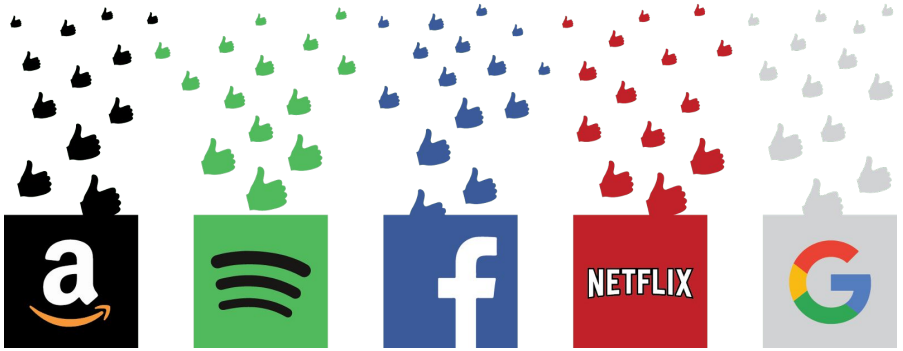
Where do I travel next?

A Recommender System
by Meggan Lanpher

What is a Recommender System?

A recommender system (or a recommendation engine) predicts the preferences of a user

- Likes
- Ratings
- Views
- Clicks
- Purchase History



Problem Statement

With around 200 countries in the world, how do I decide on the next one to visit?

The Case for a Recommender System:
Predicting Preferred Travel Destinations for a given user

According to cntraveller.com

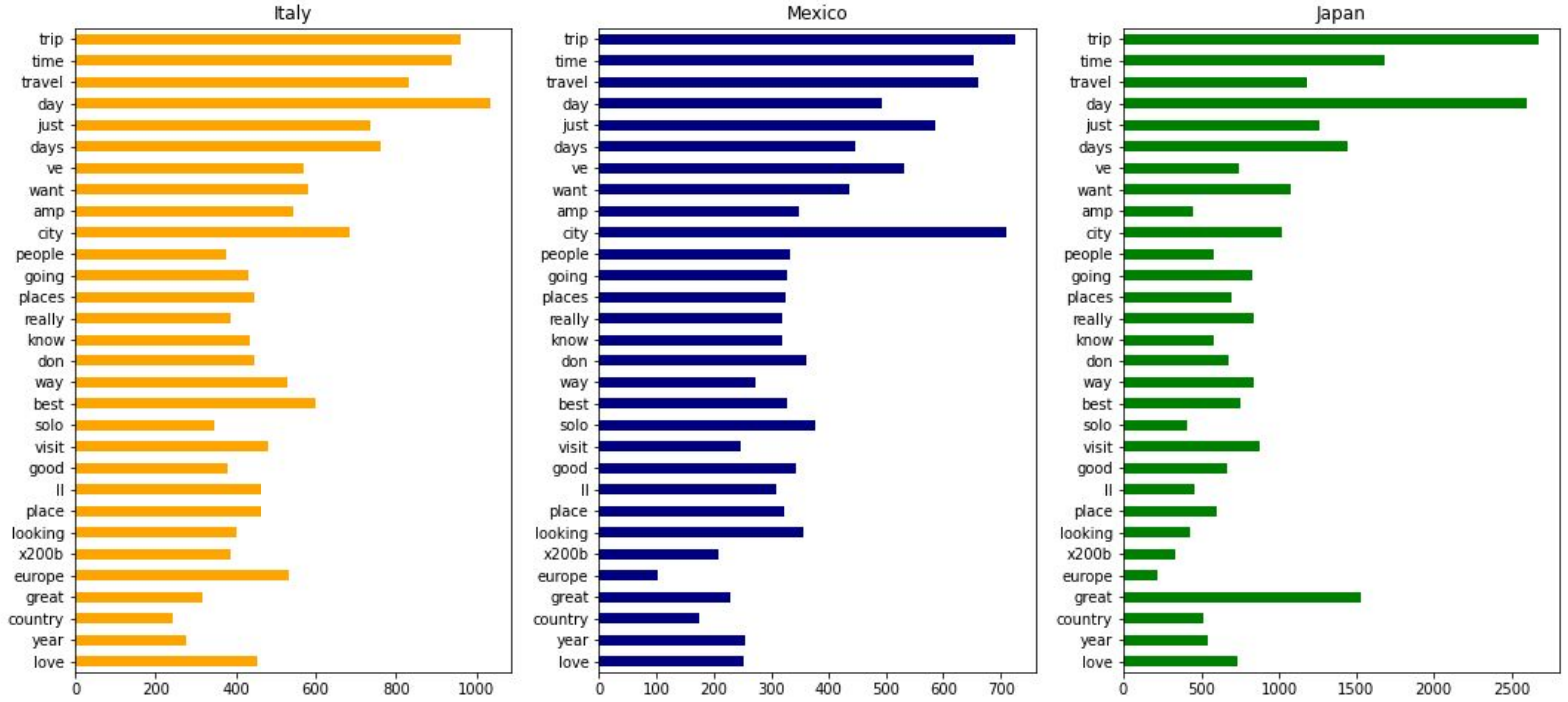
Data Sources

Travel Blogs:

- FathomAway.com
- TheBlondeAbroad.com
- AmateurTraveler.com
- BeMyTravelMuse.com
- NerdNomads.com
- OrdinaryTraveler.com

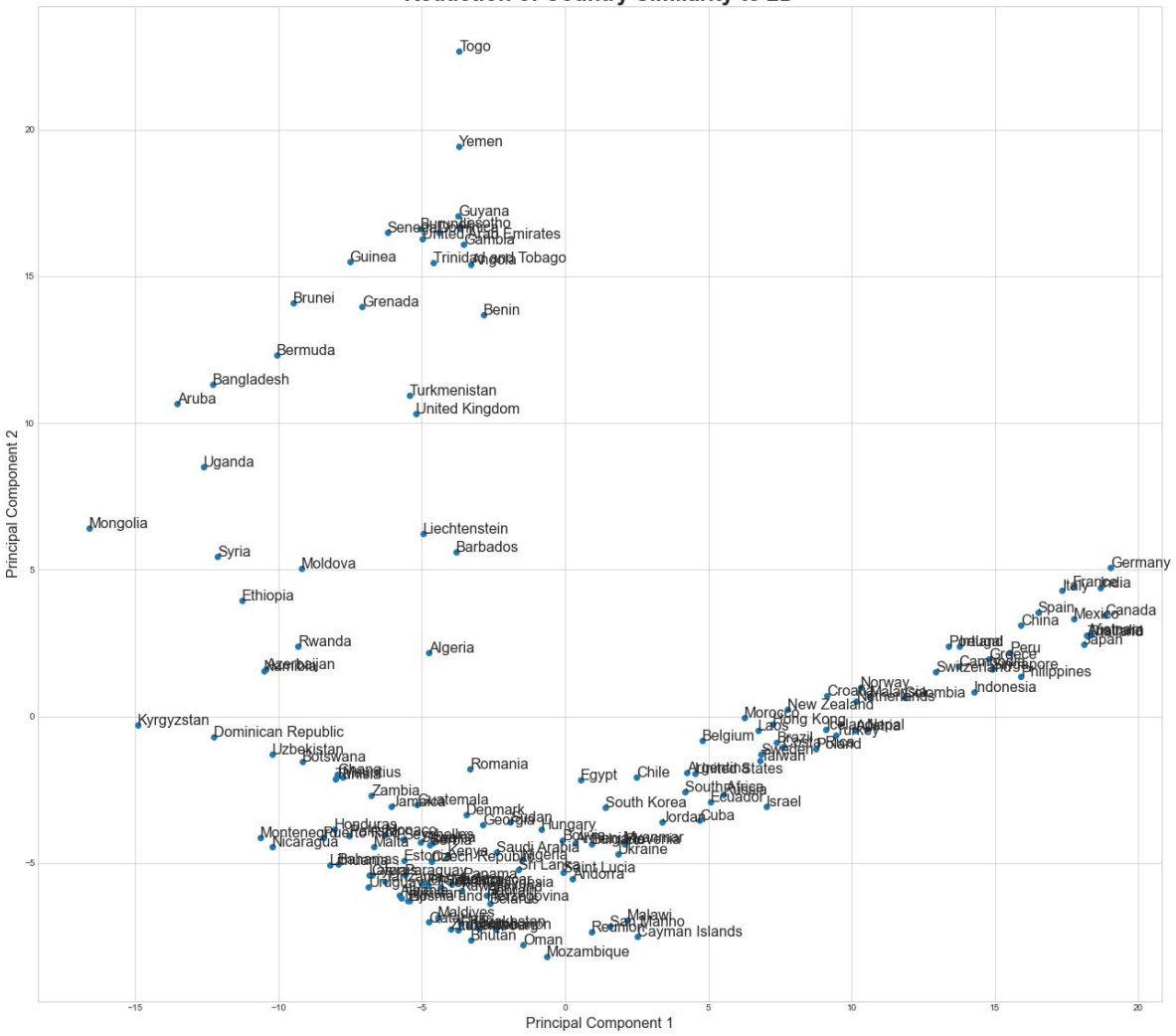
Travel Subreddits:

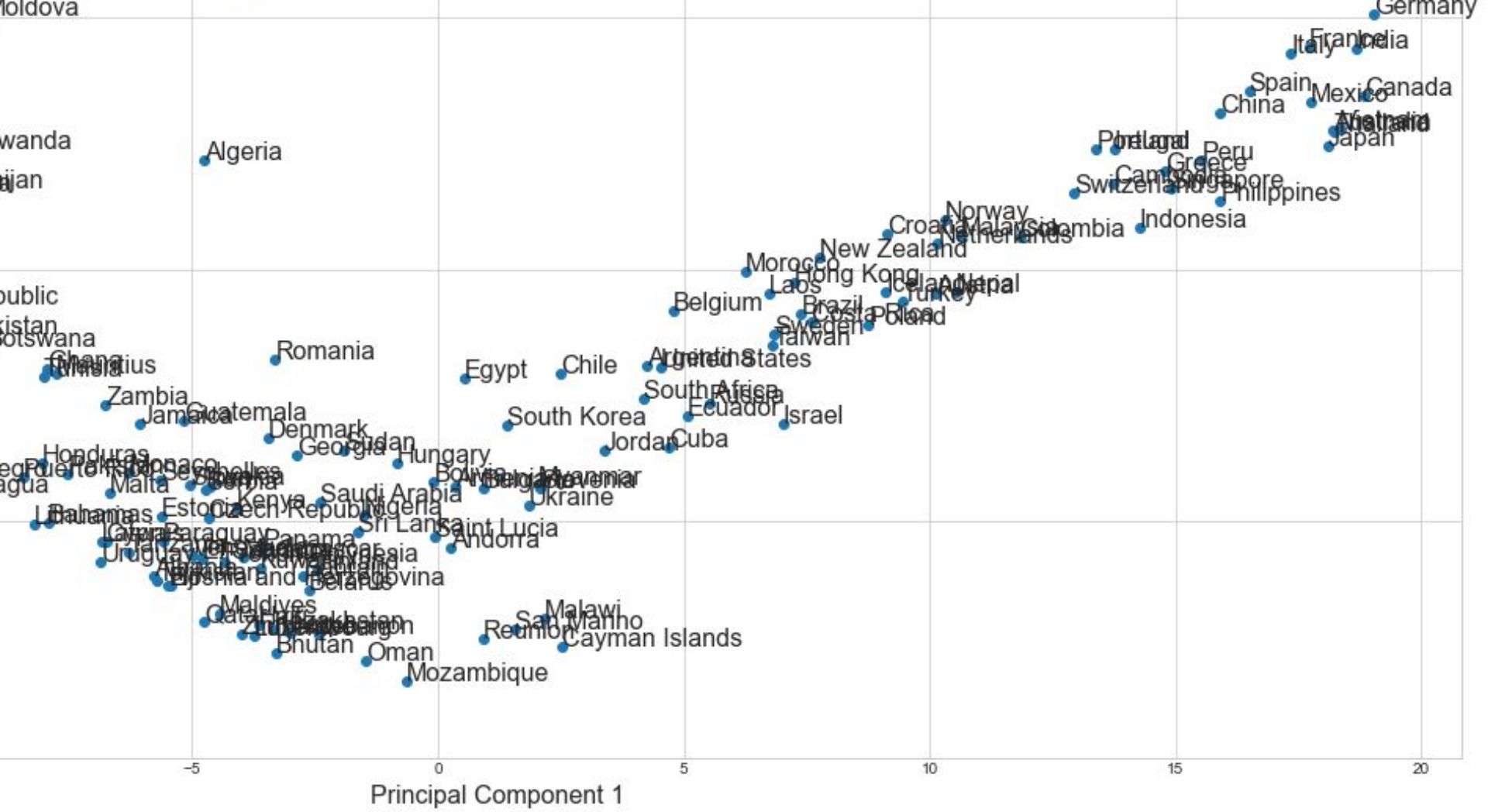
- Travel
- SoloTravel
- Backpacking
- DigitalNomad
- Shoestring
- CampingandHiking
- LongtermTravel
- Wanderlust
- Adventures
- RemotePlaces



Exploratory Analysis

My Travel Recommender System


Reduction of Country Similarity to 2D
Principal Component 1
Principal Component 2
Togo
Yemen
Guyana
Guinea
Brunei
Grenada
Benin
Bermuda
Bangladesh
Aruba
Turkmenistan
United Kingdom
Uganda
Mongolia
Liechtenstein
Barbados
Syria
Moldova
Ethiopia
Rwanda
Algeria
Germany
Spain
China
Canada
Japan
Peru
Philippines
Indonesia
Norway
New Zealand
Kyrgyzstan
Dominican Republic
Uzbekistan
Botswana
Romania
Egypt
Chile
Belgium
Zambia
Denmark
South Korea
Israel
Cuba
Jordan
Hungary
Ukraine
Saudi Arabia
Nicaragua
Malta
Andorra
Malawi
Cayman Islands
Bhutan
Oman
Mozambique


Germany
Italy
India
Spain
Mexico
Canada
China
Japan
Peru
Greece
Philippines
Indonesia
Norway
New Zealand
Morocco
Hong Kong
Belgium
Brazil
Poland
Taiwan
Romania
Egypt
Chile
United States
South Africa
Ecuador
Israel
South Korea
Jordan
Cuba
Zambia
Jamaica
Guatemala
Denmark
Georgia
Hungary
Honduras
Malta
Saudi Arabia
Ukraine
Nigeria
Czech Republic
Sri Lanka
Saint Lucia
Andorra
Algeria
Maldives
Malawi
Reunion
Cayman Islands
Bhutan
Oman
Mozambique
−5
0
5
10
15
20
Principal Component 1

Countries Similar to USA

Based on travel blog articles & travel-related subreddit posts

	Country	Similarity
0	Ecuador	0.9989795088768005
1	Belgium	0.9985647797584534
2	South Africa	0.9983243942260742
3	Cuba	0.9976262450218201
4	Argentina	0.9972059726715088
5	Russia	0.9962328672409058
6	Laos	0.9943181872367859
7	Chile	0.9939205050468445
8	Morocco	0.9935495257377625
9	Jordan	0.9926018714904785

Case Study

Countries most similar to President Donald Trump

Based on Trump's Facebook Status Messages from the year 2016

'Had a fun time last night ringing in the new year with my beautiful family. Best wishes to everyone for a great 2016!'

- Timestamp('2016-01-01 10:27:18')

➔

'Beautiful evening in Wisconsin- THANK YOU for your incredible support tonight! Everyone get out on November 8th - and VOTE! LETS MAKE AMERICA GREAT AGAIN! -DJT'

- Timestamp('2016-10-17 20:56:51')

	Country	Similarity
0	Saudi Arabia	0.17405492067337036
1	Ghana	0.17097438871860504
2	Moldova	0.16999314725399017
3	Botswana	0.16942322254180908
4	Madagascar	0.16935278475284576
5	Namibia	0.16909722983837128
6	Venezuela	0.16776232421398163
7	Bahrain	0.16573859751224518
8	Mozambique	0.1654866678481102
9	Kuwait	0.1652957648038864

How do I Evaluate the System?

Let’s test it.

Conclusions

Create targeted predictions based on user input of preferred countries or a general connection to user posts

Business Cases

★ Targeted Advertising on Social Media
★ Personal Recommendations on Applications for Travel Agencies

Limitations

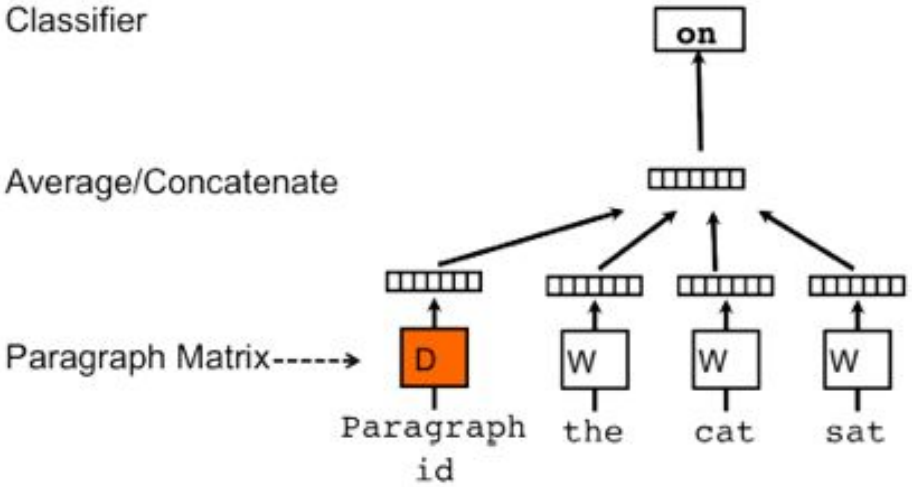
- No free User input data -- clicks, likes, purchases -- to construct or evaluate the model
- A country is a very large scale

Future Improvements

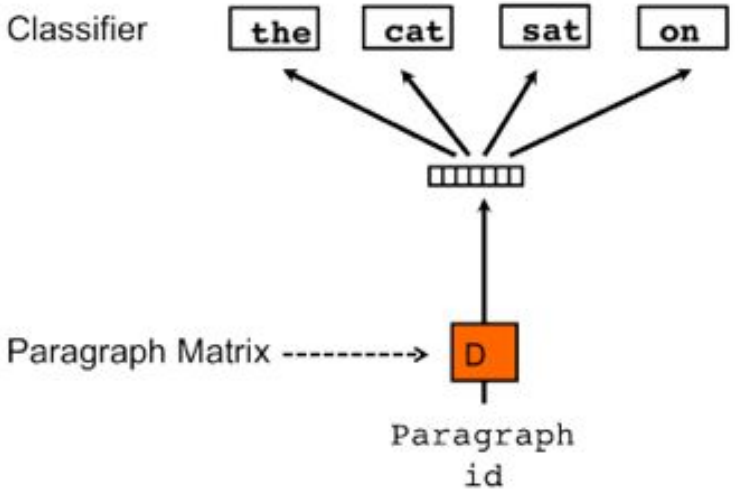
- Segment by region or city cluster
- Evaluate model with user input

Q & A

Appendix



DM (Distributed Memory)



DBOW (Distributed Bag of Words)