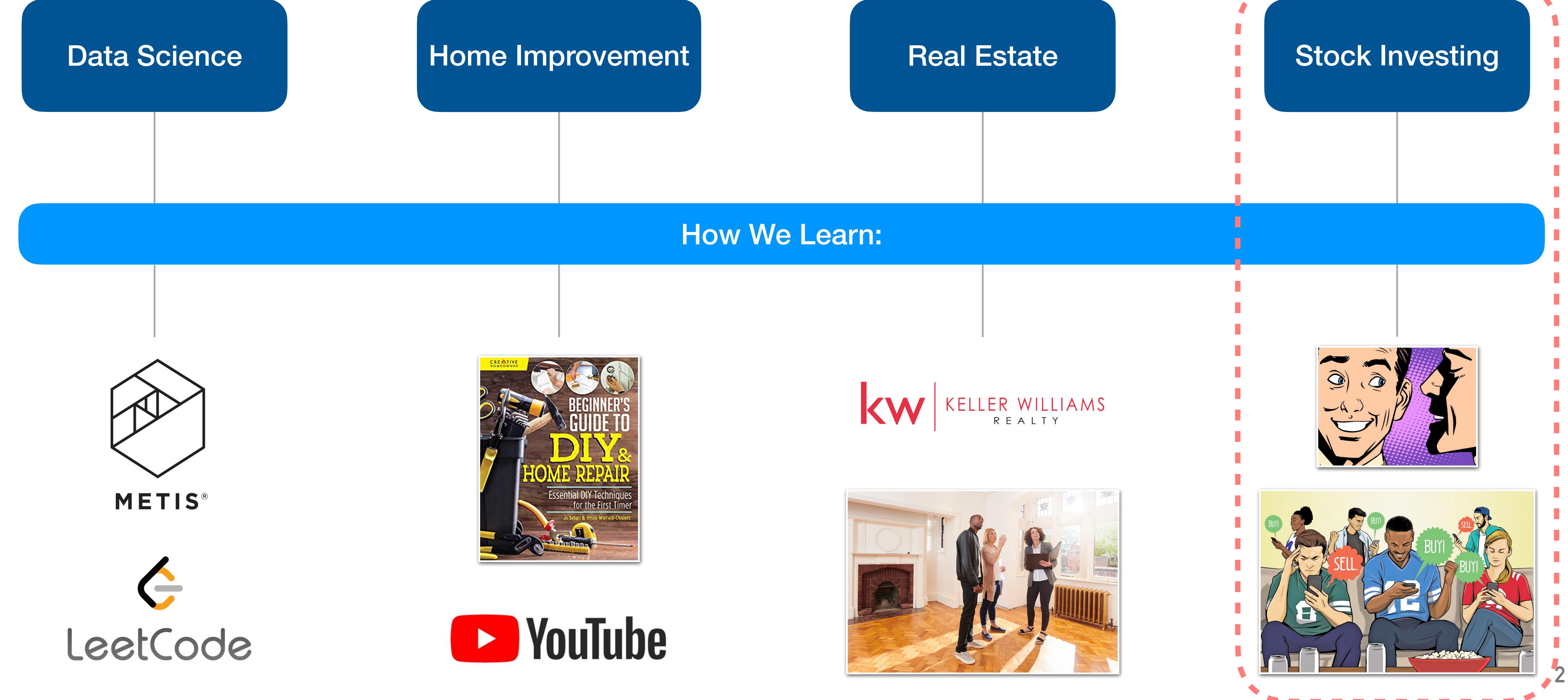




A YouTube Video Recommender for Beginners in Stock Investing

Mike Choi

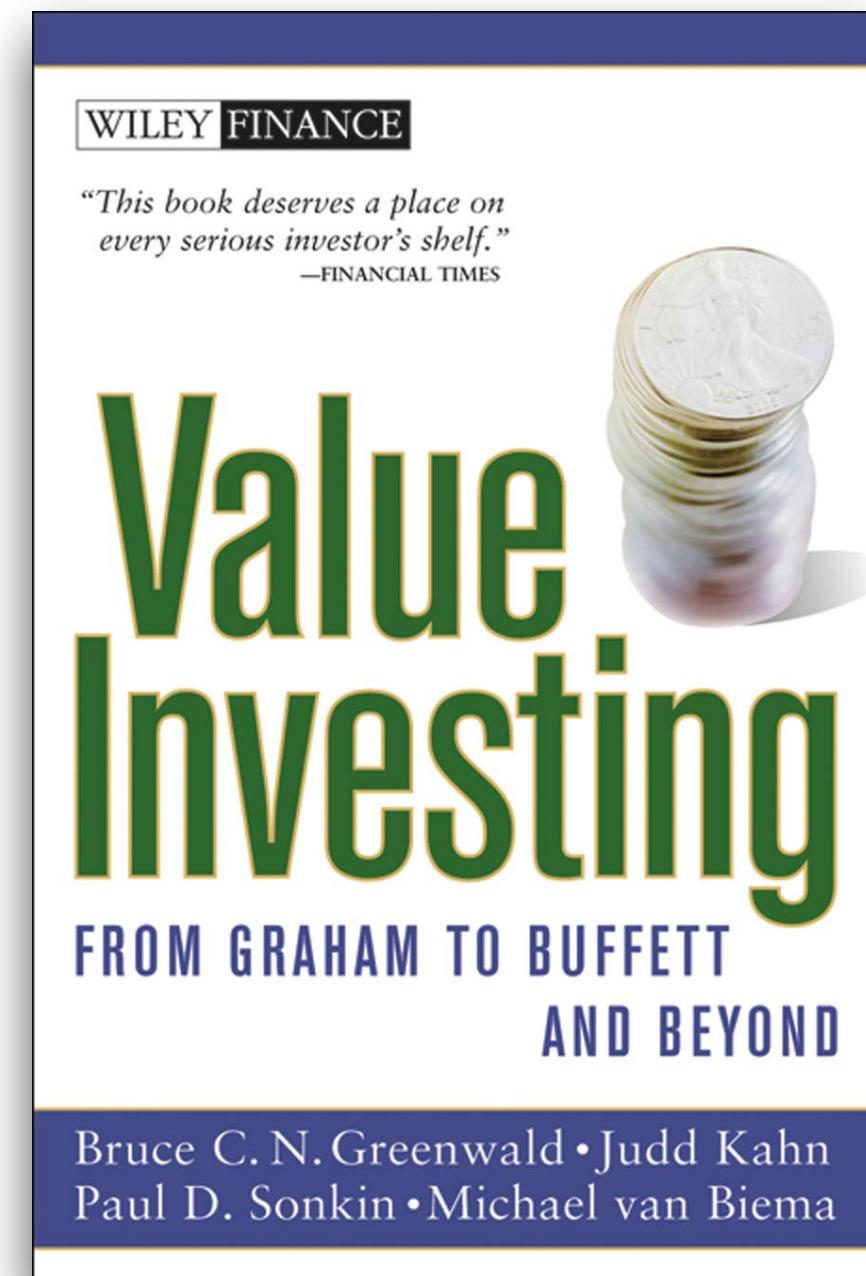
MOTIVATION - DANGERS OF STOCK INVESTING



MOTIVATION - HELPING BEGINNERS LEARN HOW TO INVEST IN STOCKS

Question: How can I help beginners get properly educated on stock investing in an approachable, interactive way?

Books?



Too dry, some ideas outdated

Classes / online courses?



Costs money, time-consuming

Blogs and articles?

The LT3000 Blog

Eclectic musings on value investing, business, economics, and life

Wednesday, 11 November 2020

Unravelling value's decade-long underperformance (and imminent resurgence)

In a recent (generally excellent) podcast with Inside the Rope with David Clark (#78), John Hempten discussed (amongst other things) value's past decade of underperformance, and opined that the primary driver was the fact that the pace of technological change had accelerated, such that we have seen an unprecedented level of disruption to traditional business models. Value investors have apparently spent a decade naively riding doomed low-multiple companies like the Myers of this world into oblivion.

[Read more »](#)

Posted by Lyall Taylor at 21:34 128 comments: M O E F G

Tuesday, 28 July 2020

Market inefficiency, liquidity flywheels, asset class arbitrage, and Hong Kong Land

Conventional economic theory holds that the marketplace in financial assets ought to be 'efficient'. Large numbers of intelligent and diligent investors have access to largely the same pool of information, and are highly motivated to root out and exploit any underpricings that exist. It is believed this competitive process will inevitably drive assets to their fair value - i.e. those that accurately reflect their risk and reward characteristics, and also price assets correctly relative to one another.

[Read more »](#)

Posted by Lyall Taylor at 13:52 1,030 comments: M O E F G

Monday, 11 May 2020

Coronavirus update: From an unknown unknown to a known unknown

On March 17th, I blogged some thoughts on the coronavirus outbreak; its significance; and how it would play out. Much of what I said will fit for the end of this stage, as these stage events appear to be playing out largely in line with the analysis and predictions outlined in that article, so I haven't felt much need to pen an update. My views were generally considered wildly optimistic at the time, but recent events suggest it was more a case of investor sentiment being unreasonably bearish than my views being unreasonably optimistic.

[Read more »](#)

About Me
Lyall Taylor
[View my complete profile](#)

Featured post
[Marital arts & the UFC; Michael Lewis; and why rouge punters predicted the GFC, not the mainstream](#)

Michael Lewis has stated that what inspired his fantastic book *The Big Short* (subsequently made into a Hollywood movie) was the mystery and ...

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Unravelling value's decade-long underperformance (and imminent resurgence)
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Facebook - the bear case

Market inefficiency, liquidity flywheels, asset class arbitrage, and Hong Kong Land
How much cash should you hold? The case for being fully invested

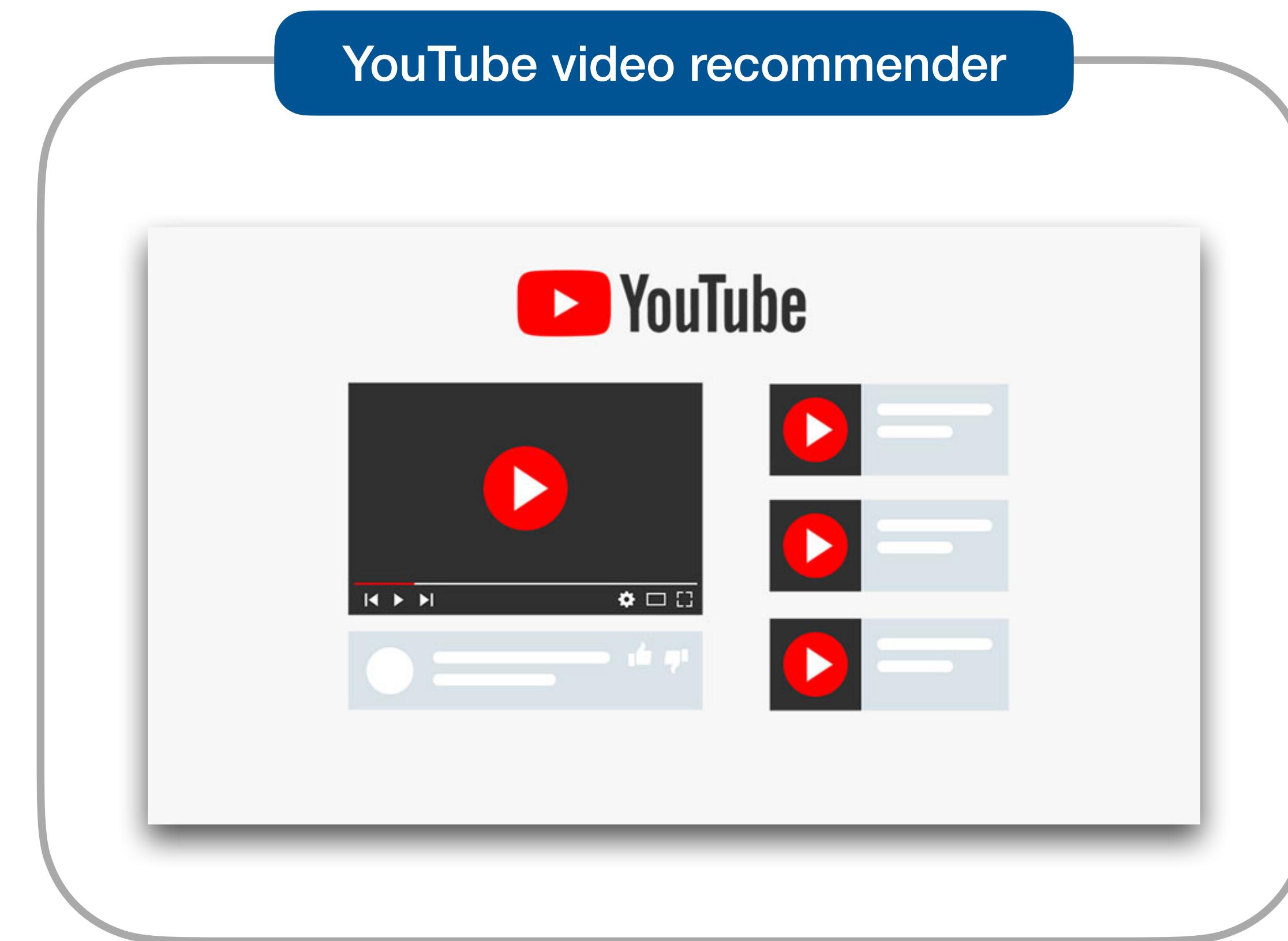
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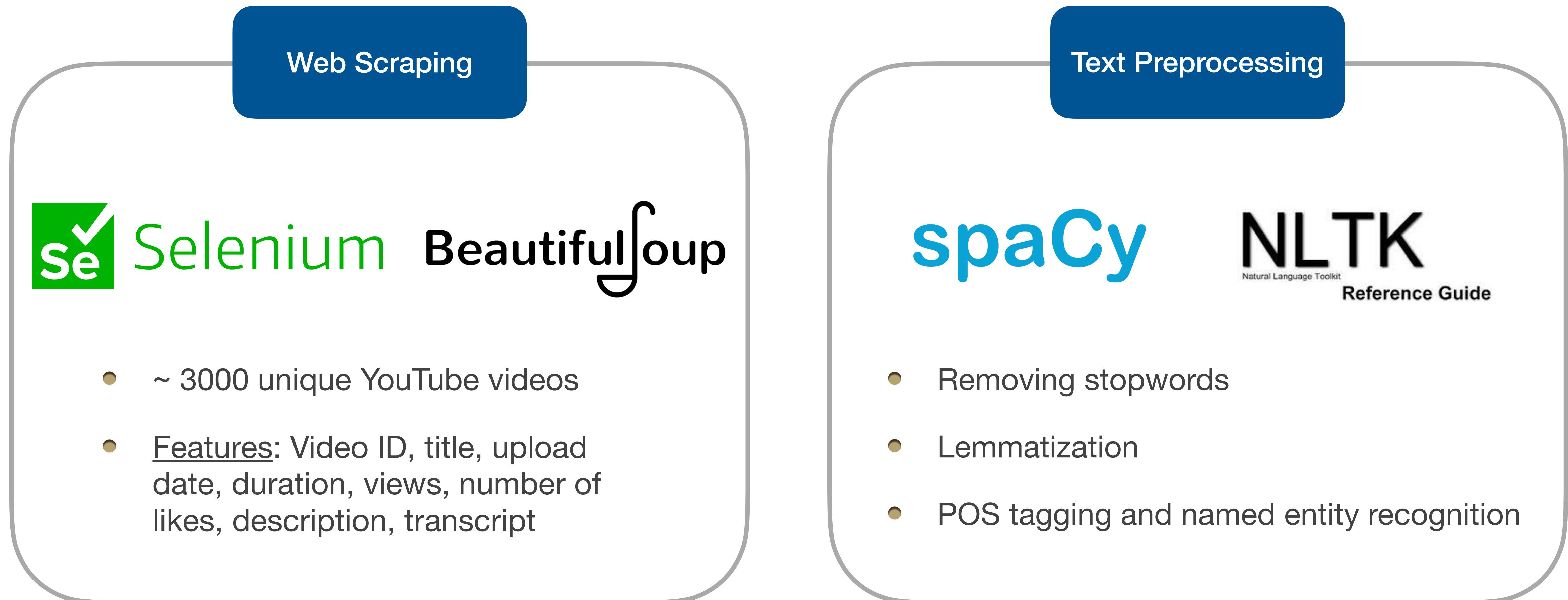
No structure, not interactive

MOTIVATION - HELPING BEGINNERS LEARN HOW TO INVEST IN STOCKS

Question: How can I help beginners get properly educated on stock investing in an approachable, interactive way?



DATA - PARSING THROUGH YOUTUBE VIDEO TEXT DATA

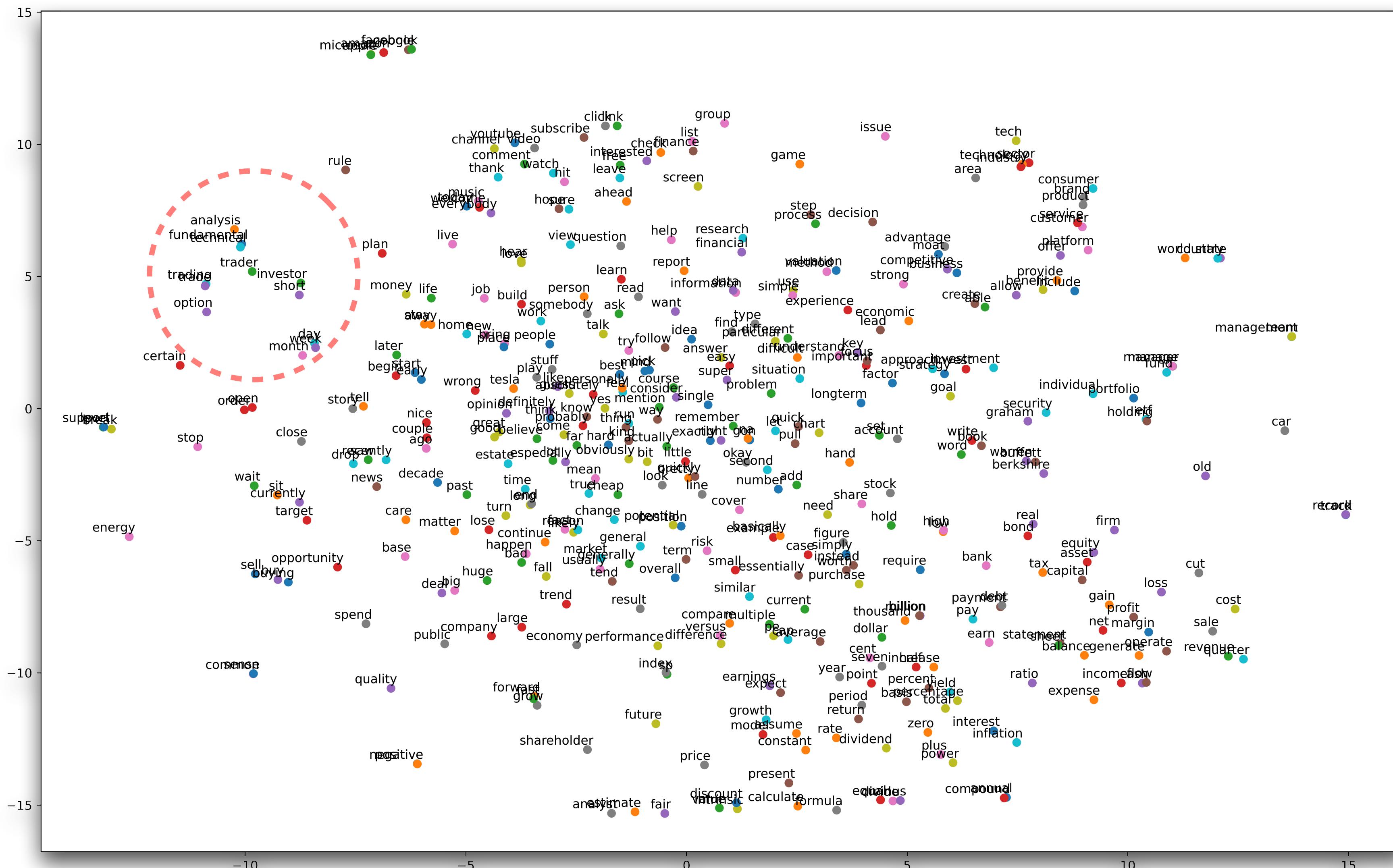


FILTERING OUT VIDEOS WITH NO EDUCATIONAL VALUE

Videos to filter out	Examples	NLP tools used
Irrelevant topics	Cryptocurrency Forex Real estate	Topic modeling Keyword frequency
Stock-related but with little educational value	News (Yahoo, CNBC) Short-term trading	Topic modeling Word2Vec embeddings
Promotional/misleading	'Top 3 penny stocks to 5x your money' 'Warren Buffett thinks this \$2 stock will soar by 1000%!'	Word2Vec embeddings Sentiment analysis

EXAMPLE: USING WORD2VEC TO FILTER OUT VIDEOS ON SHORT-TERM TRADING

Finding Words with Similar Contexts Using T-SNE to Visualize Word2Vec Embeddings



```
Word2Vec.most_similar('trade')
```

```
[('fundamental', 0.7967236042022705),  
 ('trading', 0.7802362442016602),  
 ('trader', 0.768281102180481),  
 ('analysis', 0.7510438561439514),  
 ('chart', 0.7161670923233032),  
 ('short', 0.6809226870536804),  
 ('trade', 0.672147810459137),  
 ('break', 0.5839399099349976),  
 ('level', 0.5792834162712097),  
 ('support', 0.5770994424819946)]
```

(Scores based on cosine similarity)

EXAMPLE: USING WORD2VEC TO FILTER OUT VIDEOS ON SHORT-TERM TRADING

- Identified videos on short-term trading based on the word embeddings
- Used Vader sentiment analysis to find videos with high positive sentiment (scores of >0.9, with 1 being the most positive) => likely to be promotional or/and misleading

	Title
198	Technical Analysis Secrets: What Most Trading Gurus Will Never Tell You (by Rayner Teo)
1334	Technically Speaking: Trading the Trend (Weeks to Months) Long-Term Investing 4-4-19
295	Finding Stocks on Sale Weighing the Competition: Look for Moats Michael Fairbourn 5-21-19
148	 HUGE TESLA Stock Price Prediction!! Fundamental and Technical Analysis on Tesla Stock #TSLA
201	MARA Stock WILL 10X Your Money! MARA Stock Technical And Fundamental Analysis

FINAL TOPIC MODEL - 9 INVESTMENT TOPICS

Topics	Topic Words
Value Investing	'cheap', 'graham', 'warren', 'buffett', 'ben', 'security', 'intrinsic'
Growth Investing	'return', 'metric', 'reinvest', 'young', 'bargain', 'negative', 'amazon'
Passive Investing	'etf', 'holding', 'vanguard', 'index', 'expense', 'etfs', 'sector'
Long-term Investing	'tax', 'compound', 'ira', 'retire', 'goal', 'live', 'multiple'
Fundamental vs. Technical Analysis	'fundamental', 'technical', 'analysis', 'statement', 'trader', 'trend', 'volume'
Economic Moats	'moat', 'mode', 'competitive', 'economic', 'competitor', 'brand', 'castle'
Valuation	'intrinsic', 'formula', 'method', 'divide', 'present', 'discount', 'calculate'
Technology Stocks	'apple', 'tesla', 'facebook', 'elon', 'amazon', 'iphone', 'google'
General	'team', 'economy', 'event', 'bank', 'holding', 'estate', 'eps'

CREATING A TWO-STEP CONTENT-BASED RECOMMENDER



- A major cold start problem
- Solution: a two-step recommender
 - Initial recommender
 - Follow-up recommender
- Cosine similarity on CountVectorizer

Streamlit App Demo

<http://stockinvestingvideorec.herokuapp.com>

A composite image featuring two side-by-side photographs of Warren Buffett. In both photos, he is an elderly man with white hair and glasses, wearing a dark suit, white shirt, and patterned tie. In the left photo, he is looking slightly upwards and to his left. In the right photo, he is looking slightly upwards and to his right. He is seated on a dark green leather couch against a background of a red wall with framed pictures.

Thank you!
Questions?