Discussion:

Crash Narratives

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Big picture

- Big idea:
  narratives $\rightarrow$ beliefs $\rightarrow$ real impact (e.g. asset prices)

- Crash narratives
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  narratives $\rightarrow$ beliefs $\rightarrow$ real impact (e.g. asset prices)
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  a prominent narrative phenomenon
  and arguably, crash belief is highly subject to narratives
- The paper is pleasant and refreshing to read
  beautiful writing, insightful analysis, innovative ideas
- Textual analysis tools for empirical analysis
  article-level contextual embedding and similarity measures for semantic retrieval

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  "*that has emotional resonance and that can be easily conveyed in casual conversation*"

- Main argument (hypothesis to test)
  narratives matter for beliefs and choices, crash narratives in particular
- Rationale:
  - narratives are easy to understand and remember, contagious, suggest causal relationships, predictive relationships, ...
  - behavioral biases in evaluating rare events

Measure "crash narratives" intensity in news

A general method that converts text into quantitative data

- Article-level embedding (Doc2Vec) (article $\rightarrow$ vector)
  textual database of all articles (#articles $\times$ embedding dim)
- Need to extract relevant quantitative information from the database
  reduce embedding dim to 1, instead of estimating a lin combination
- Use cosine similarity with a "target" text embedding

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  a smart idea!
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  - use "news in the days following the 1987 and 1929 crashes"
    no need to manually specify the content of "crash narratives"
- More broadly:
  Any narrative / topic / sentiment can be extracted from the embedding database, with a simple textual query

Embedding model

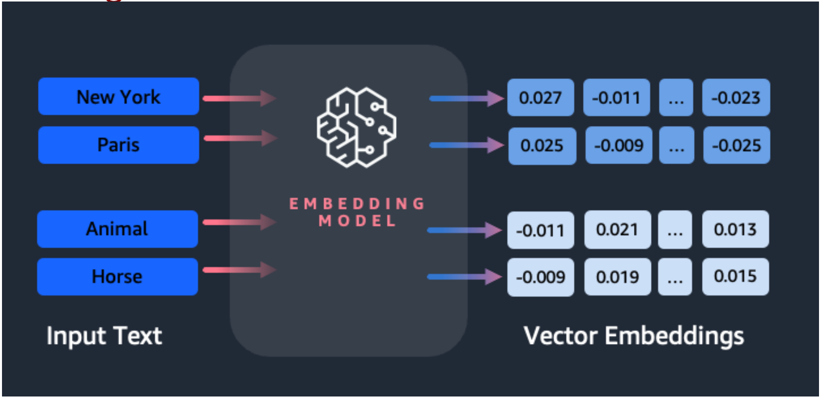

illustration source: AWS Machine Learning Blog.

https://aws.amazon.com/blogs/machine-learning/getting-started-with-amazon-titan-text-embeddings/

Contextual embedding:

- longer input text (articles)
- embeddings "understand" contextual information (higher-level semantic meaning than just words)

Cosine similarity for semantics comparison

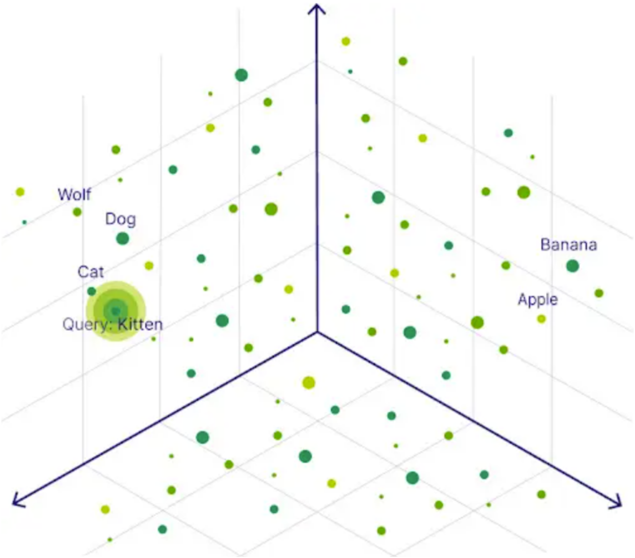

illustration source: From prototype to production: Vector databases in generative AI applications.
https://stackoverflow.blog/2023/10/09/from-prototype-to-production-vector-databases-in-generative-ai-applications/

Empirical analysis

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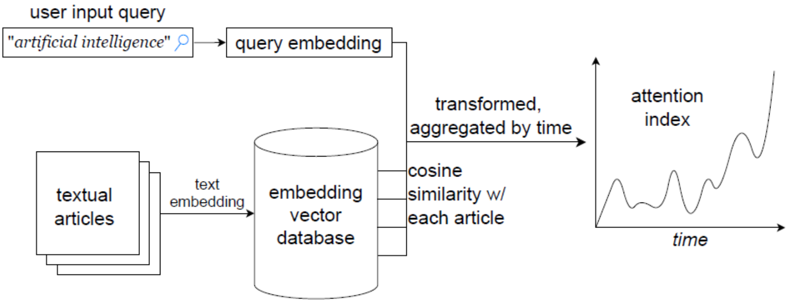
  many interesting findings:
  - institutional vs. individual investors
  - position in the article (lede vs. body)
  - open-end survey responses echo the crash narratives
- any exogenous variation in crash narratives?
  ideal identification: the extent to which a media tells a story, irrelevant to the actual market conditions
  "narrativity measure"
  cosine similarity with "folk tales"
  hard problem, but very creative idea

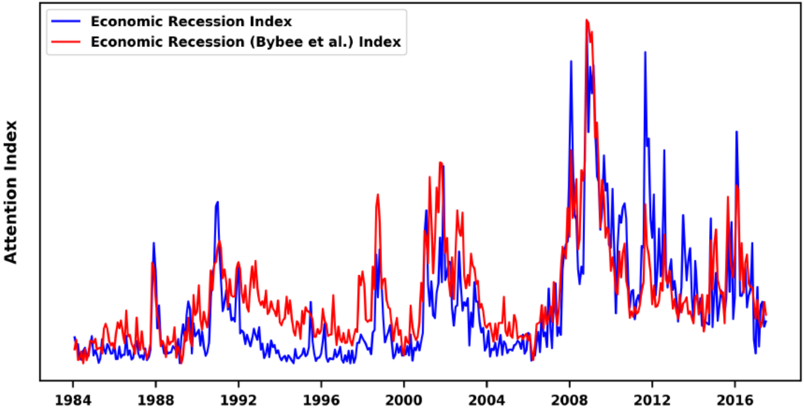
Tracking narratives with large language model contextual embedding (work in progress)



- any textual query
- web-based service open to all

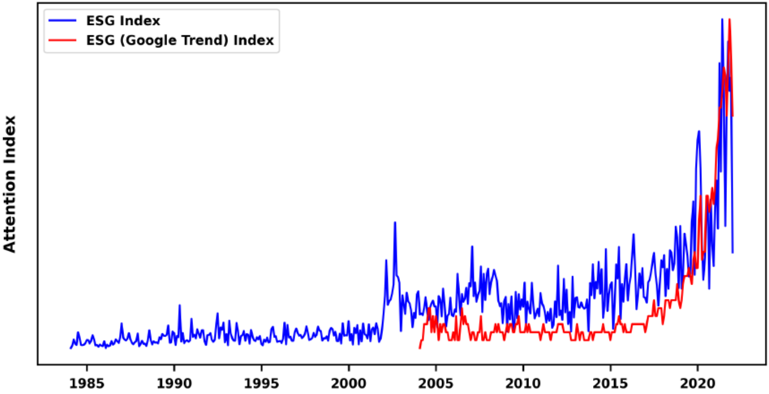
Example: recession

Figure 3: Replicating Economic Recession Index

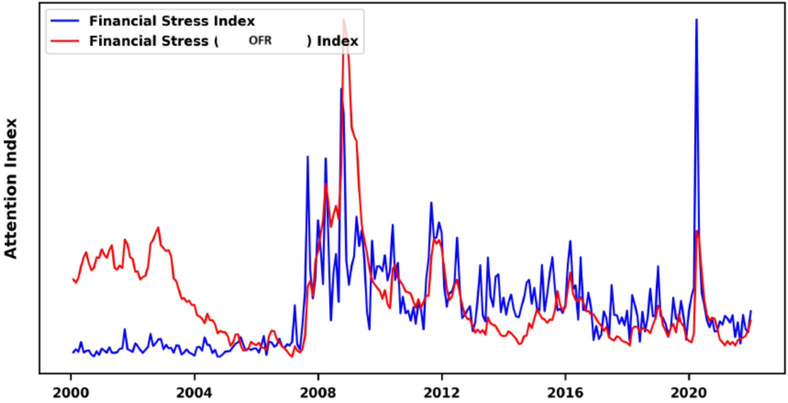


Example: ESG

Figure 5: ESG Index



Example: financial stress



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