

Common Venues and Risk of COVID-19 in Districts of Bangkok

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Full Notebook

https://github.com/S2P2/Coursera_Capstone/blob/main/capstone_project_final.ipynb

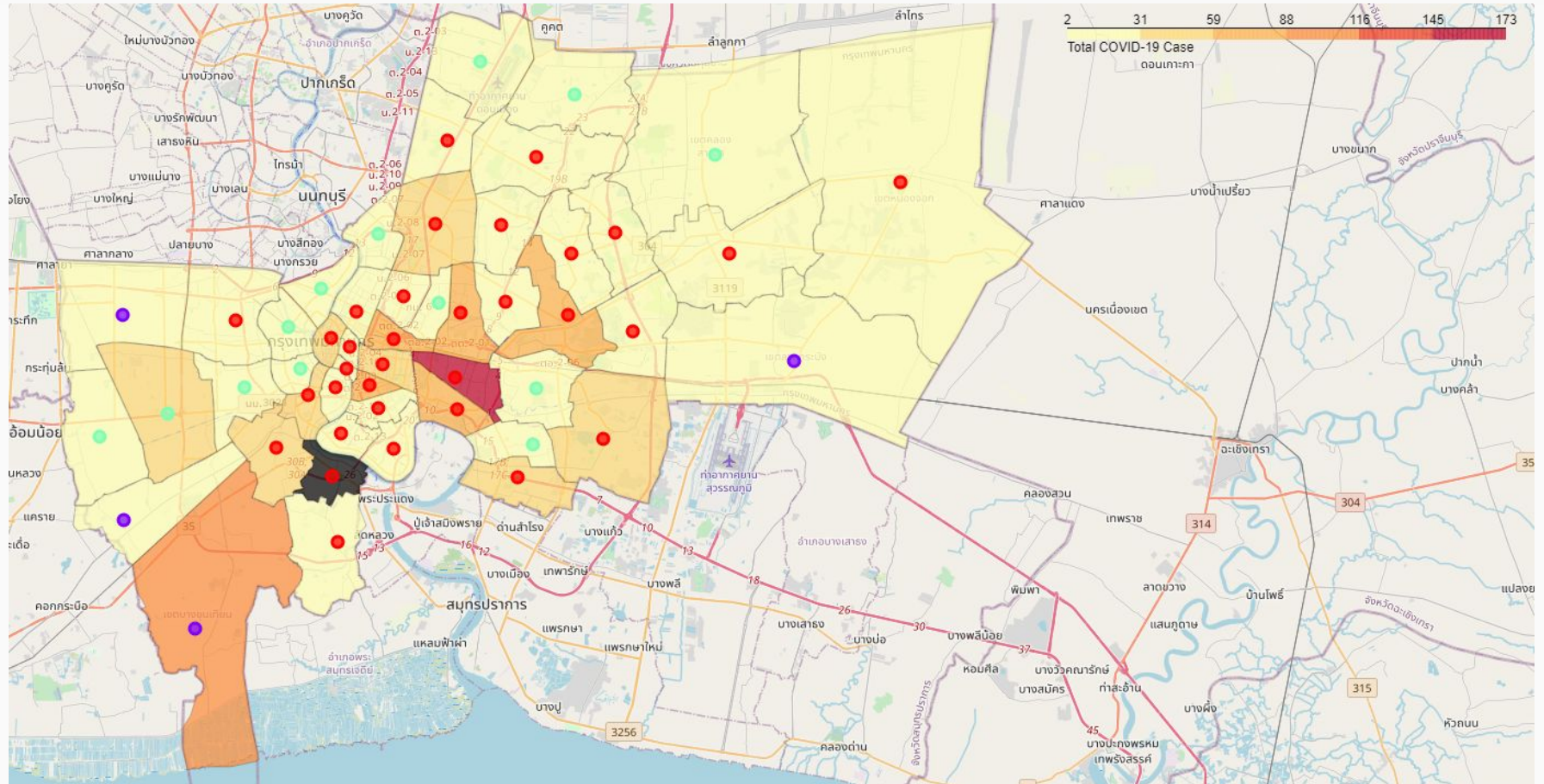
Some Venues may have more risk for COVID-19

- COVID-19 is a newly discovered infectious disease
- In Thailand, the city which has most cases of COVID-19 is Bangkok
- Bangkok is divided into 50 districts
- Promotes the awareness of people
- Policies to limited the spread of the disease

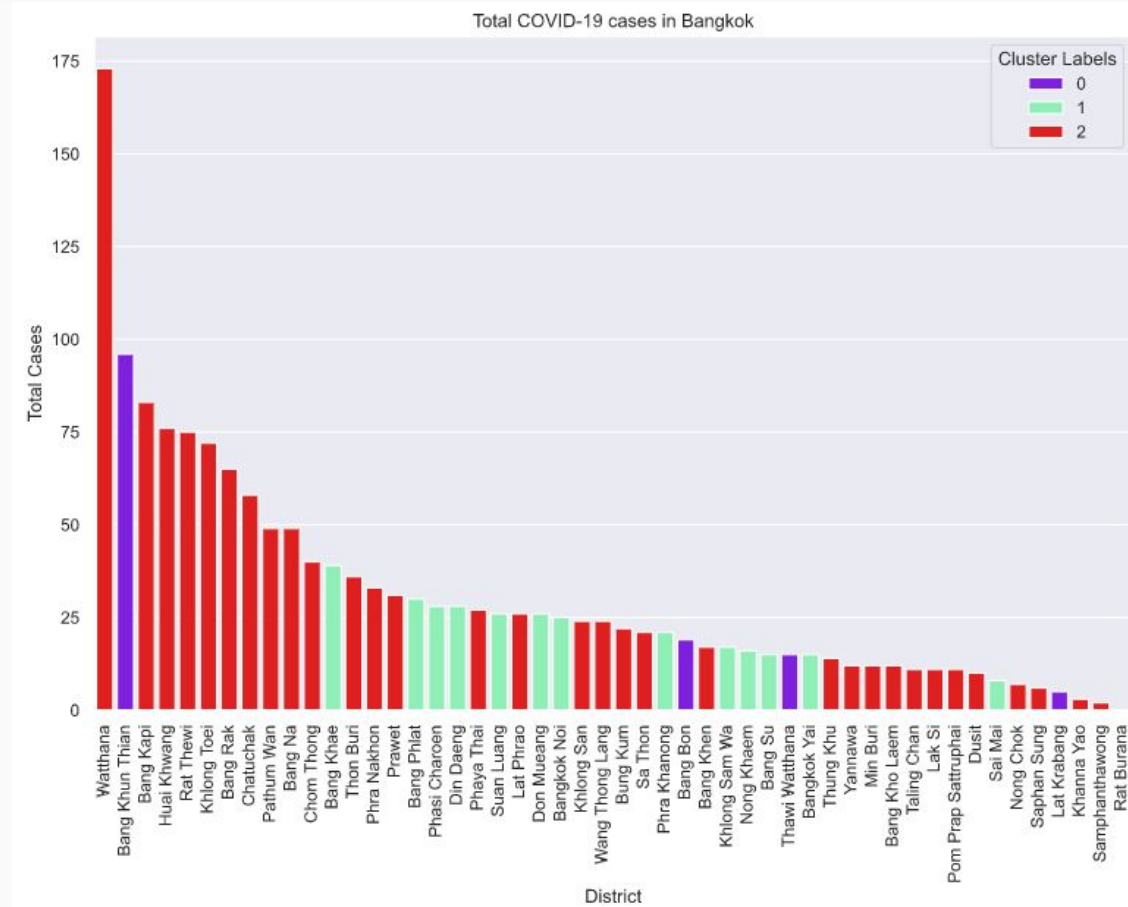
Data acquisition and cleaning

- Number of COVID-19 cases in each district of Bangkok requested from official API (Department of Disease Control of Thailand)
<https://covid19.th-stat.com/api/open/cases>
- Coordinates of each district of Bangkok from
<https://data.go.th/dataset/5370f16a-b553-45ca-929d-7db9a6fc5043/resource/48039a2a-2f01-448c-b2a2-bb0d541dedcd/download/tambon.xlsx>
- List of districts in Bangkok scraped from
https://en.wikipedia.org/wiki/List_of_districts_of_Bangkok
- Foursquare data to find nearby venues of each district in Bangkok
- Typos and missing values were dropped
- Cleaned final dataframe contains 16 columns

Total COVID-19 Case in Bangkok with Colored Cluster Label markers



Total number of COVID-19 cases of each district not quite associated with cluster labels



Hypothesis: High-risk Common Venues for COVID-19

- Flea Market
- Floating Market
- Flower Shop
- Hostel
- Hotel
- Massage Studio
- Pool
- Spa
- Yoga Studio

Conclusion and future directions

- Categories of most common venues in each district are not well associated with total number of COVID-19 cases in Bangkok
- Some venues maybe high-risk for COVID-19 included market, hotel, closed- space studio, and pool
- Some category of venues are very similar, but the model we used treat them as equally, which may leads to poor performance creating clusters
- The radius to find nearby venues should be adjusted to represent each district area more appropriately