Location Searching based on weather conditions

COURSERA CAPSTONE PROJECT

Have you ever been looking for a place to have coffee in the sun but it is cloudy at your place?

Use Public available weather data to make this possible!

- Weather data from DWD (German Weather Service)
- Location Data from Foursquare

From the weather data use certain variables at every coordinate

- Accumulated time of sunshine
- Amount of rain
- Temperature

Preprocessing

Transform each Variable into a categorical one:

- Rain = [No Rain, little Rain, heavy rain]
- Temperature = [Low, medium, high]
- Sunshine Duration = [Low amount, medium amount, high amount]

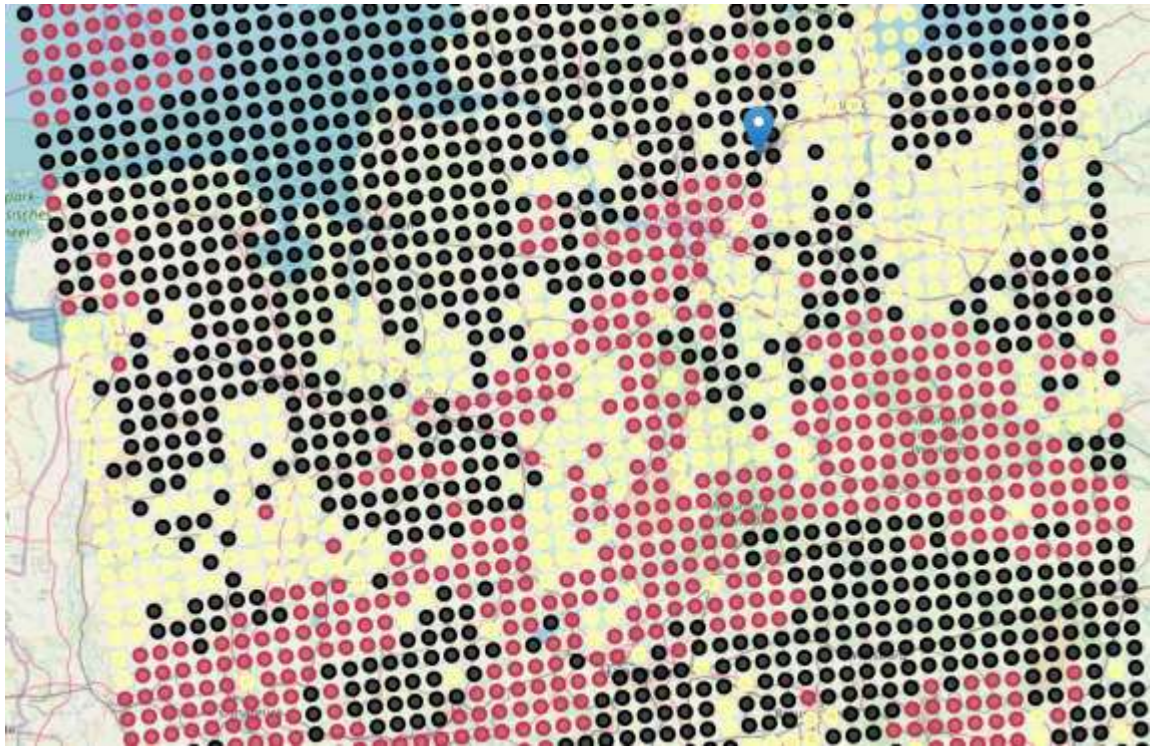
Cluster the data

- Use K-means clustering:
  - K = 3
  - Each location gets it‘s own label (0, 1 or 2)

- The clusters mean the following:
  - 0 = rain is involved (bad weather)
  - 1 = medium conditions (maybe not raining but at least cloudy)
  - 2 = Perfect conditions to have your coffee at

Clustered Data on a map

- Shown is the area around Hamburg, Germany
- The Location marker shows current location
- The colors mean:
  - Black = Bad weather
  - Yellow = Medium good weather
  - Red = Perfect weather

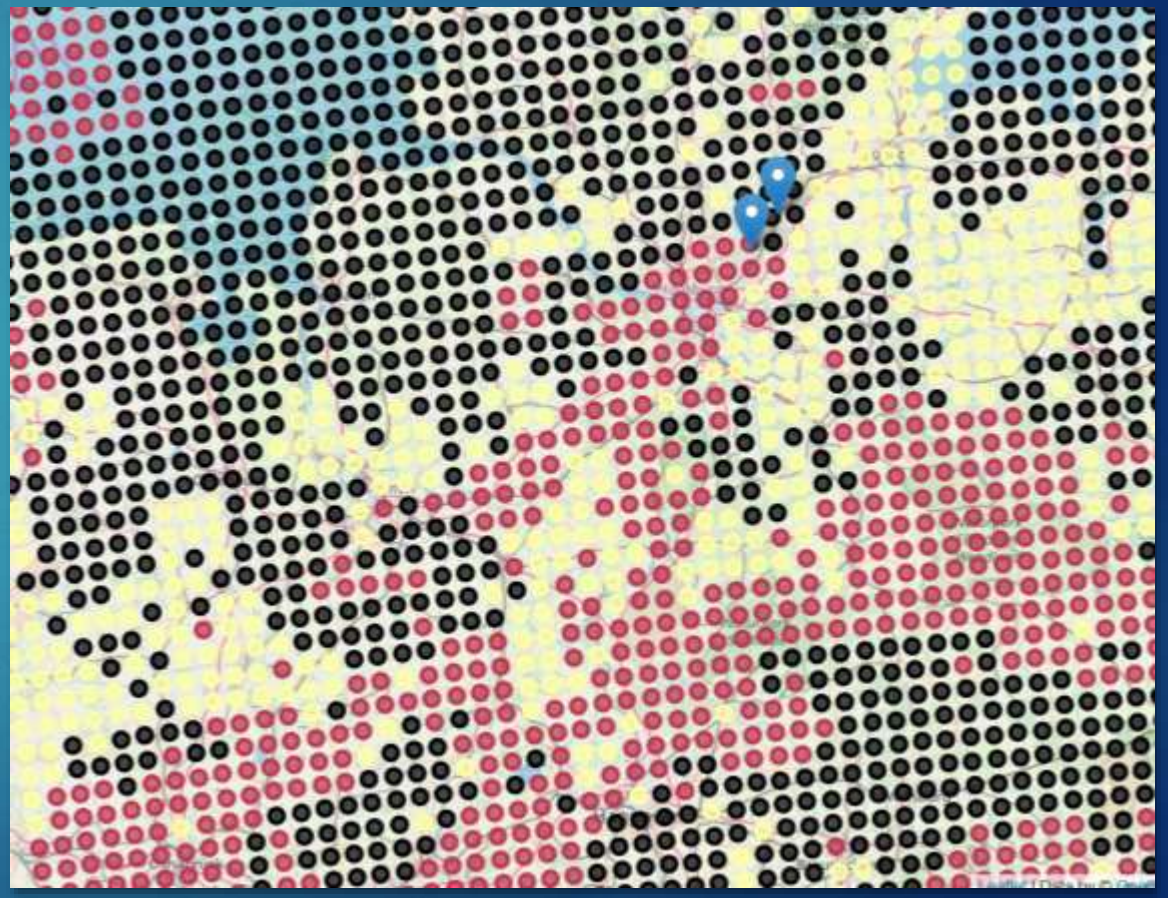


Search for coffee near the next point with perfect weather

- Place a Foursquare search request
- Take the first result, because it will be closest to the target location

Found perfect location

- One of the markers show your location (in the black, bad weather area)
- Other marker shows target coffee shop in perfect weather conditions



Would you still drink your coffee in the rain or rather drive 5 minuts by car to enjoy your Coffee outside?