

# Trip Advisor: Clustering German Cities by Venues

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# Clustering German Cities by Venues

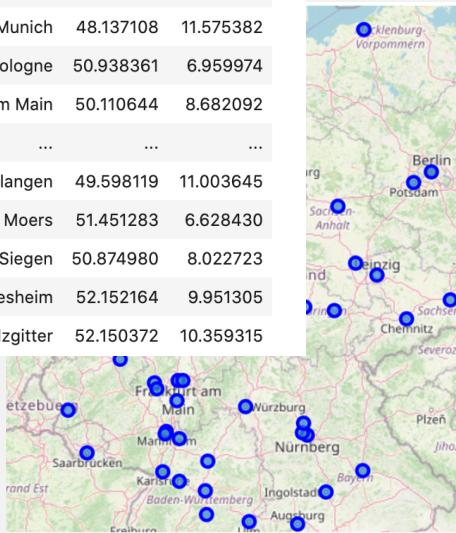
- **Project target:**
  - support decisions about the next spot for a city trip in Germany
  - choose an appropriate spot for the next city depending on the purpose of the trip and the interest in different venue types
- **Approach:**

Cluster the cities based on the venues near to the city centre

# Data & Methodology

## Cities

	city	latitude	longitude
0	Berlin	52.517037	13.388860
1	Hamburg	53.543764	10.009913
2	Munich	48.137108	11.575382
3	Cologne	50.938361	6.959974
4	Frankfurt am Main	50.110644	8.682092
...	...	...	...
74	Erlangen	49.598119	11.003645
75	Moers	51.451283	6.628430
76	Siegen	50.874980	8.022723
77	Hildesheim	52.152164	9.951305
78	Salzgitter	52.150372	10.359315



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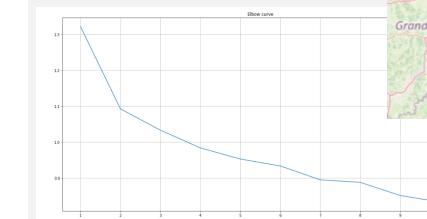
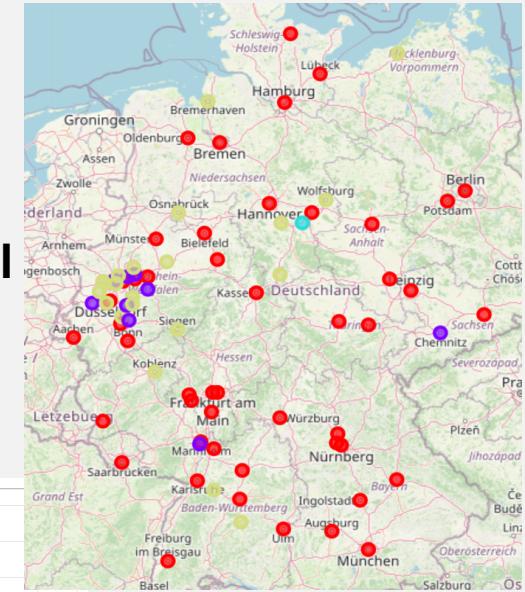
## Venues

	city	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
0	Aachen	Bakery	Park	Café	German Restaurant	Supermarket
1	Augsburg	Italian Restaurant	Café	German Restaurant	Hotel	Steakhouse
2	Bergisch Gladbach	Supermarket	Drugstore	Café	Bakery	Clothing Store
3	Berlin	Coffee Shop	History Museum	Hotel	Monument / Landmark	Plaza
4	Bielefeld	Bar	Middle Eastern Restaurant	Hotel	Supermarket	Greek Restaurant
...	...	...	...	...	...	...

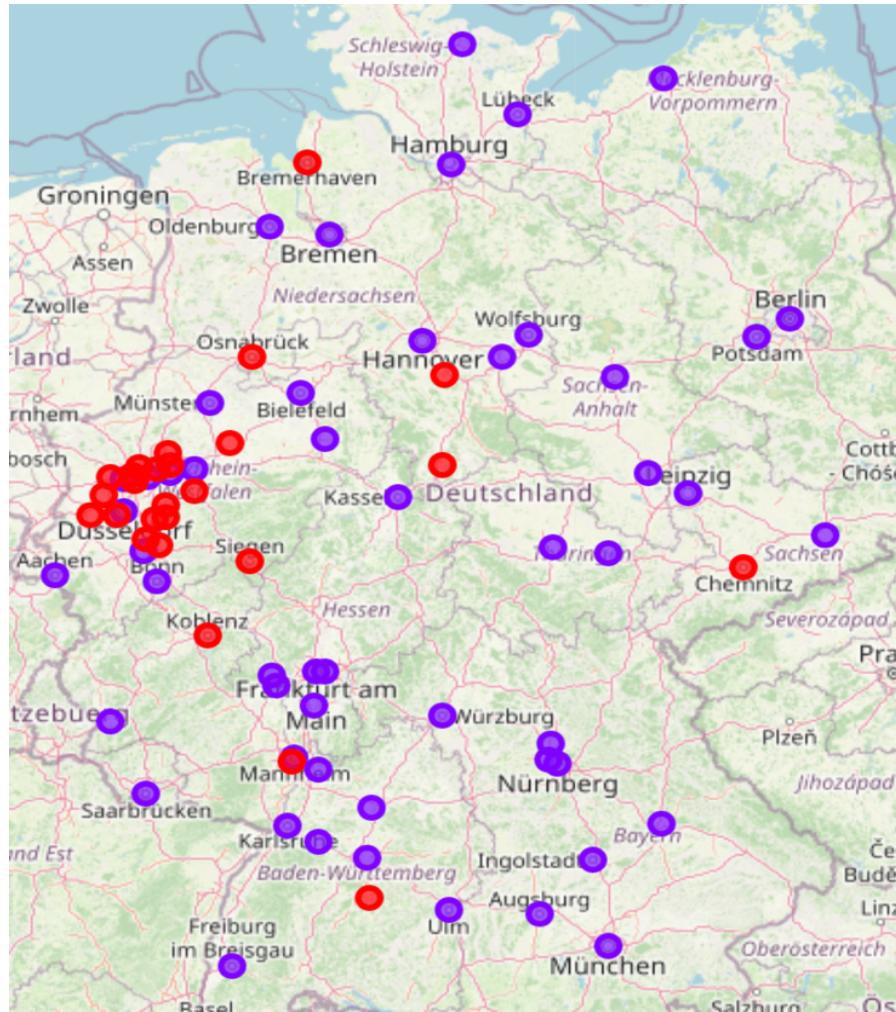


## Clustered Cities

- K-Means
- Hierarchical clustering



# Results



- **Cluster 1:**

- Café
  - Hotel
  - German Restaurant
  - Italian Restaurant
  - Plaza

- **Cluster 2:**

- Supermarket
  - Café
  - Drugstore
  - Hotel
  - Clothing Store

# Largest cities of cluster 1:

	city	latitude	longitude	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
0	Berlin	52.517037	13.388860	Coffee Shop	History Museum	Hotel	Monument / Landmark	Plaza
1	Hamburg	53.543764	10.009913	Hotel	Coffee Shop	Art Gallery	Plaza	Italian Restaurant
2	Munich	48.137108	11.575382	Café	Plaza	German Restaurant	Ice Cream Shop	Cocktail Bar
3	Cologne	50.938361	6.959974	Hotel	Plaza	Coffee Shop	Italian Restaurant	Café
4	Frankfurt am Main	50.110644	8.682092	Café	Park	Bar	Plaza	Burger Joint
5	Stuttgart	48.778449	9.180013	Cocktail Bar	Plaza	Sushi Restaurant	German Restaurant	Bar
6	Düsseldorf	51.225402	6.776314	Coffee Shop	Café	Japanese Restaurant	Hotel	Park
7	Dortmund	51.514227	7.465279	Café	Coffee Shop	Italian Restaurant	Pub	Ice Cream Shop
8	Essen	51.458224	7.015817	Café	Nightclub	Italian Restaurant	Theater	Restaurant
9	Leipzig	51.340632	12.374733	Hotel	Zoo Exhibit	Café	Bistro	Bar
10	Bremen	53.075820	8.807165	Bar	Hotel	Italian Restaurant	Café	Ice Cream Shop