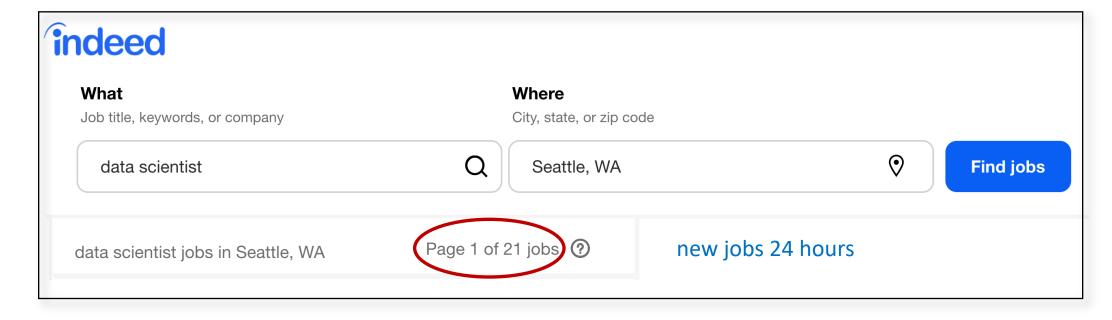




Problem

- Is this job a good fit for me?
- Is my resume "searchable" for this position





Data sources

Job postings

indeed

- Data Scientist / Data Analyst
- Clinical Trial Specialist
- Civil Engineer

Resumes





- Metis booklets
- Clinical Trial (images from the Web)
- Civil Engineer (images from the Web)



Job recommender algorithms

Resume



- Cleaning
- **Tokenization**

Job postings \square Required skills





Model



Recommendations



- Extracting skills
- **Tokenization**
 - Word
 - Noun
 - Lemma
 - Noun + Lemma

- Vectorization
 - TF-IDF
- Topic modeling
 - LSA
 - NMF
 - LDA





Cosine similarity

Optimization



Job recommender algorithms

Resume



- Cleaning
- **Tokenization**



Job postings \square Required skills



Model



Recommendations



- **Extracting skills**
- **Tokenization**
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 - NMF
 - <u>LDA</u>





Cosine similarity

Optimization



Many flavors of data science jobs



statistics, machine, modeling, engineers



warehouse, database, azure, databricks



game, visualization, sql, visualization taxonomy



clients, transportation, recommendations, splunk



languages, engineering, analyses, world



Job recommender in action

Resume

Skills & Education

Python programming ...

Pandas, NumPy, Scikit-Learn,

Matplotlib, Django ...

Statistics ... SQL

Job posting

Required Skills & Experience

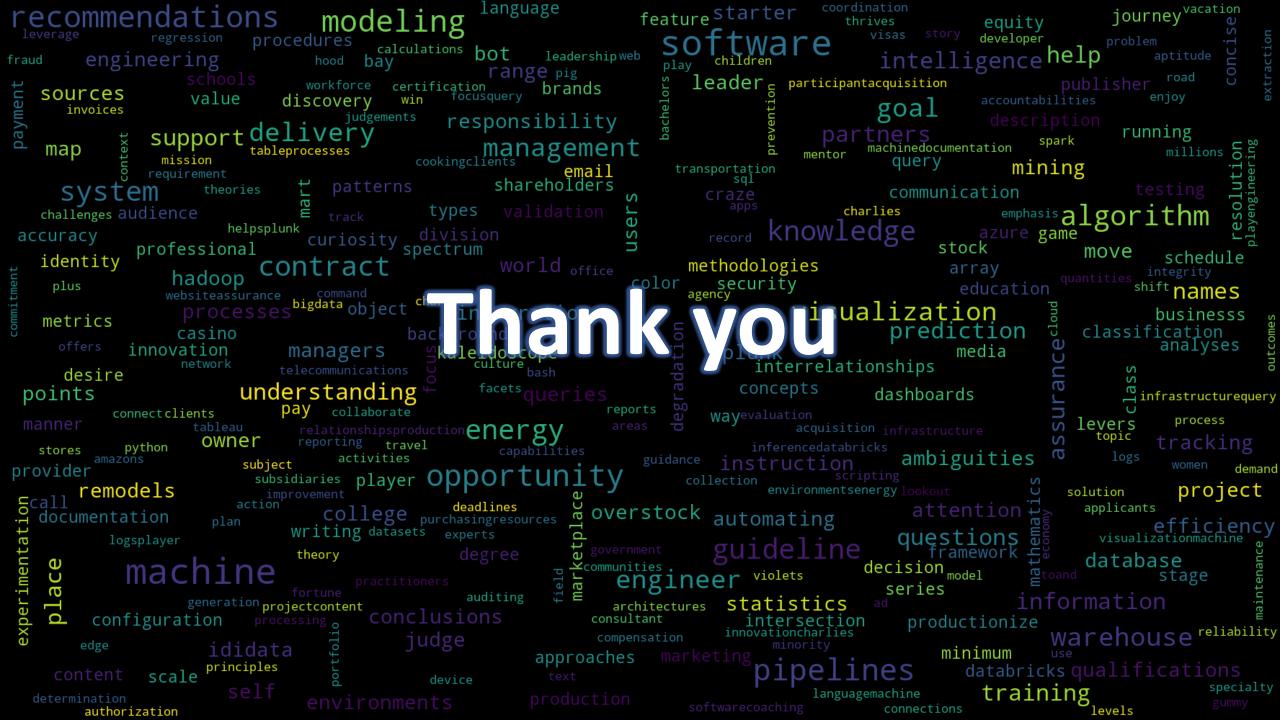
... track record of performing data analysis using Python (numpy, pandas, scikit-learn, etc.) or equivalent language and SQL ... statistics and analytics to solve complex problems ... data structures and algorithms

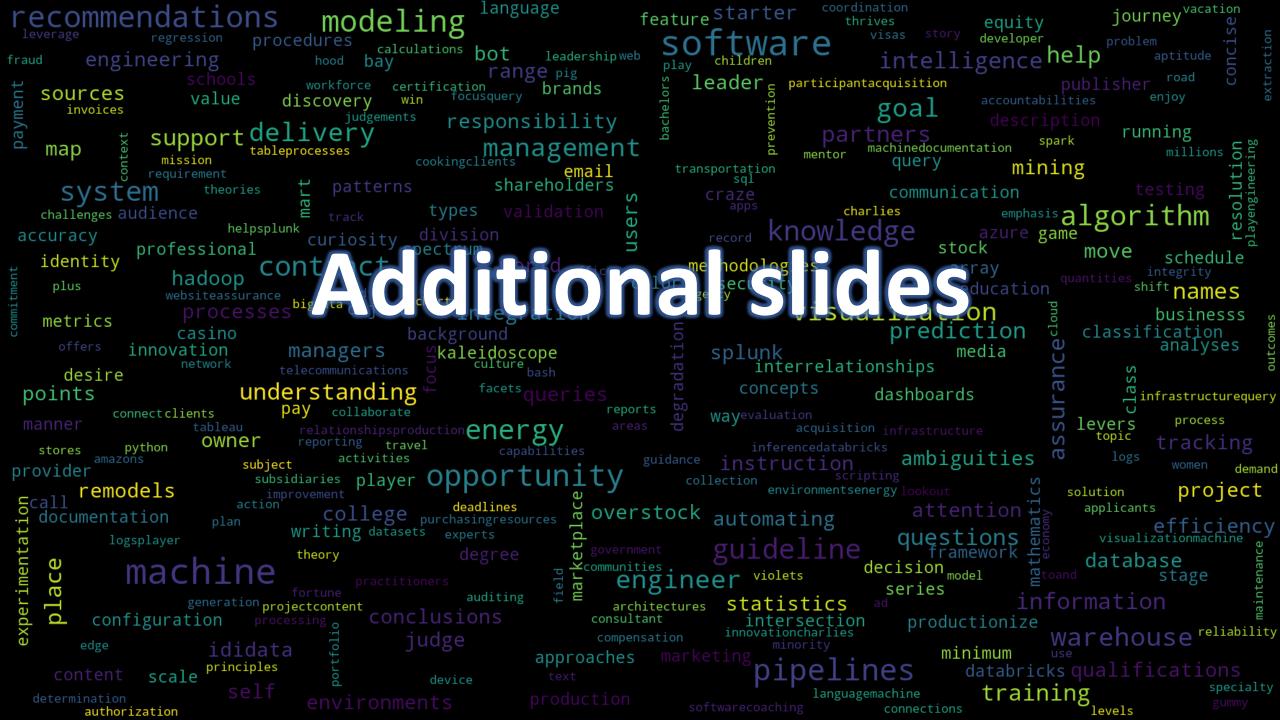
Cosine similarity score = 0.82



Future directions

- Model optimization
 - Confusion matrix
- Expending job posting library
- Additional filters:
 - Title
 - Years of experience
- Comparing results to Jobscan and SkillSyncer

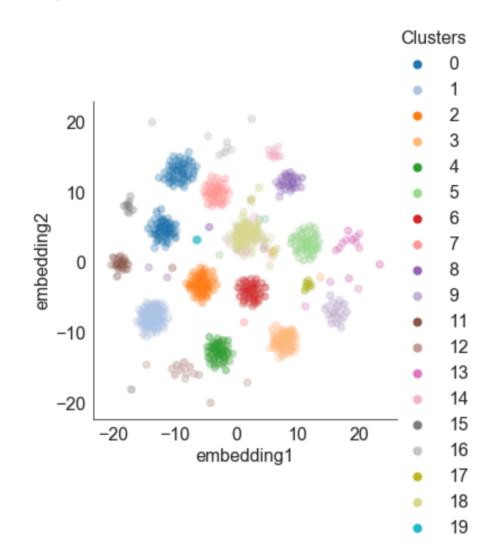






Topic modeling: number of components

Components: 20



20 components show better cluster separation

Recommender optimization

Cosine similarity for a non-data scientist position

