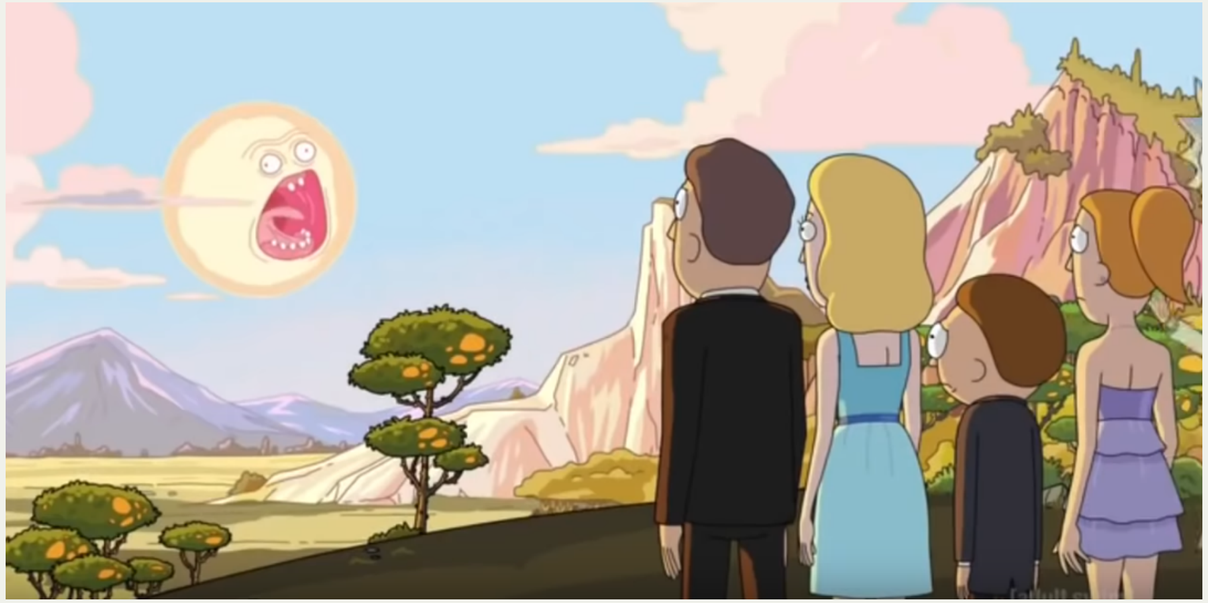
co:here

Semantic recommendations

A demo for the lablab.ai **semantic search** hackathon

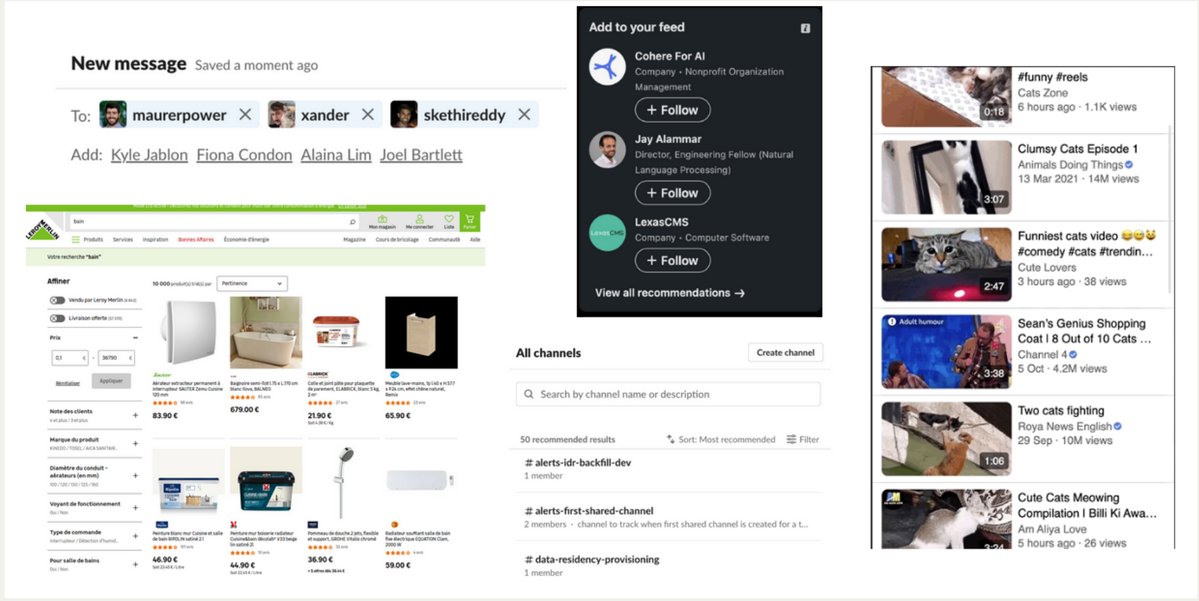
Team **metacrank**, 2023

The **metacrank** team of one



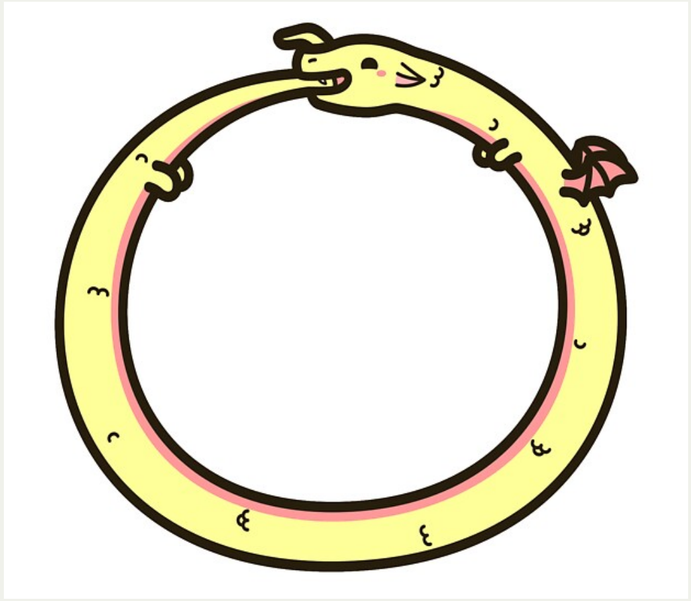
- Long ago: PhD in CS, quant trading, credit scoring
- Past: Search & personalization for ~7 years
- Now: ~~Unemployed~~ ~~Open-source contributor~~ Principal DS

Recommendations 101



- **Similarity** between a current context and a set of candidates
- **Collaborative filtering**: interactions of other people
- SVD/ALS, BERT4rec/SASRec, LightFM, ...

Recommendations cold-start problem

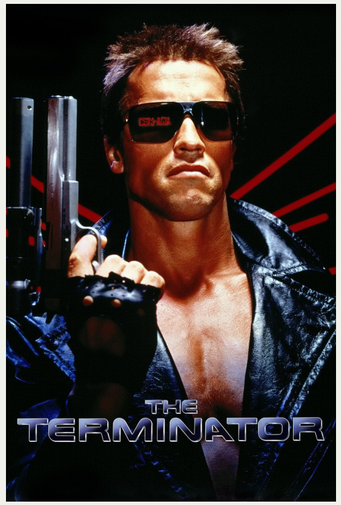


- To have good recs, you need **visitor feedback**
- For the feedback, you need to show **good-enough** recs
- **But you can't**, as you don't have the feedback yet!

Content-based recommendations to the rescue

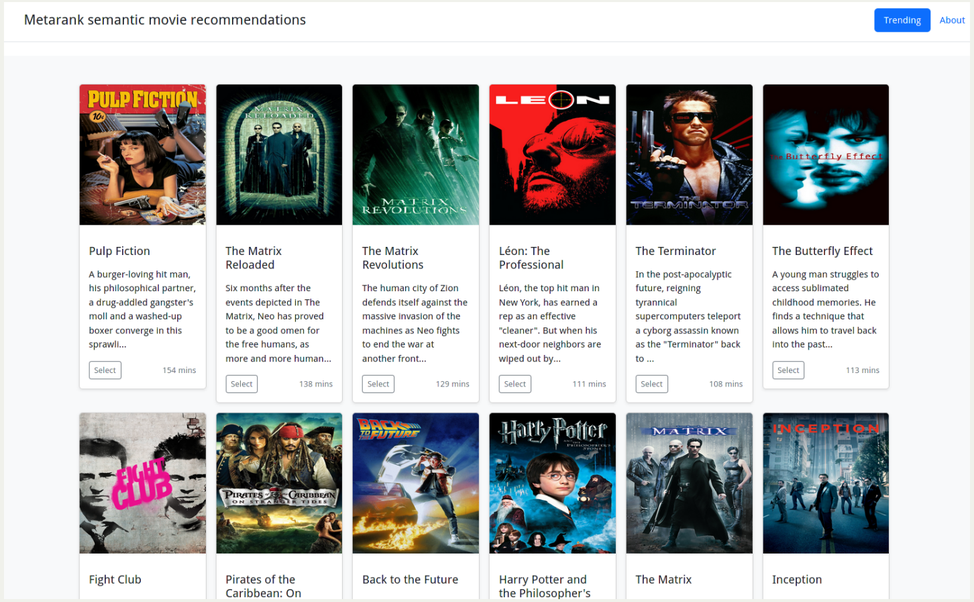
- But we do have content: title and description!
- Embedding of context ~= embedding of candidates

Semantic movie recommendations



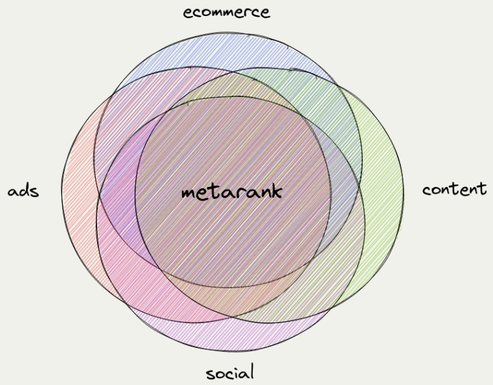
- Take MovieLens/TMDB as a source of clicks and metadata
- Train MF ALS for a baseline CF recs
- co:here/sbert embeddings of title+description, Qdrant for k-NN search

Demo



http://semrec.dfdx.me

How it was made



Glueing things together with Metarank:

- Existing open-source project for recs/ranking
- PR: semantic recommendations support
- PR: qdrant knn-search support
- A simple Flask UI with Movielens/TMDB dataset

YAML ML FTW

```yaml
cohere:
  type: semantic
  itemFields: [title, description]
  store:
    type: qdrant
    size: 4096
    distance: Cosine
    endpoint: "http://qdrant:6333"
    collection: cohere

  encoder:
    type: csv
    path: /conf/cohere-large.csv
```

Thanks!

- Demo source: github.com/shuttie/lablab-qdrant-cohere-hackathon
- Metarank: github.com/metarank/metarank
- Demo: http://semrec.dfdx.me
- Slide deck: shuttie.github.io/lablab-qdrant-cohere-hackathon