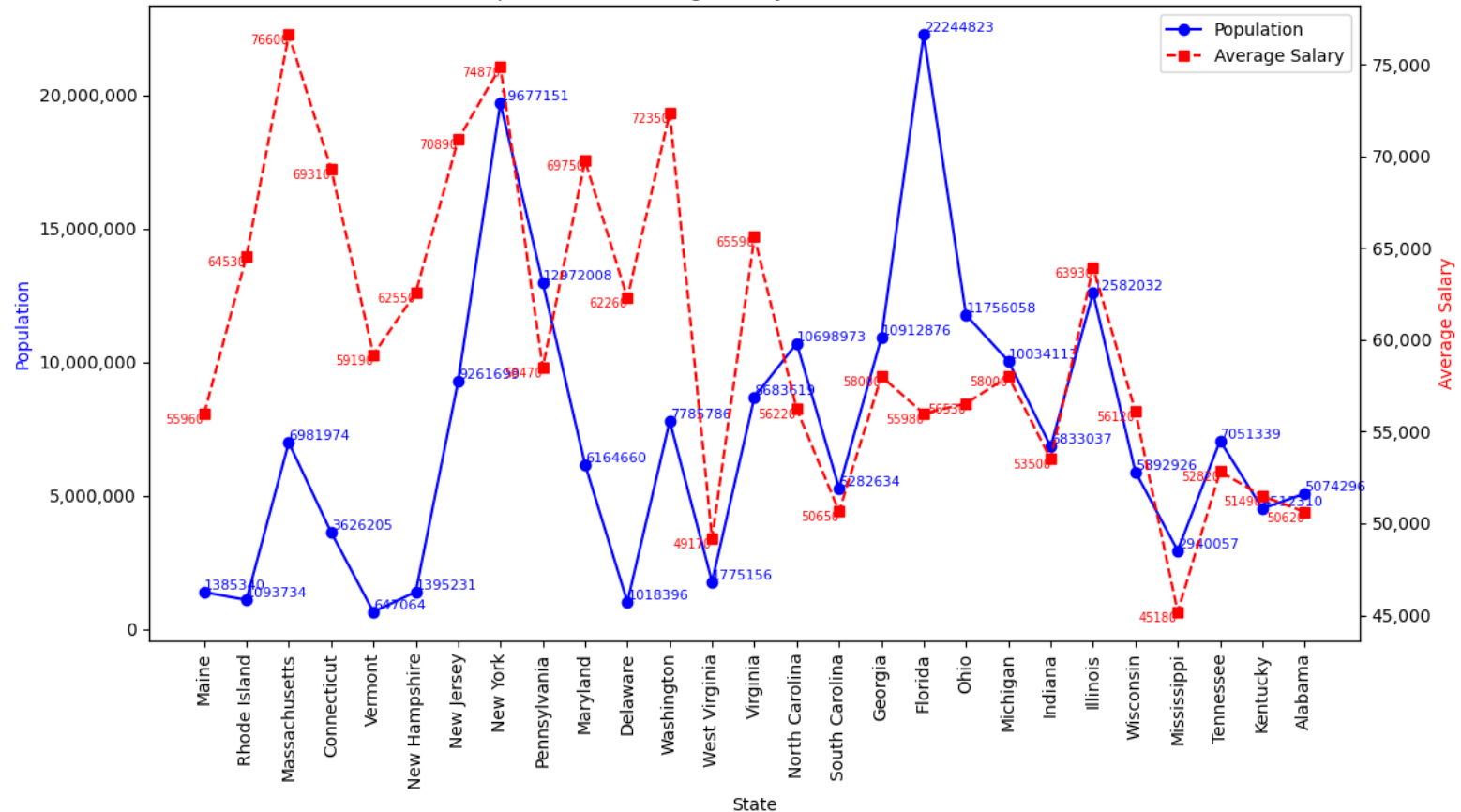Pinhao Wang

INFSCI 2415 Final report

Title: Population and average salary of eastern states in 2022(Line chart)

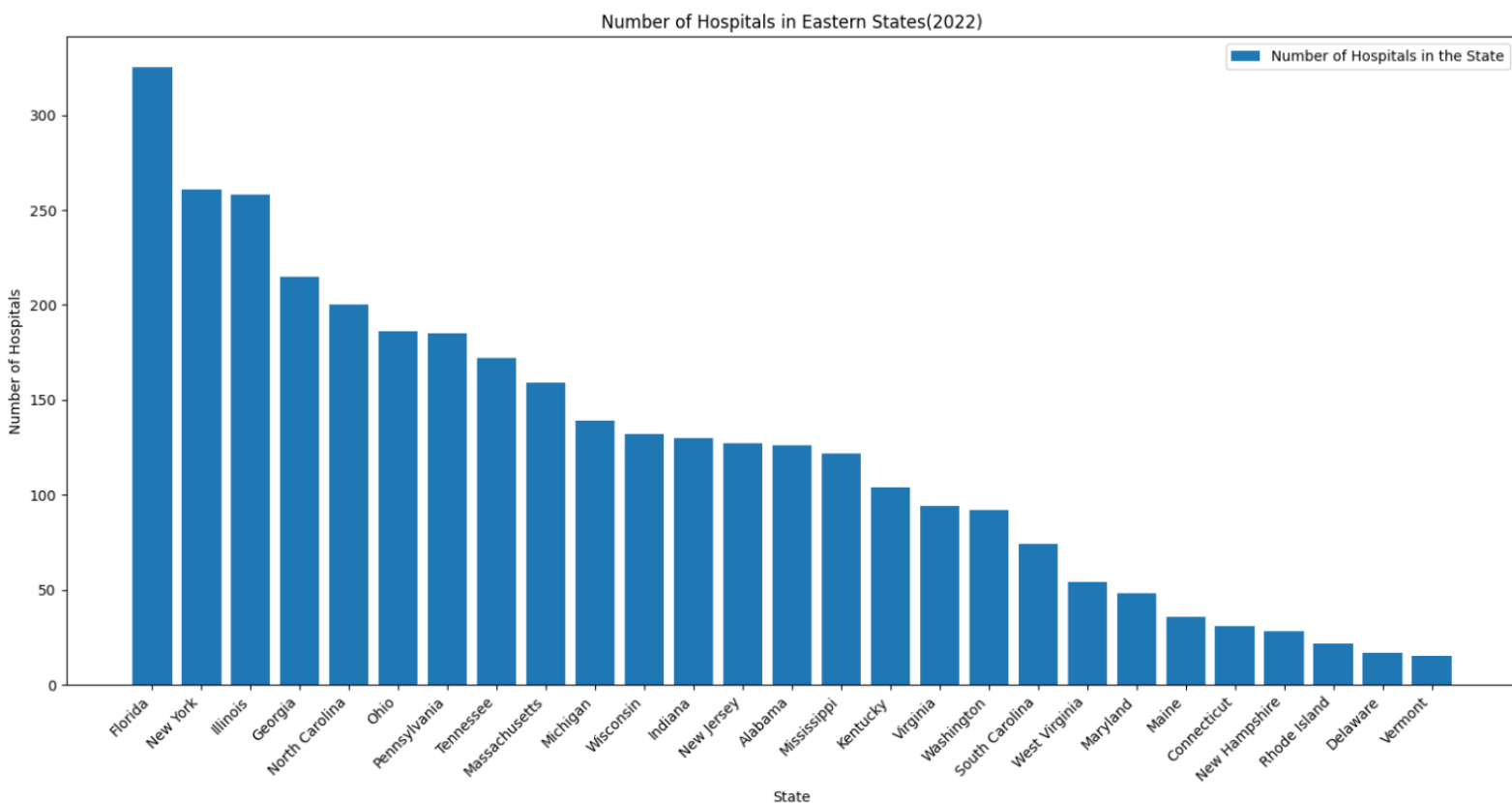Population and Average Salary of Eastern States(2022)

Legend explained

- The blue line represents the population of eastern states in US.
- The red line represents the average annual salary of eastern states in US.

Findings text introducing highlights of the produced figure in bulletin points

- Because the value of the average salary is much smaller than the value of the population, if the average salary is expressed on the scale of the population, it will be a straight line, and nothing will be seen. So, I designed two scales, the population scale on the left and the average salary on the right.
- Through the blue line, people can see the population difference between each eastern state.
- Both the population and the average salary are labeled with accurate values
- By looking at the two lines, it is possible to determine whether the size of the population has a large impact on the average salary.
- All the values on the X-axis are represented vertically, because if the values were horizontal, all the values would be crowded together and there would be no way to tell.

Data gathered from https://www.statista.com/
https://github.com/pinhao123/FinalProject-2415

Pinhao Wang

Title: Number of hospitals in eastern states in 2022 (Bar chart)
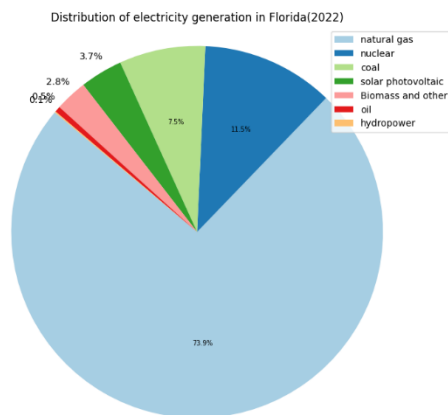

Number of Hospitals in Eastern States(2022)

Legend explained

● The blue bar represents the number of hospitals in the state.

Findings text introducing highlights of the produced figure in bulletin points

- The bar chart represents the number of hospitals in the Eastern states in 2022.
- Although the raw data collected is not in order, when generating the graph, I arrange it in descending order. This allows you to see directly which state have the most hospitals.
- Florida has the highest number of hospitals among the listed Eastern states, with a count significantly higher than 300.
- The states with the lowest number of hospitals in this list are Maine, Connecticut, New Hampshire, Rhode Island, Delaware, and Vermont, with Vermont having the least, showing fewer than 25 hospitals.
- Together with the line chart above, you can also understand the relationship between population and the number of hospitals, whether more people can have more hospitals.
- For the rotation of the X-axis names, it is possible to see the names of each state without overlapping them.
- It is easier to visualize than the above line chart.

Pinhao Wang

Title: Distribution of electricity generation in Florida in 2022 (Pie chart)

Legend explained

● The light blue segment represents natural gas.

● The dark blue segment represents nuclear.

● The green segment represents coal.

● The olive-green segment represents solar photovoltaic.

● The pink segment represents biomass and other.

● The red segment represents oil.

● The yellow segment represents hydropower.

Findings text introducing highlights of the produced figure in bulletin points

- The light blue segment, representing Natural Gas, dominates the chart with 73.9% of the electricity generation, indicating it is the primary source of electricity in Florida.
- Hydropower is the least utilized resource for electricity in Florida, with the yellow segment at just 0.1% of the total production.

Data and method text describing the data and method used in this process

- I used Matplotlib, NumPy, Pandas to create all the visualizations in Jupyter Notebook.
- Matplot,plot() was used to create the line chart, Matplot.bar() was used to create the bar chart, and Matplot.pie() was used to create the the pie chart.
- Title, x axis , y axis, and legend for all visualizations are tuned individually to give a better, aesthetic look.

Significance statement on why the presented figure is important

- The visualization could be used to study the relationship between population, average salary, and medical industry in the eastern states.
- Environmental protection is also very important, through the electricity composition of Florida, you can understand whether the populous state has begun to environmentally friendly electricity generation.
- These visualizations can give people who haven't been to the eastern states a good idea of salaries and populations in the eastern states.
- The dataset includes 2022 population and salary and healthcare industry statistics for all eastern states.