

Vacation Planner (using K-means clustering)



Applied Data Science Capstone by IBM/Coursera

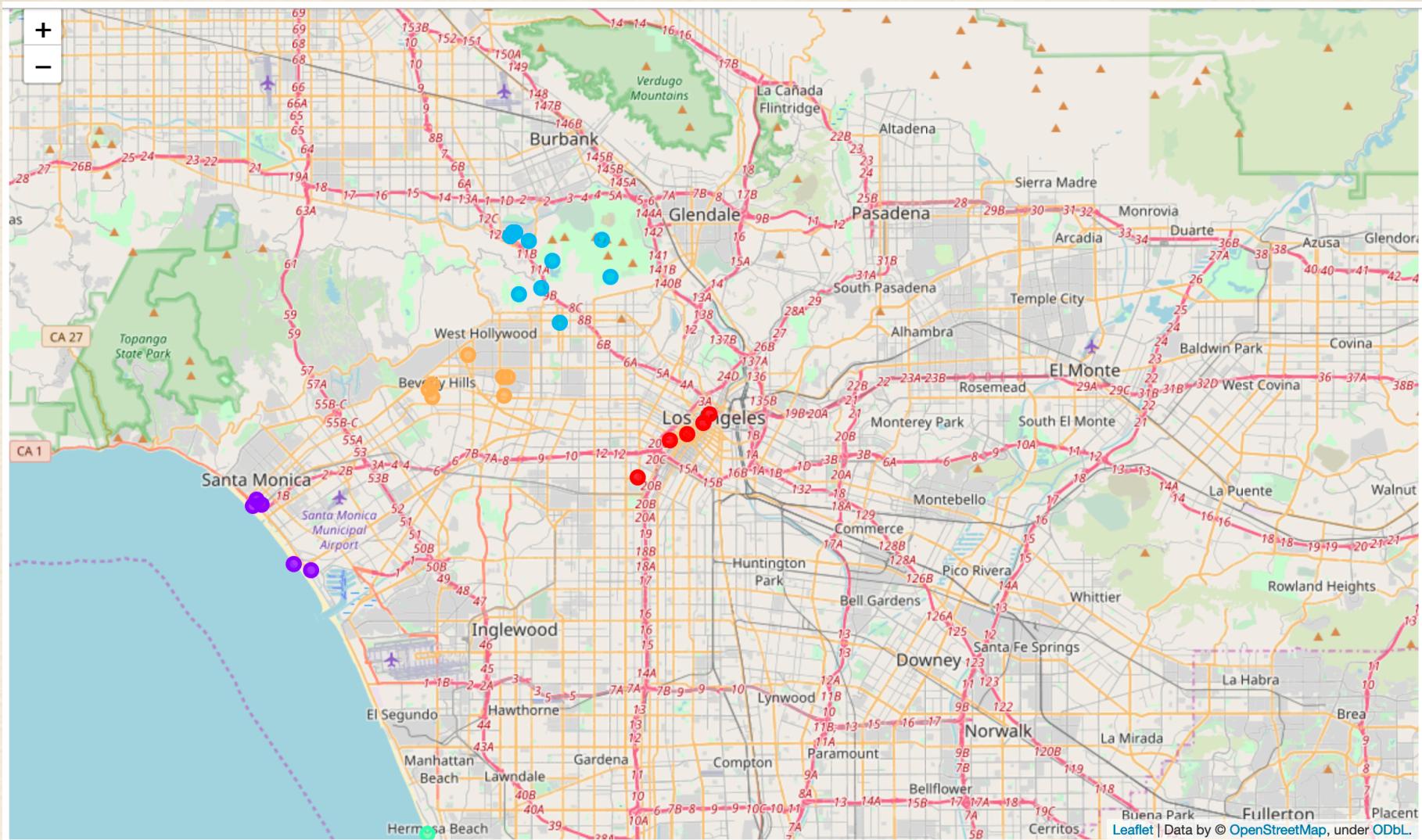
Travel itinerary

- ❖ Planning a trip to a destination with as many choices as Los Angeles can be intimidating.
- ❖ Planning is not easy. Especially when traveling to unknown places.
- ❖ We will help travelers to make the best use of their time by providing an **optimal itinerary recommendation** in terms of *distance* and *popular venues* in the city.

Data acquisition and cleaning

- ❖ We obtain the top 30 most popular venues in Los Angeles from Foursquare data.
- ❖ The clean and processed data set contains Venue name, category, latitude, and longitude information.
- ❖ Top 5 venues

	name	category	lat	lng
0	Universal Studios Hollywood	Theme Park	34.136999	-118.355473
1	Griffith Park	Park	34.135117	-118.304965
2	Third Street Promenade	Shopping Plaza	34.015445	-118.496161
3	Venice Beach	Beach	33.986001	-118.475833
4	The Grove	Shopping Mall	34.071964	-118.357365



K-Means Clustering

We set k-value to 5 to generate a 5-day itinerary

Travel Itinerary



*Our five-day travel itinerary
for our Los Angeles trip can be
used as a starting point to
plan our vacation.*

	Place of Interest/Venue	Category	Day	Vacation Day
0	STAPLES Center	Basketball Stadium	1	Monday
1	USC Village	College Residence Hall	1	Monday
2	Whole Foods Market	Grocery Store	1	Monday
3	Grand Central Market	Market	1	Monday
4	Grand Park	Park	1	Monday
5	Venice Beach	Beach	2	Tuesday
6	Venice Canals	Canal	2	Tuesday
7	Santa Monica Place	Shopping Mall	2	Tuesday
8	Third Street Promenade	Shopping Plaza	2	Tuesday
9	Santa Monica State Beach	State / Provincial Park	2	Tuesday
10	Universal Studios Hollywood Globe and Fountain	Fountain	3	Wednesday
11	ArcLight Cinemas	Multiplex	3	Wednesday
12	The Hollywood Bowl	Music Venue	3	Wednesday
13	Griffith Observatory	Observatory	3	Wednesday
14	Griffith Park	Park	3	Wednesday
15	Lake Hollywood Park	Park	3	Wednesday
16	Universal Studios Hollywood	Theme Park	3	Wednesday
17	The Wizarding World of Harry Potter	Theme Park Ride / Attraction	3	Wednesday
18	Studio Tour	Theme Park Ride / Attraction	3	Wednesday
19	Norman Bates' Trunk	Theme Park Ride / Attraction	3	Wednesday
20	Harry Potter and the Forbidden Journey	Theme Park Ride / Attraction	3	Wednesday
21	Runyon Canyon Park	Trail	3	Wednesday
22	Hermosa Beach - The Strand	Beach	4	Thursday
23	Los Angeles County Museum of Art (LACMA)	Art Museum	5	Friday
24	Urth Caffé	Café	5	Friday
25	Urth Caffé	Café	5	Friday
26	The Original Farmers Market	Farmers Market	5	Friday
27	Beverly Wilshire Hotel (A Four Seasons Hotel) ...	Hotel	5	Friday
28	Montage Beverly Hills	Hotel	5	Friday
29	The Grove	Shopping Mall	5	Friday

Conclusion and Future Directions

- ❖ We generated a **travel itinerary** for a given city (*Los Angeles*).
- ❖ It can serve as a good starting point to plan a travel.
- ❖ The vacation planner can also be extended to any *place of interest* (city/country).
- ❖ Ideas:
 - ❖ To generate a more detailed travel plan, we would need additional data from Foursquare (paid account). Currently, limited at 30 most popular venues (free).
 - ❖ We can also include additional information such as trending venues, and highly rated venues.