

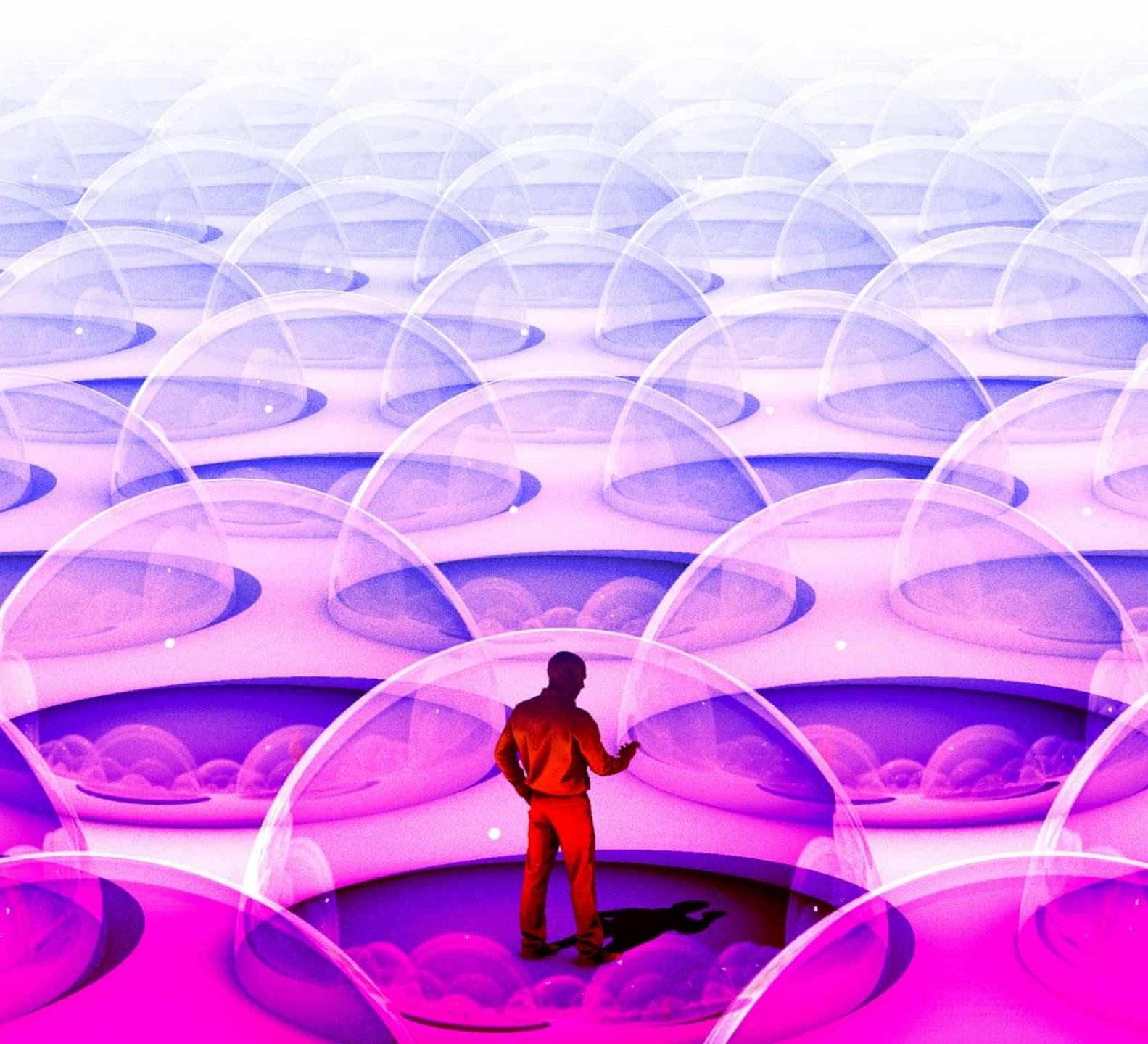


STEELMAN

A recommender system for opposing viewpoints

OVERVIEW/PROBLEM STATEMENT

- Filter bubbles
- Recommender system for alternative perspectives
- “He who knows only his own side of the case knows little of that.”
- John Stuart Mill



WORKFLOW



NYT articles



Text processing

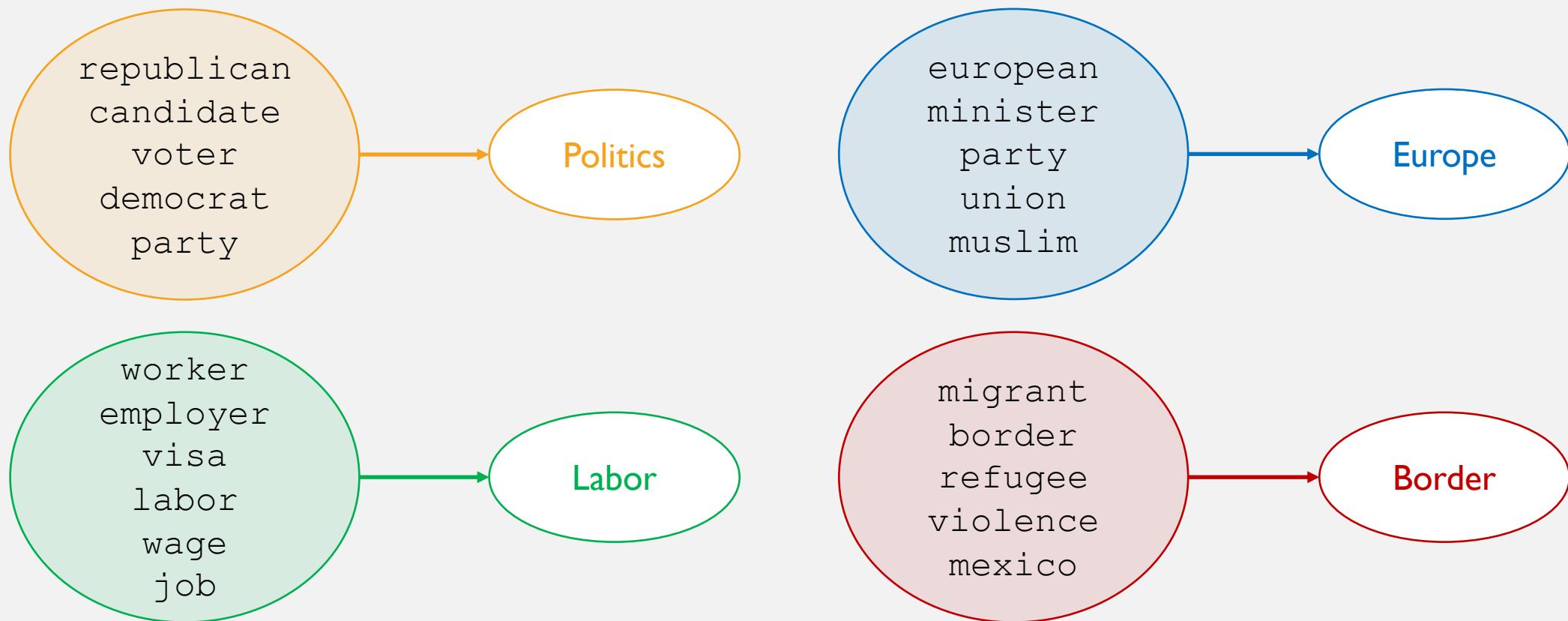


Topic modeling



Document dissimilarity
recommendation system

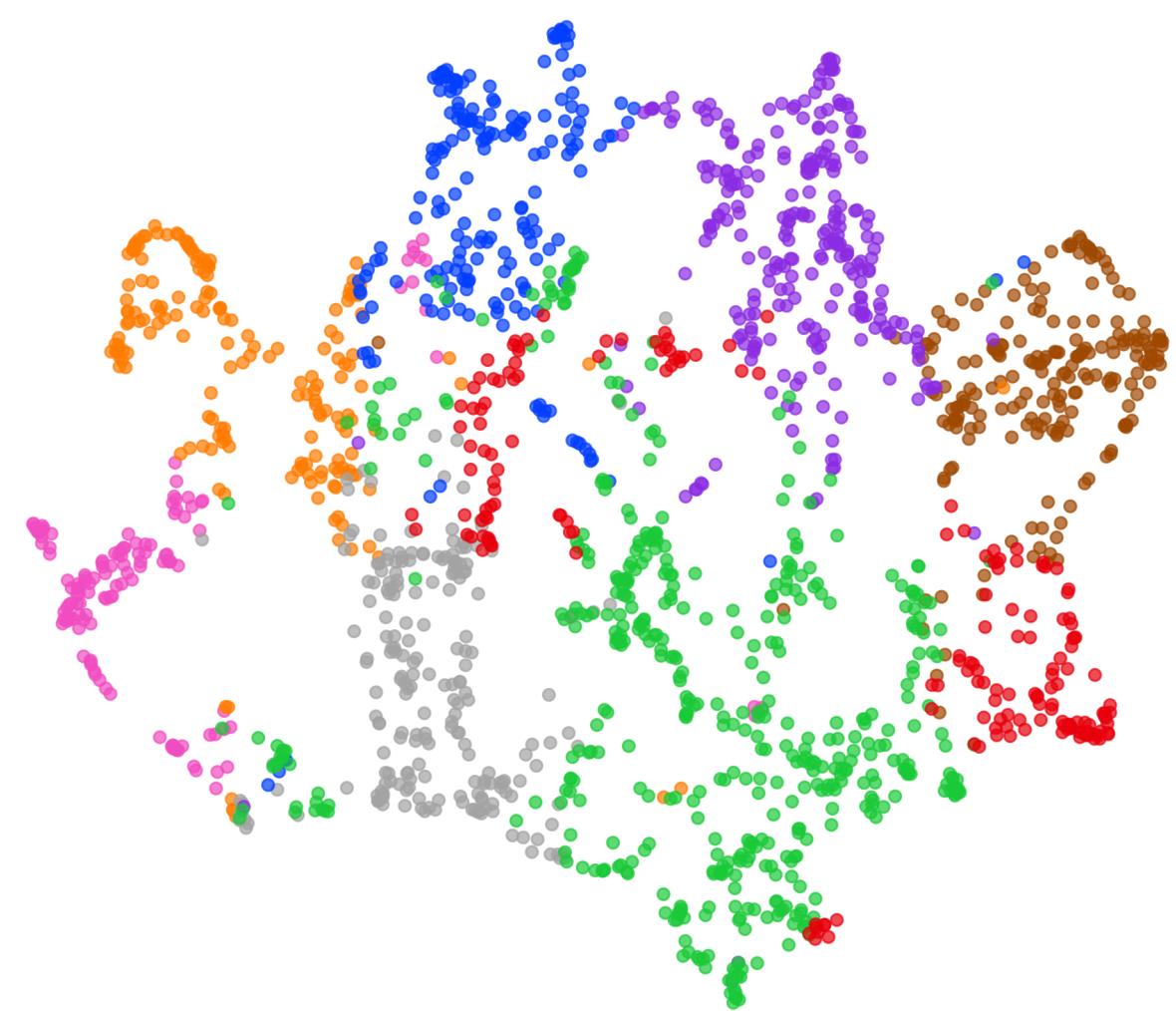
TOPIC MODELING



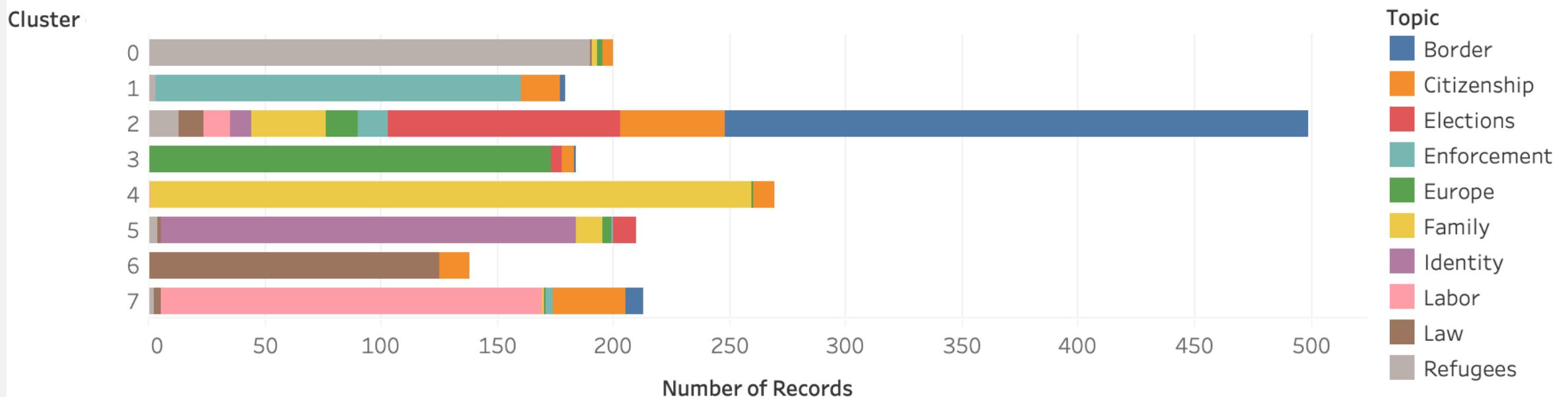
TOPIC CLUSTERS WITH K-MEANS

- Steelman recommends articles that are the farthest distance away from the user's input article within a topic cluster.

Clusters of Article topics



TOPICS IN CLUSTERS



STEELMAN RECOMMENDATION EXAMPLE

The Opinion Pages

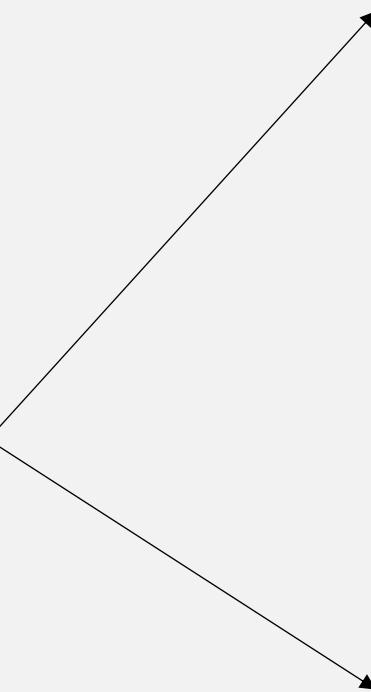


Ross Douthat
EVALUATIONS

Slouching Toward Eurabia?

DECEMBER 7, 2009 10:32 AM

12



Opinion

What Now for Europeans Who Love Britain?

An Italian who once lived happily there wonders how Brexit will reshape the feelings of others in the E.U. toward the British.



By [Beppe Severgnini](#)

Mr. Severgnini is a contributing writer.

Jan. 6, 2020



Opinion

EDITORIAL

Britain's Flawed Immigration Strategy

By [The Editorial Board](#)

Aug. 13, 2014



FUTURE WORK



Control for time – my articles went 10+ years back



Include other topics



Include other media sources



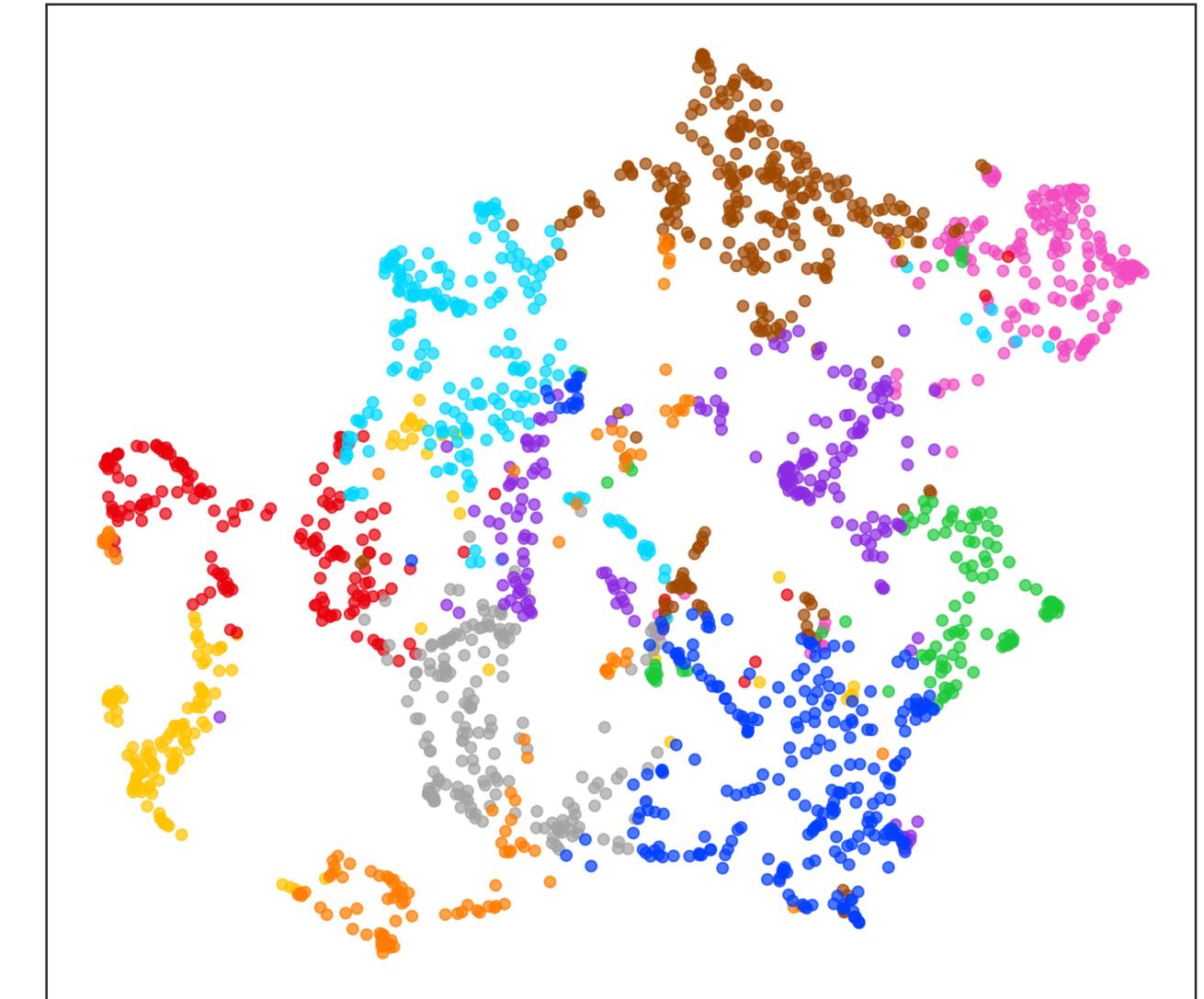
QUESTIONS?

APPENDIX

TOPIC CLUSTERS

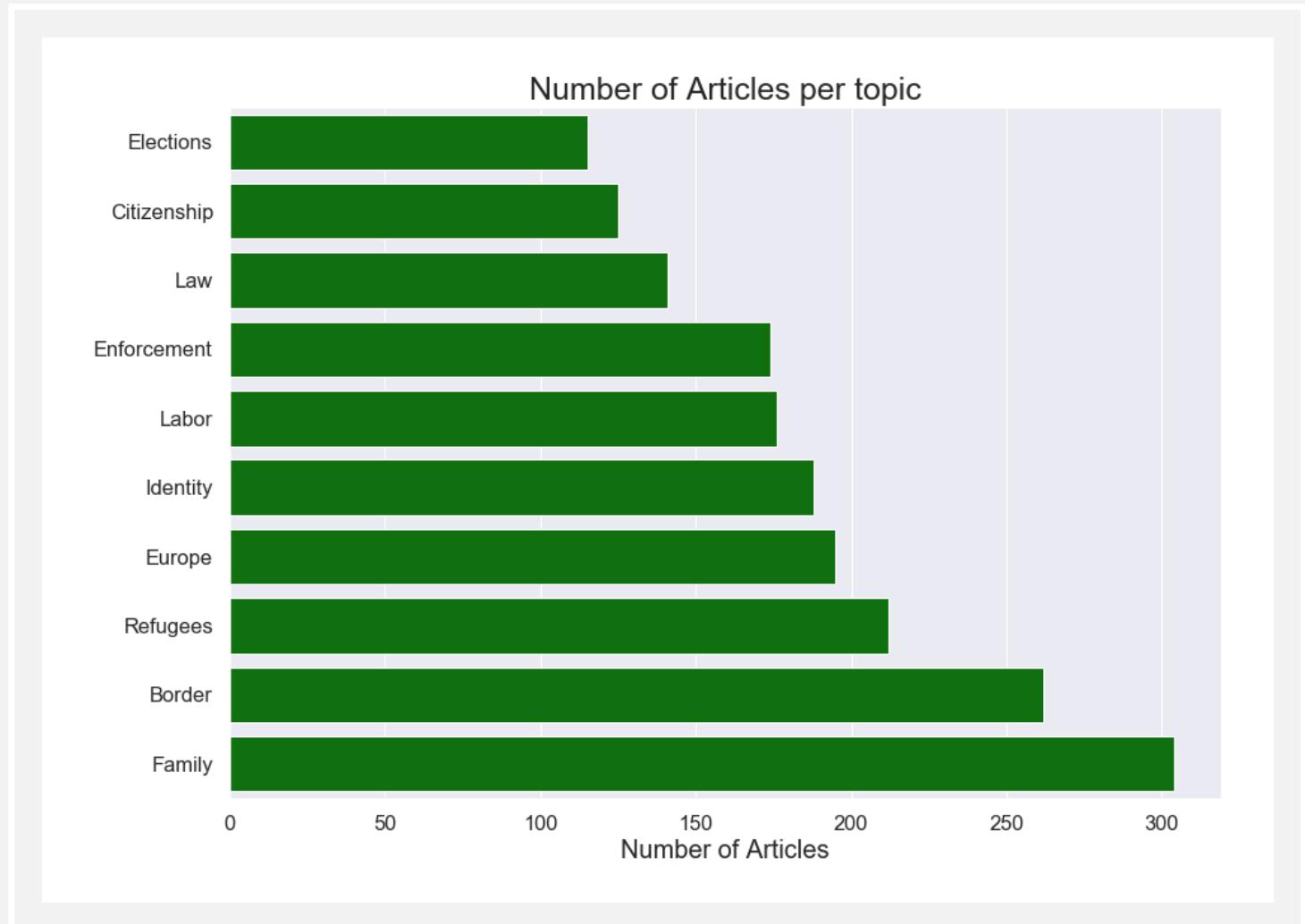
- Steelman recommends articles that are the farthest distance away from the user's input article within a topic cluster.

UMAP Projection of 1892 Documents



MOST COMMON TOPIC

- Assign a topic to an article based on the highest value from the NMF topic matrix.



RECOMMENDATION SYSTEM

- I tried three versions of recommendation systems:
 - 1) cosine dissimilarity
 - 2) cosine dissimilarity restricted by topic
 - 3) cosine dissimilarity restricted by kmeans cluster
- Result: kmeans clustering method performed the best.

TOPIC WORDS

- Topic #0: liberal white voter conservative election view minority issue democrat race group party politics candidate democratic poll vote black survey progressive percentage point hispanic electorate majority question republican political shift identity
- Topic #1: court supreme judge justice case ruling decision appeal law state federal constitution constitutional power circuit ruled statute opinion authority argument order claim united upheld branch district executive right government attorney
- Topic #2: day life friend family story know father school home mother child told woman came tell feel time parent son american got born daughter year love later kid man america place
- Topic #3: european europe minister refugee union muslim party france prime leader britain germany german populist movement french british country italy parliament attack nation political merkel world angela chancellor referendum western war
- Topic #4: economy tax job economic wage rate population business worker income benefit growth percent american market cost number billion cut higher pay increase million labor policy investment study decade lower education
- Topic #5: police crime local criminal community sheriff county enforcement law arrest officer federal profiling agency latino arizona city department abuse agent racial custom crackdown official illegal raid immigrant jail policing arrested
- Topic #6: visa worker employer card citizenship reform path comprehensive million status year senate congress illegal labor workplace green legal applicant permanent american citizen country law work senator immigrant right debate job
- Topic #7: republican candidate senator party democrat campaign senate presidential voter debate mc mr vote leader bush issue john reform president house want thing deal election talk democratic cain ted donald tax
- Topic #8: deportation obama action president dreamer deferred young million brought program executive deporting reform administration dream criminal childhood congress homeland child daca threat unauthorized family mr security arrival undocumented republican student
- Topic #9: migrant refugee asylum detention border child violence family administration gang el honduras central guatemala protection humanitarian fleeing salvador policy center facility human crisis shelter thousand crossing lawyer detained prison seeker