Project Report

This is a briefly description for the web app made by *Tian Sun*.

Section1: Dataset description

In this project, we read and deal with three datasets:

- COVID-19 Vaccinations in the United States, Jurisdiction
- COVID-19 Vaccinations in the United States, County
- United States COVID-19 County Level of Community Transmission as Originally Posted

All of these three datasets have information about COVID-19. The "Jurisdiction" dataframe focus mainly on the vaccin process among states. The "County" dataframe improves from "Jurisdiction" as it has more detailed county information. The "Transmission", however, cares more about the increase in percentage and amount of COVID-19 cases weekly.

Section2: Goal of web app

In the web app, I focus mainly on the visulization of the data. By combing the data with some user interactive callback, anyone can have a quick though about the distribution of COVID-19 vaccins in different time period. With a quick change of detailed "state" and "county," we can get the information all around the United States.

Section3: Testing of web app

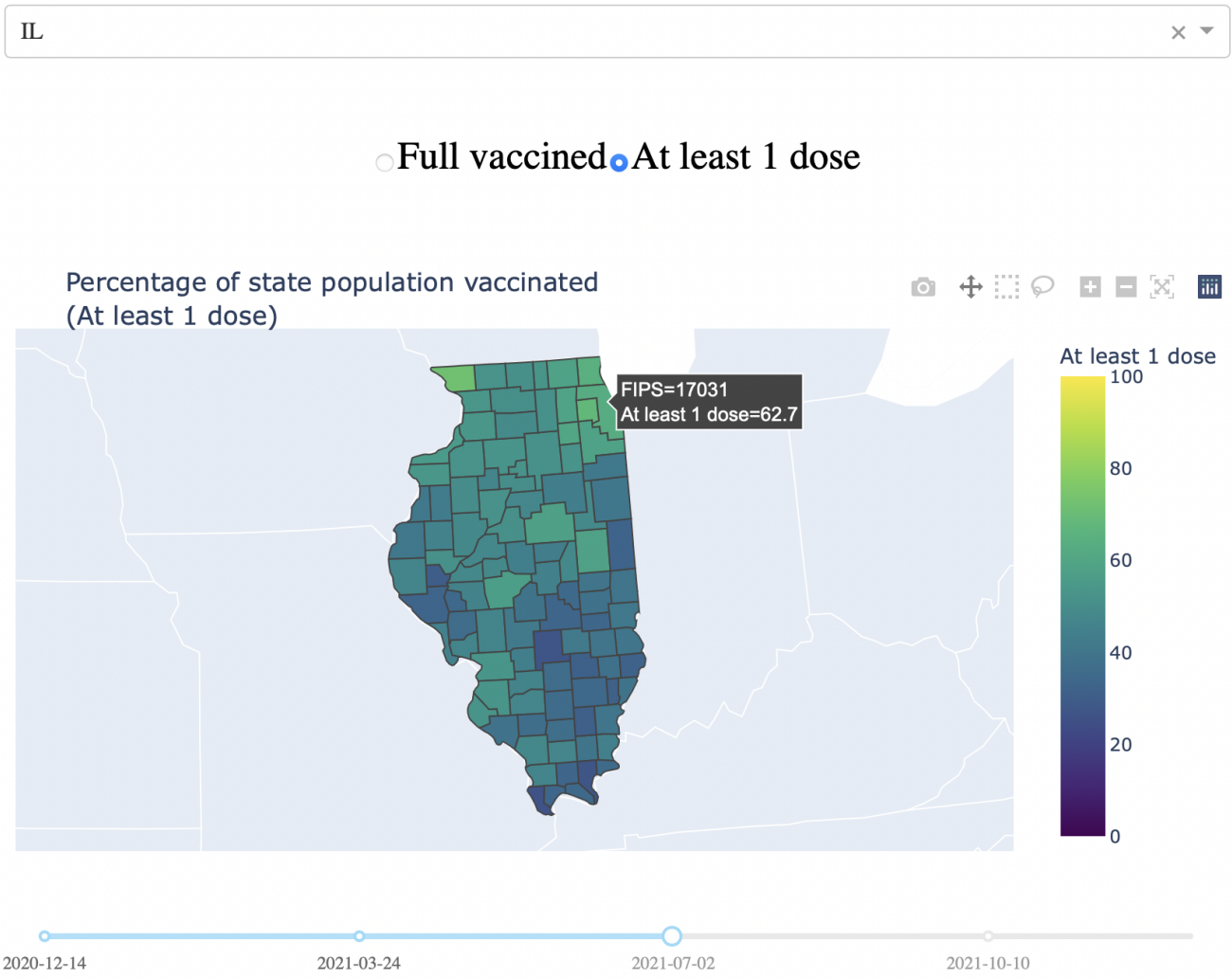
In order to make sure the app works well, I tested different parameters and compare the graph with the detailed dataframe. For instance, to make sure that the second graph is correct, I choose "Chicago" as the county we want to find the vaccine. Consider we want to know the percentage of "At least 1 dose" vaccine in "Chicago" on "2021-07-01." We first go through the dataframe to find the correct answer. With Google, we find that the "FIPS" code for "Chicago" is "17031". With other parameters, we could find the "At least 1 dose" percentage as 'Administered_Dose1_Pop_Pct'.

In [1]:
```
import pandas as pd

vaccin_county = pd.read_csv("/Users/suntian/Downloads/COVID-19_Vaccinations_in_the_United_State

test = vaccin_county[(vaccin_county['FIPS'] == '17031') &
                     (vaccin_county['Date'] == '07/01/2021')]['Administered_Dose1_Pop_Pct']
test
```

Out[1]:
```
547683    62.7
Name: Administered_Dose1_Pop_Pct, dtype: float64
```

The dataframe give us the answer as "62.7". Let's check our web app then.

With the right parameters being settled, we find that the web app generate an answer as "62.7", which works very well.



Date selected: 2021-07-01

Section4: iscussion

Although this web taks me almost two weeks, it is far from perfect yet. First, I was always struggling to find a way making the options of radioitems away from each other. I beleive that there must be an element in the style charge for this but I haven't found it yet. Besides, the slider for Graph 3 and 4 is not as flexiable as the sample did. One thing that I'm quite proud of is that I indeed find a way to make the graph zoom to the specific state we select for Graph 2 with the `fitbounds='locations'` statement.

Conclusion

This project gives me a good chance to deal with data, made forms and try to use interactive functions. I believe that I learned a lot from this class!
