NFT Twitter Sentiment Analyzer

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Motivation & Hypothesis 🤔

The Problem: there is a waterfall of information and NFT projects - deciding which to investigate can be a daunting task!

Hypothesis: we can utilize sentiment analysis on NFT tweets to aid in determining whether or not a project is worth researching further into.

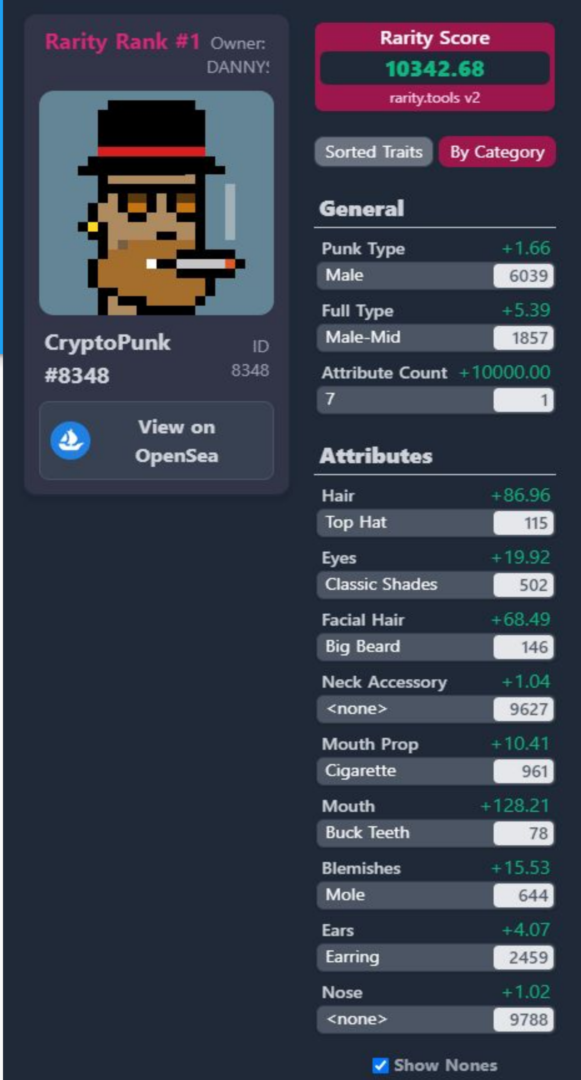
VADER Sentiment Analysis 🤬

Valence Aware Dictionary and Sentiment Reasoner - a model used for text sentiment analysis that is sensitive to both polarity (positive/negative) and intensity (strength) of emotion.

- Especially designed for Social Media
- Understands emoticons, slang, conjunctions, capital words, punctuations
- Requires no additional training data
- Open source library for NLTK

Data Preparation 📋

- Where to look for NFT market data?
- OpenSea / Rarity.Tools - top 100 trending NFT projects
- BeautifulSoup - our first set of data!
- Cycle through the top 100 projects for Twitter sentiment data
- Powerful VADER



Rarity Rank #1 Owner: DANNY!

CryptoPunk #8348

ID 8348

Rarity Score
10342.68
rarity.tools v2

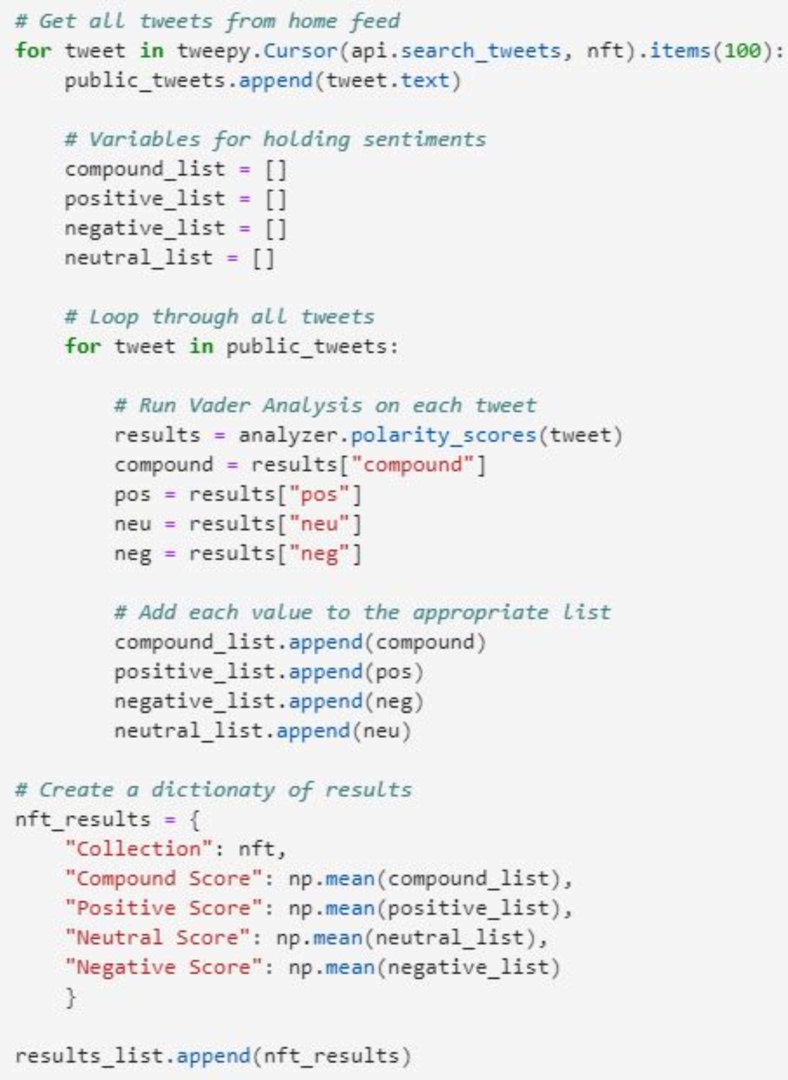
General

Punk Type		+1.66
Male	6039	
Full Type		+5.39
Male-Mid	1857	
Attribute Count		+10000.00
7	1	

Attributes

Hair		+86.96
Top Hat	115	
Eyes		+19.92
Classic Shades	502	
Facial Hair		+68.49
Big Beard	146	
Neck Accessory		+1.04
<none>	9627	
Mouth Prop		+10.41
Cigarette	961	
Mouth		+128.21
Buck Teeth	78	
Blemishes		+15.53
Mole	644	
Ears		+4.07
Earring	2459	
Nose		+1.02
<none>	9788	

☑ Show Nones



```
# Get all tweets from home feed
for tweet in tweepy.Cursor(api.search_tweets, nft).items(100):
    public_tweets.append(tweet.text)

    # Variables for holding sentiments
    compound_list = []
    positive_list = []
    negative_list = []
    neutral_list = []

    # Loop through all tweets
    for tweet in public_tweets:

        # Run Vader Analysis on each tweet
        results = analyzer.polarity_scores(tweet)
        compound = results["compound"]
        pos = results["pos"]
        neu = results["neu"]
        neg = results["neg"]

        # Add each value to the appropriate list
        compound_list.append(compound)
        positive_list.append(pos)
        negative_list.append(neg)
        neutral_list.append(neu)

# Create a dictionaty of results
nft_results = {
    "Collection": nft,
    "Compound Score": np.mean(compound_list),
    "Positive Score": np.mean(positive_list),
    "Neutral Score": np.mean(neutral_list),
    "Negative Score": np.mean(negative_list)
    }

results_list.append(nft_results)
```

Technique 🏋️‍♀️

- We looped our NFT collection list through the Tweepy search function to collect tweets containing the project name.
- We then took those tweets and ran sentiment analysis on them and appended them to new lists that reflected the sentiment.
- Concatenated the historical and sentiment into 1 Dataframe.

Summary

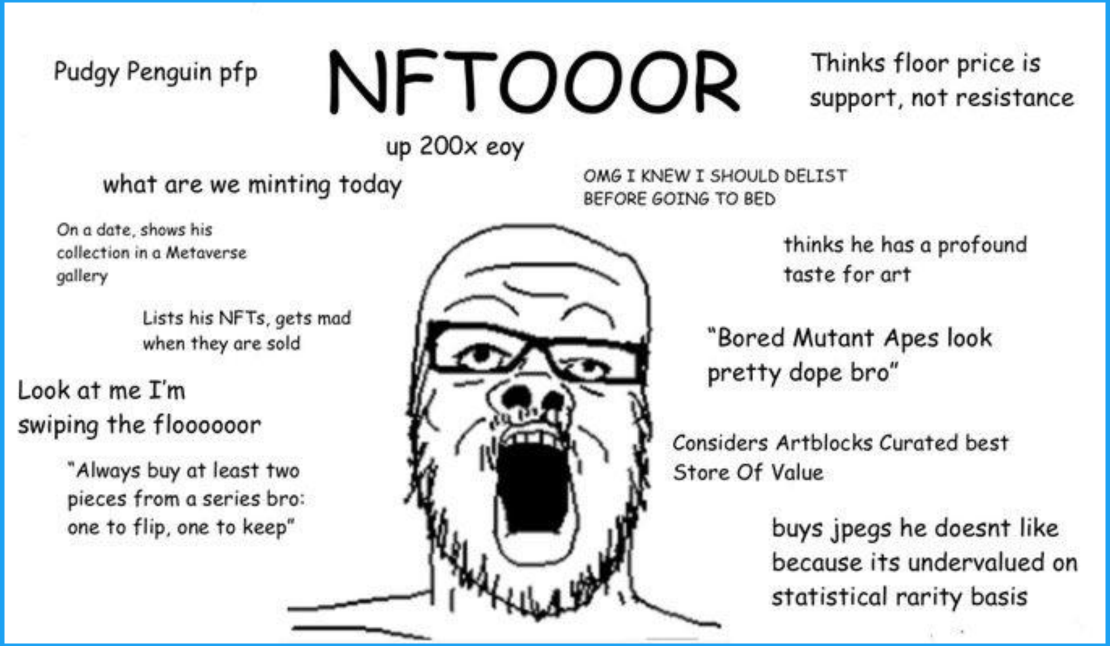
- CryptoPunks had the best compound sentiment.
- We were surprised by the negative sentiment around Bored Ape Yacht Club considering how popular the project is.
- NFT projects with stronger/active communities tend to share more positive sentiment than projects who are focused on price action.

Dashboard link:
https://share.streamlit.io/cryptome/project_2/streamlitAPP.py

Difficulties

- Finding the best investment approach. Art is subjective but cash is not.
- Our original idea was to build a deep learning evaluation of current NFT projects to mint our own.
- Microsoft Azure - seems powerful, ran into limitations.
- If we had more time we would have built a fear and greed index for NFT’s and tried to calculate volatility.
- Machine learning loss / overfitting on CryptoPunks price prediction model.

Thank you for your time!


Pudgy Penguin pfp
NFTOOOR
Thinks floor price is support, not resistance
up 200x eoy
what are we minting today
OMG I KNEW I SHOULD DELIST BEFORE GOING TO BED
On a date, shows his collection in a Metaverse gallery
thinks he has a profound taste for art
Lists his NFTs, gets mad when they are sold
"Bored Mutant Apes look pretty dope bro"
Look at me I'm swiping the flooooor
Considers Artblocks Curated best Store Of Value
"Always buy at least two pieces from a series bro: one to flip, one to keep"
buys jpegs he doesnt like because its undervalued on statistical rarity basis