**Primary idea:**

**Crypto currency pricing model:** will pick specific blockchain based cryptocurrency:Bitcoin, Ethereum, or Ravencoin but model may be extendable): Project will explore aspects of price, utility, and adoption.

Probable inputs/EDA:

Historic pricing data:<https://coinmarketcap.com/currencies/bitcoin/historical-data/?start=20130428&end=20200130>

Historic Exchange volume: <https://coinmarketcap.com/currencies/bitcoin/historical-data/?start=20130428&end=20200130>

Blockchain analysis: (full blockchain is public) (<https://ethereum.org/>)

* Unique addresses
* Distribution of assets
* Number of transactions

Network effect:

* Search engine query trends (<https://trends.google.com/trends/?geo=US>)
* Social media mentions

Other Possible inputs:

* Economic data
* World News
* Fear index
* Stock market/commodity data

Final model should be capable of streaming data in to create a price prediction and/or adoption. Should also be able to define some sort of utility metric. Might need to narrow scope to build a short term arbitrage model.

Expected difficulties:

* Full block chain is 180+gbs
* Competing models and data manipulation
* Obtaining data out of the U.S. is onerous and may lead to omissions.
* Grabbing live exchange data requires api key

Initial Research:

<https://royalsocietypublishing.org/doi/full/10.1098/rsif.2014.0623>

<https://medium.com/@100trillionUSD/modeling-bitcoins-value-with-scarcity-91fa0fc03e25>

<https://www.reddit.com/r/CryptoCurrency/comments/7n47be/i_built_these_3_fundamental_valuation_models_for/>

<https://www.kaggle.com/mrisdal/visualizing-average-ether-costs-over-time>

\*\*<https://www.ischool.berkeley.edu/projects/2018/coinpredictor-one-stop-bitcoin-insights-tool>