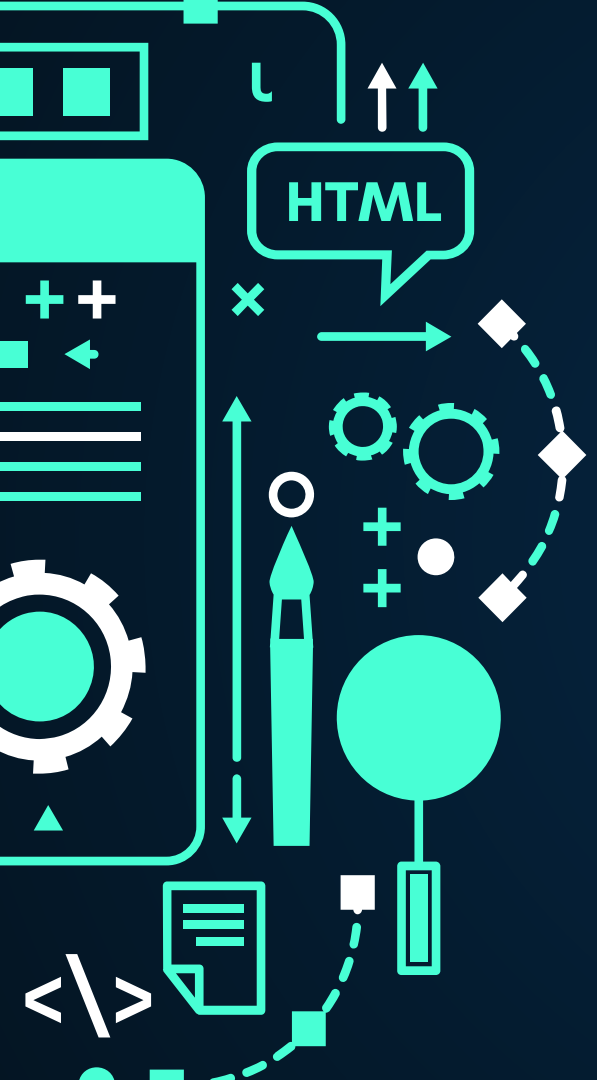
Our model was 97% accurate at predictions during test phase, more time is needed to assess it's real world abilities.

TWO:

What a great project! I can genuinely use these dashboards and models to work a day trading side hustle!

THREE:

Boy would I love to own just ONE Bitcoin! Their Bollinger Bars indicate a good time to BUY! Only need about 8 grande!



THANKS!

Does anyone have any questions?

CREDITS

This is where you give credit to the ones who are part of this project.

- TEMPLATE by Slidesgo
- Static data from Coinmetrics free downloads
- Live data from Kraken API
- Icons by Flaticon
- Infographics by Freepik
- Images created by Freepik
- Author introduction slide photo created by Freepik
- Text & Image slide photo created by Freepik