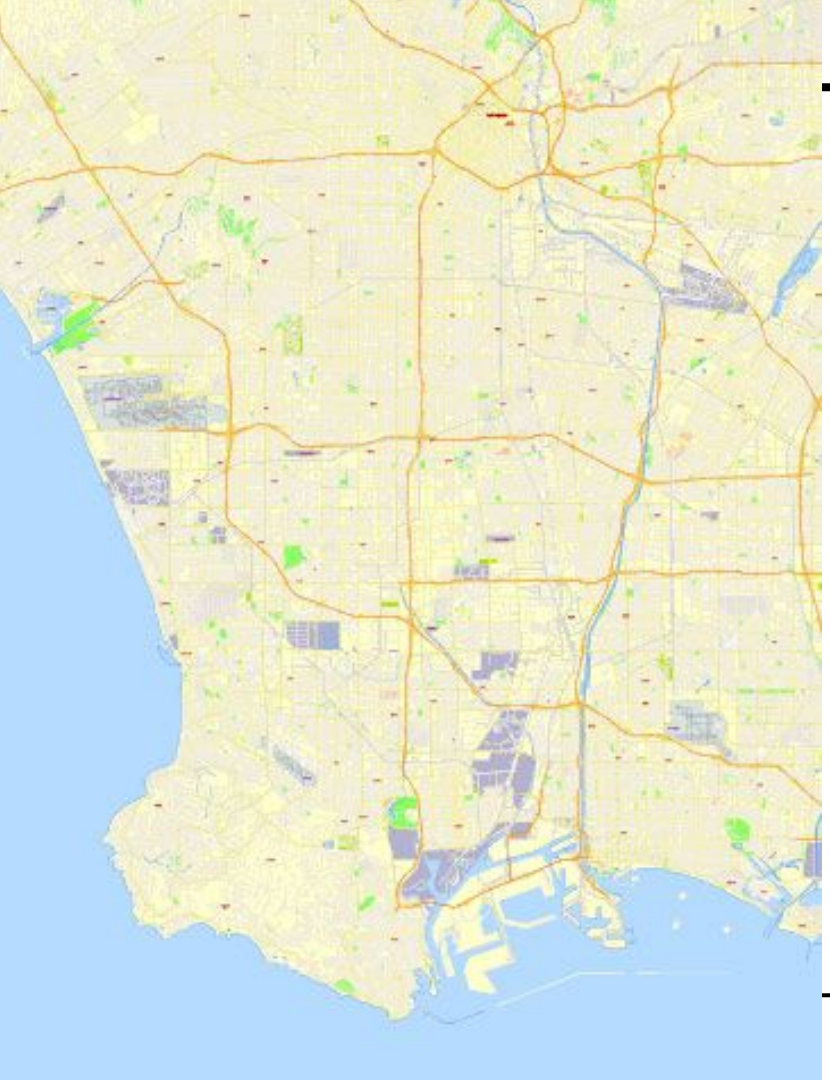
LAirBnB: The L.A. AirBnB Recommender

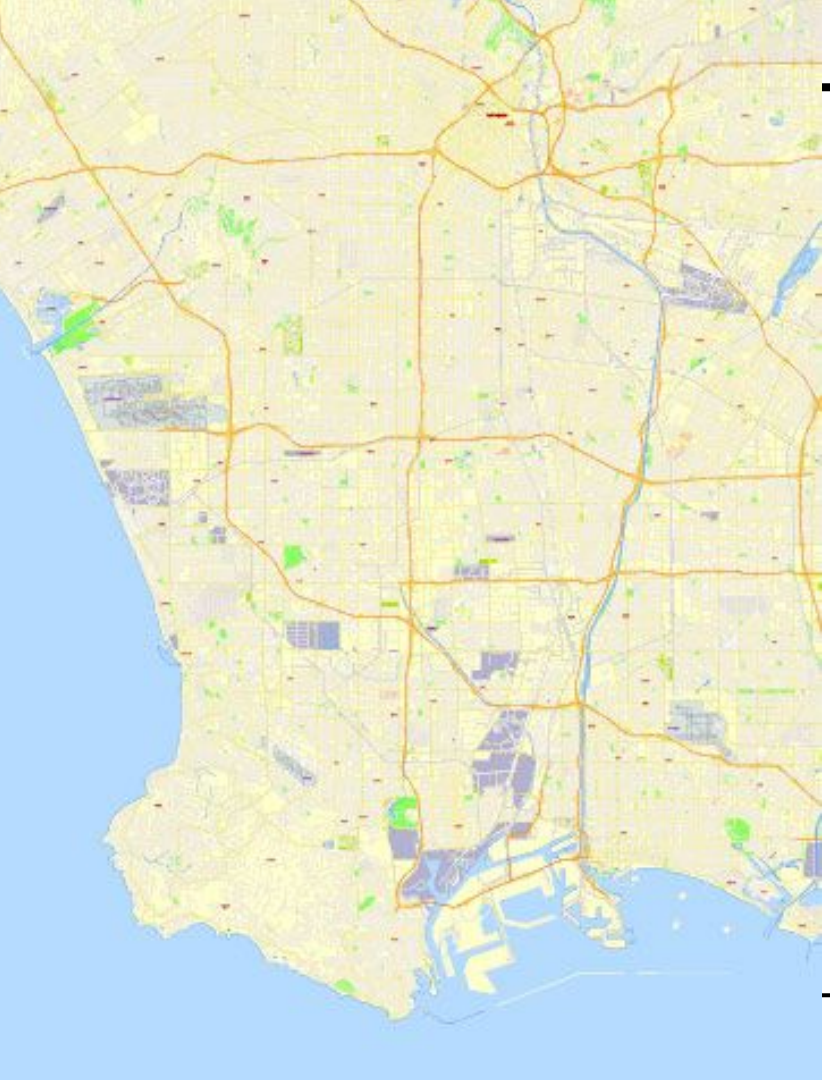
By: Jannie Chang



Problem: You're visiting Los Angeles, how do you pick where you stay?

- LA is huge!
- Multiple neighborhoods have similar characteristics.

Image sources: shutterstock.com



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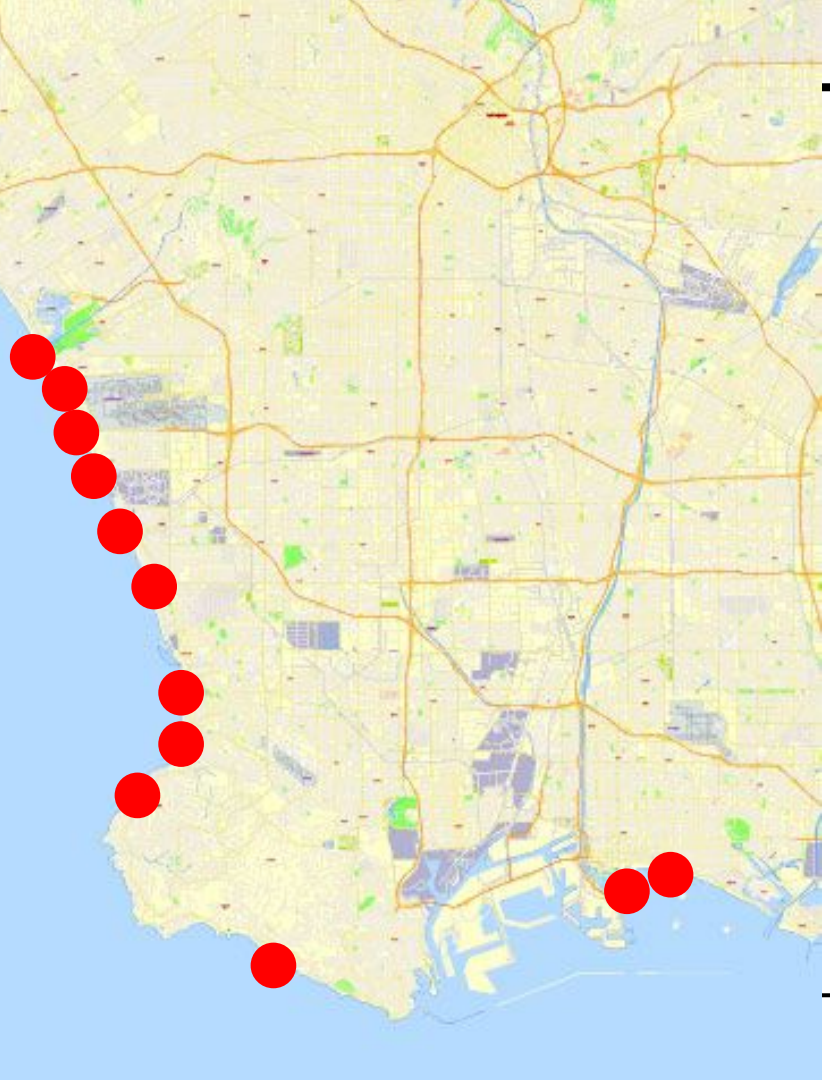

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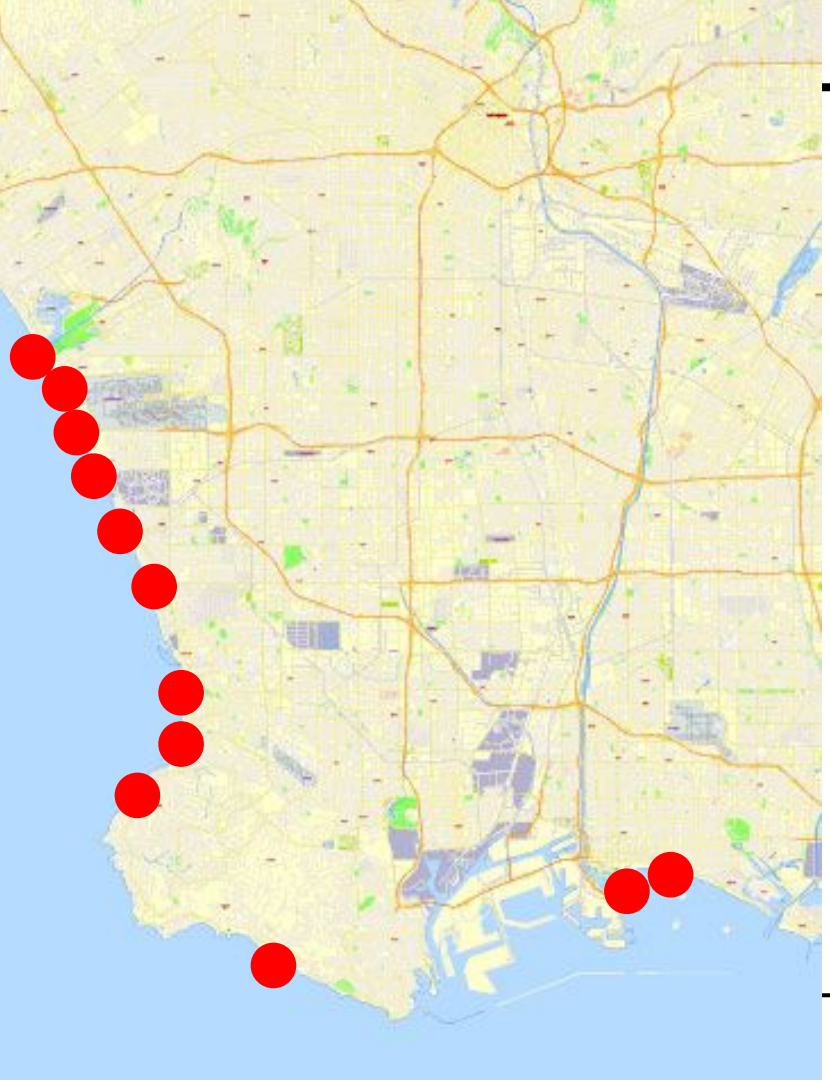

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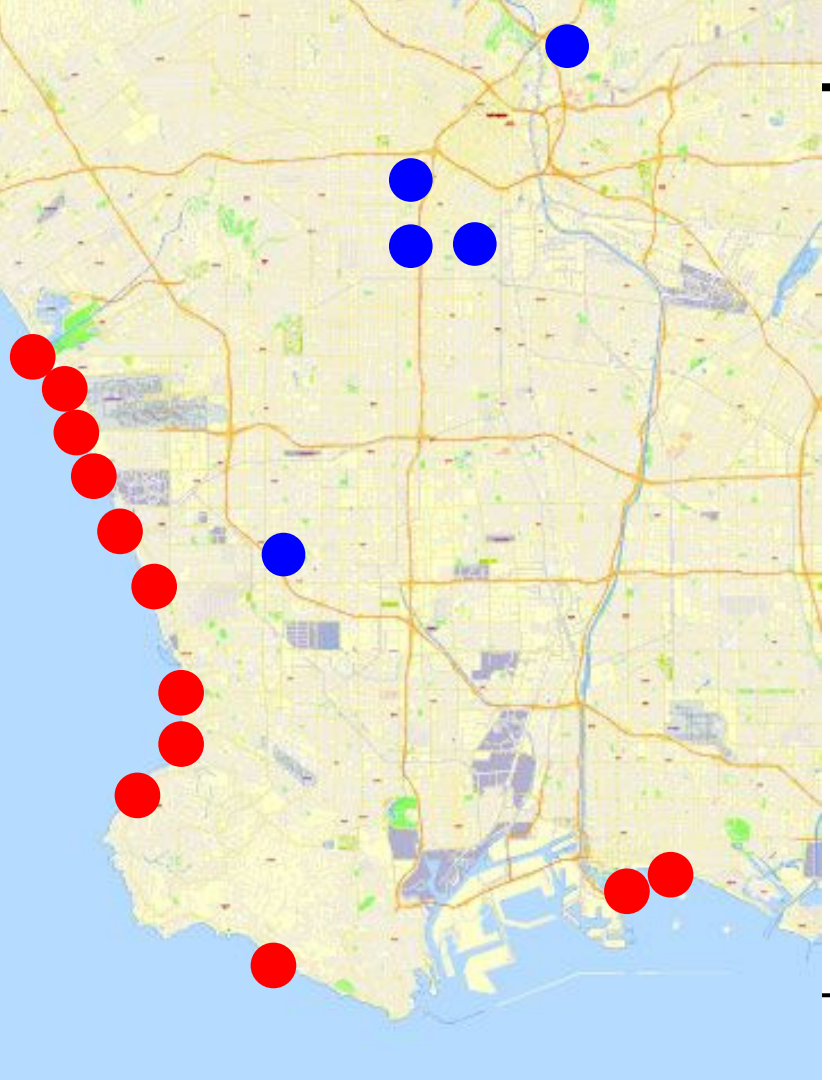

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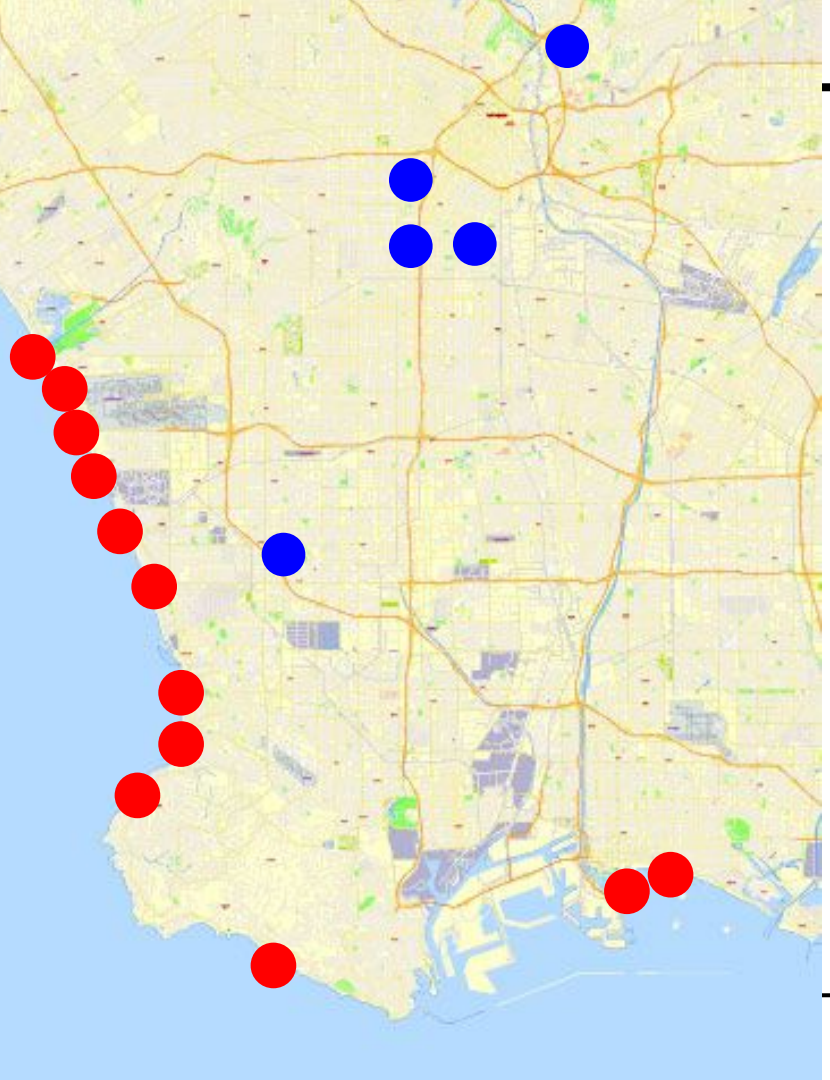

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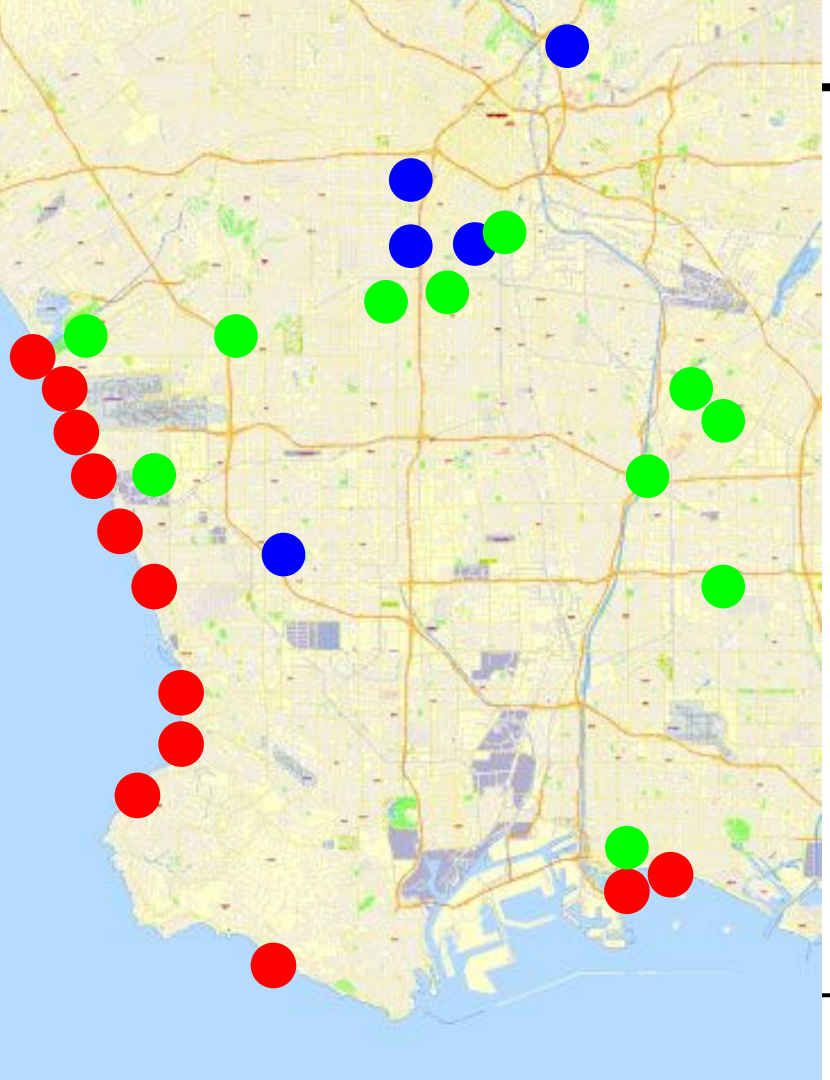

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The Data:

I got my data from ‘Inside Airbnb’, specifically neighborhood descriptions of L.A. listings.

The Data:

I got my data from ‘Inside Airbnb’, specifically neighborhood descriptions of L.A. listings.

I made all the text lower case,
removed all punctuation, &
drop stopwords.

The Data:

i got my data from inside _ specifically neighborhood descriptions of _ listings

I tokenized the text,
breaking up the sentences.

The Data:

[i, got, my, data, from, inside, specifically, neighborhood, descriptions, of, listings]

I lemmatized some words, removing inflection for consistency.

The Data:

[i, get, my, data, from, inside, specific, neighborhood, description, of, listing]

Dropped all words but nouns, verbs, adjectives & adverbs.

The Data:

[get, data, inside, specific, neighborhood, description, listing]

I vectorized my text into bigrams features.

The Data:

[get data, data inside, inside specific, specific neighborhood, neighborhood description, description listing]

I sorted them by frequency.

The Data:

[neighborhood description, description listing, get data, specific neighborhood, inside specific, data inside]

Reduced bigram features
into fewer dimensions!

Dimension Reduction

Dimension:

- beverly hill
- west hollywood
- century city
- rodeo drive
- sunset strip

Dimension:

- easy access
- access freeway
- public transportation
- major freeway
- convention center

Dimension:

- walk fame
- universal studio
- hollywood sign
- Hollywood highland
- chinese theater

Dimensions → Topics

Shopping

- beverly hill
- west hollywood
- century city
- rodeo drive
- sunset strip

Must Commute

- easy access
- access freeway
- public transportation
- major freeway
- convention center

Film Industry

- walk fame
- universal studio
- hollywood sign
- Hollywood highland
- chinese theater

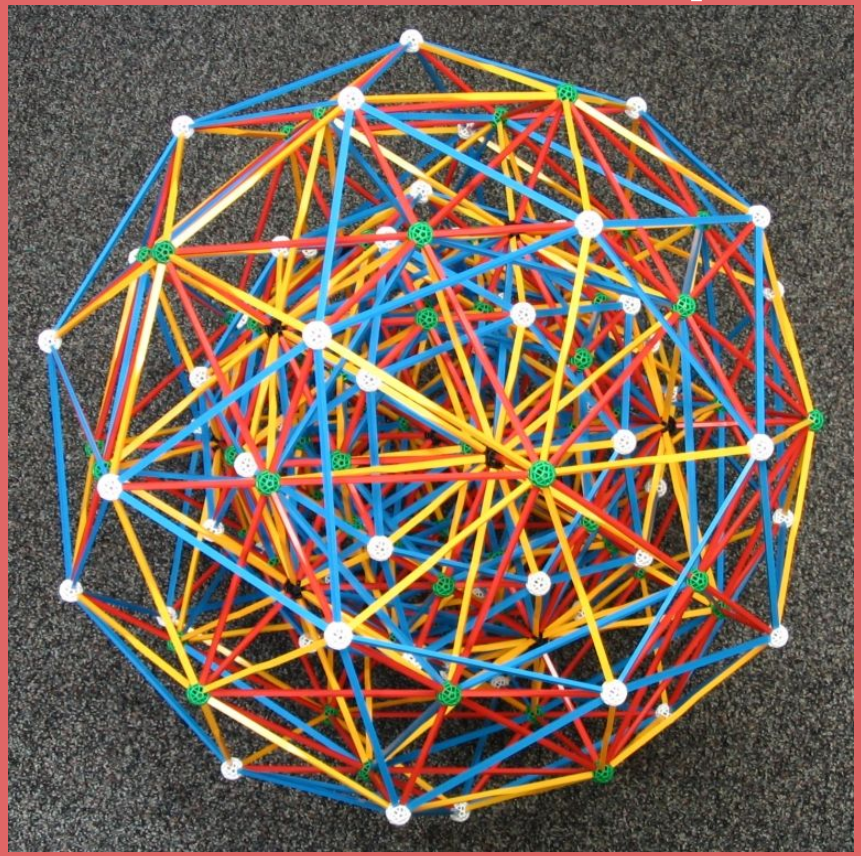
8 Dimensions/Topics

Shopping

Business Trip

Beaches

Parks & Lakes



Film Industry

Dining & Coffee

Staycation

Must Commute

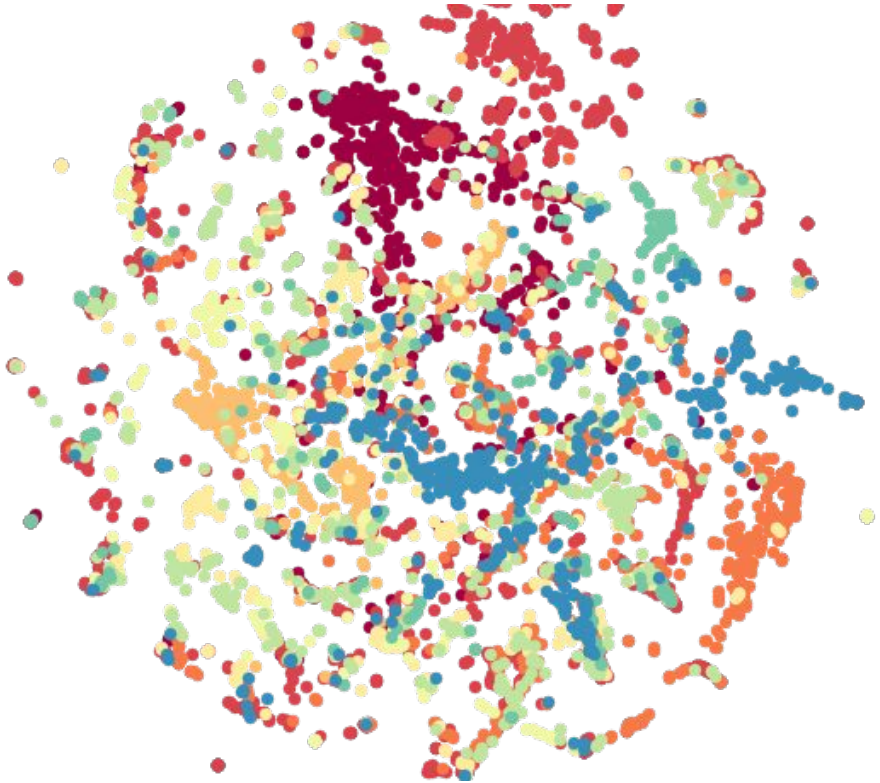
Image source: https://en.wikipedia.org/wiki/E8_(mathematics)#/media/File:E8_roots_zome.jpg

2D Visualization of Kmean Clusters

9 Clusters

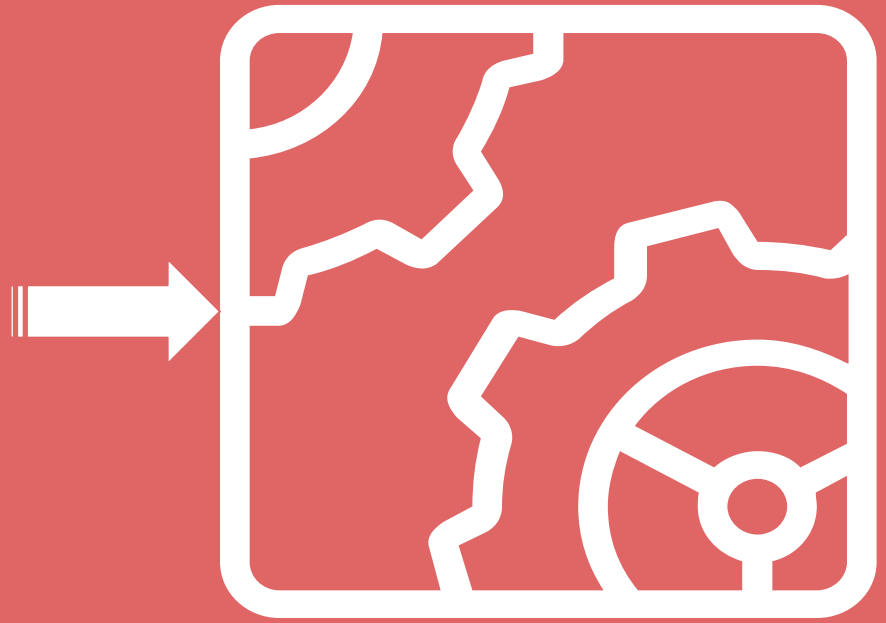
Business Trip
+ Beaches
+ Film Industry

= Work & Play



LAirBnB Recommender

Listing
You Liked



Similar
Listings

Finds the most related listings in the same cluster.

LAirBnB Recommender

"This is the center of West Hollywood, you'll have plenty of things to do."

"We are right in the heart of Beverly Hills, walking distance to Rodeo Drive."

"Beverly Hills, Hollywood and Downtown are less than 10 / 15 minutes away."

Shopping Cluster

LAirBnB Recommender

"...minutes away ...from Universal Studio...Hollywood Walk of Fame...Burbank studios ...Perfect location for casting calls or Tourism."

"My place is close to the Vista Theatre, The Hollywood Sign, ...Roscoe's Chicken, Amoeba Music…"

"This is Hollywood. The boulevard. The Strip. The Walk of Fame. Wax museum. The Hollywood sign. Star tours."

Film Industry Cluster

Problem solved!
Questions?
Need recommendations?