In [51]:
```
import pandas as pd
import numpy as np

import geopandas as gpd
import json

import statsmodels

import plotly
import plotly.express as px
import plotly.io as pio

# pio.renderers.default='jupyter'
pio.renderers.default='jupyterlab'

# allow full interactivity offlice
plotly.offline.init_notebook_mode()
```

In [52]:
```
salary_df = pd.read_csv('salary.csv')
salary_df.head()
```

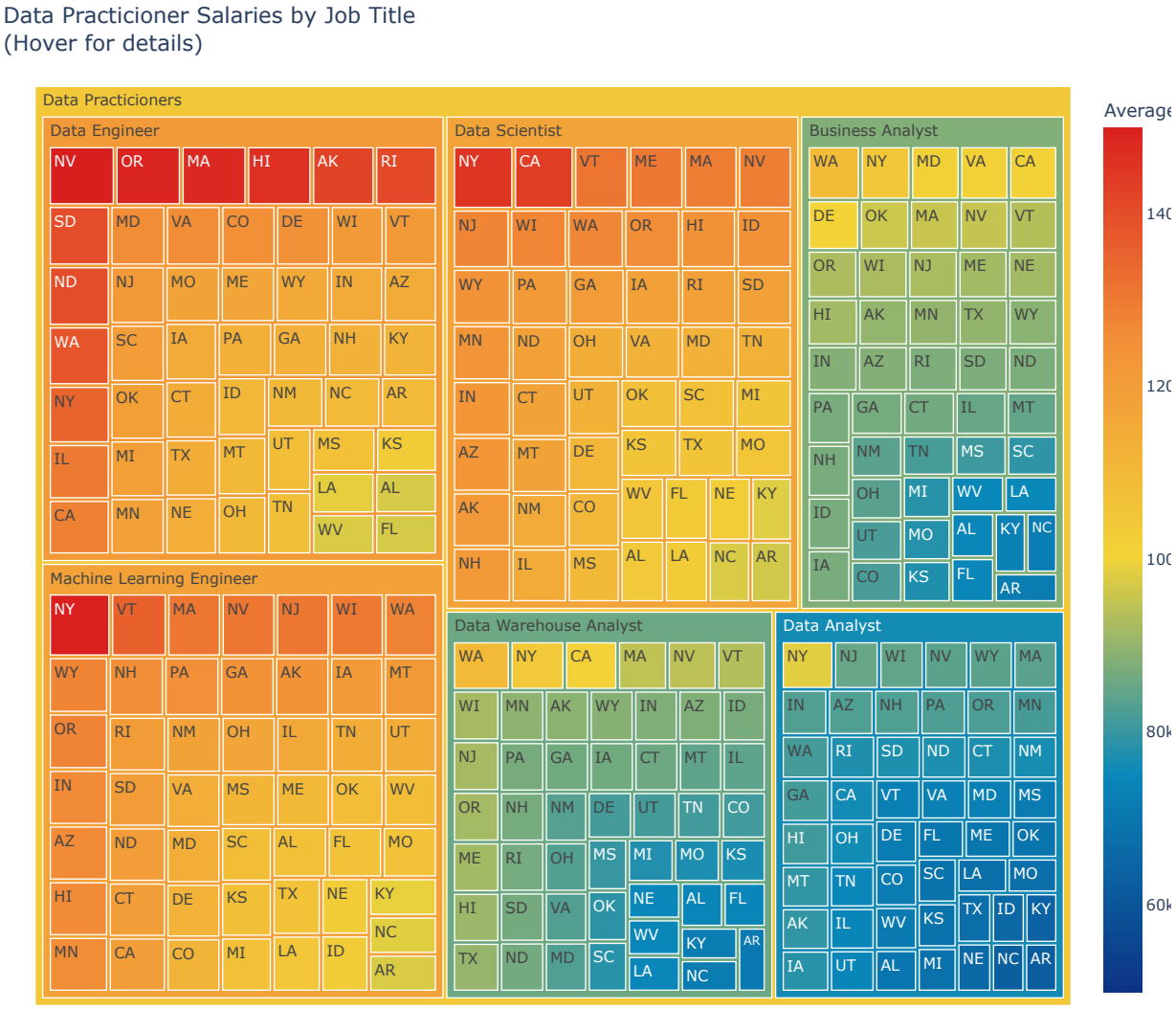
Out[52]:

	State	Annual Salary	Monthly Pay	Weeky Pay	Hourly Wage	Job Title	State Code
0	New York	98238	8186	1889	47.23	Data Analyst	NY
1	New Jersey	84878	7073	1632	40.81	Data Analyst	NJ
2	Wisconsin	84340	7028	1621	40.55	Data Analyst	WI
3	Nevada	83624	6968	1608	40.20	Data Analyst	NV
4	Wyoming	83611	6967	1607	40.20	Data Analyst	WY

In [53]:
```
# us_states = json.load(open('states.geojson', 'r'))
# for feat in us_states['features']:
#     feat['id'] = feat['properties']['NAME']
# fig = px.choropleth(salary_df, locations='State', scope='usa', geojson=us_states,
#                     color='Annual Salary',
#                     hover_name='State',
#                     hover_data=['Annual Salary', 'Job Title'],
#                     #color_continuous_scale='Tealrose',
#                     #color_continuous_midpoint=np.average(salary_df['Annual Salary']),
#                     title='Firearm Mortality (Hover over map for details)')

# fig.show()
```

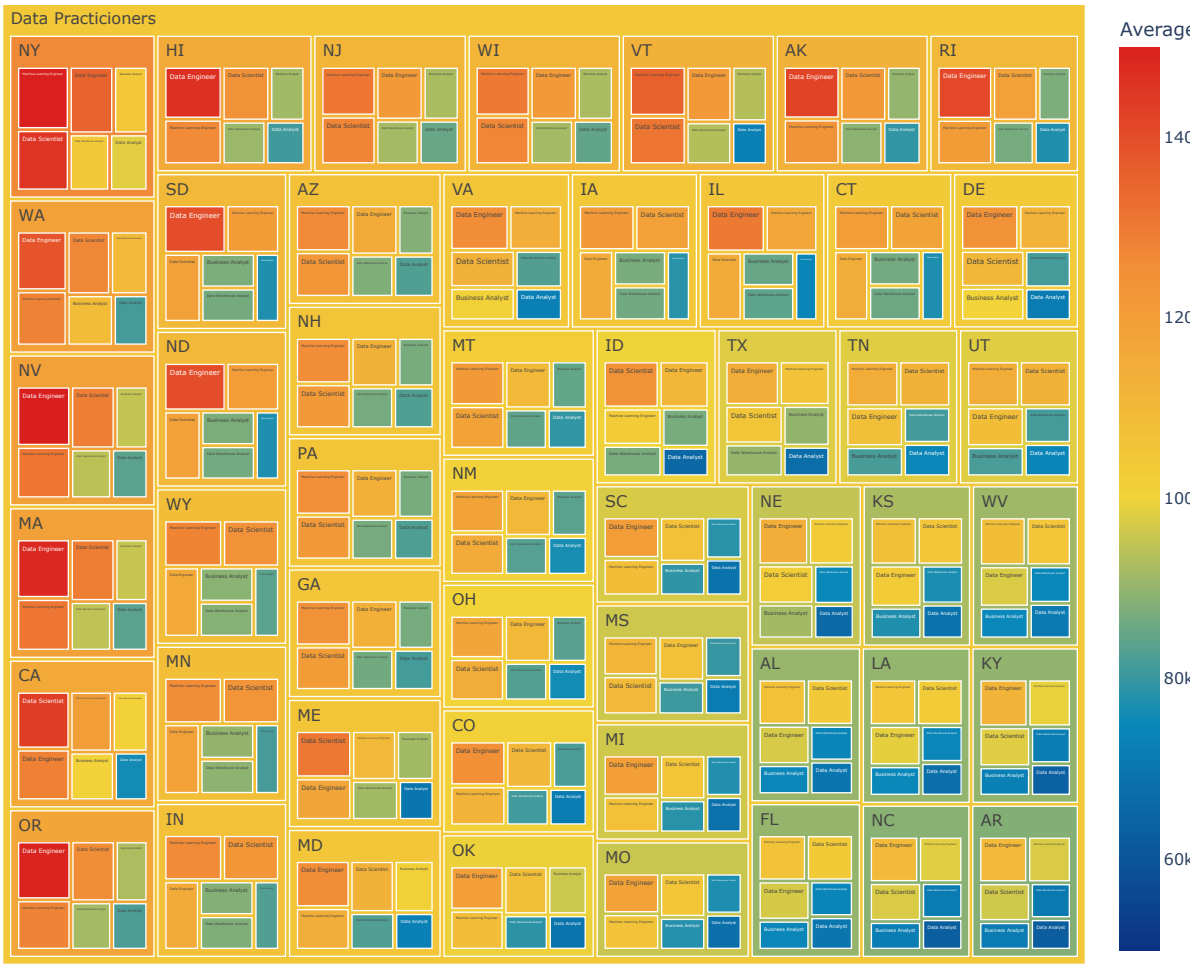
In [54]:
```
import plotly.graph_objects as go
fig = px.treemap(salary_df, path=[px.Constant('Data Practicioners'), 'Job Title', 'State Code'], values='Annual Salary',
                 color='Annual Salary',
                  height=900,
                  width=1100,
                  title='Data Practicioner Salaries by Job Title<br>(Hover for details)</br>',
                  labels={
                      "Annual Salary" : 'Average Annual Salary',
                  },
                  color_continuous_scale='Portland',
                  color_continuous_midpoint=np.average(salary_df['Annual Salary'])
                 )
fig.show()
```



Data Practicioner Salaries by Job Title
(Hover for details)

In [55]:
```
fig = px.treemap(salary_df, path=[px.Constant('Data Practicioners'), 'State Code', 'Job Title'], values='Annual Salary',
                 color='Annual Salary',
                 height=900,
                 width=1100,
                 title='Data Practicioner Salaries by State<br>(Hover for details)</br>',
                 labels={
                     "Annual Salary" : 'Average Annual Salary'
                 },
                 hover_name='State',
                 color_continuous_scale='Portland',
                 color_continuous_midpoint=np.average(salary_df['Annual Salary'])
                )
fig.show()
```

Data Practicioner Salaries by State
(Hover for details)



In [56]:
```
salary_df[['State', 'Job Title']],
```

Out[56]:

	State	Job Title
0	New York	Data Analyst
1	New Jersey	Data Analyst
2	Wisconsin	Data Analyst
3	Nevada	Data Analyst
4	Wyoming	Data Analyst
..	...	...
295	Alabama	Business Analyst
296	Florida	Business Analyst
297	Kentucky	Business Analyst
298	North Carolina	Business Analyst
299	Arkansas	Business Analyst

[300 rows x 2 columns],)

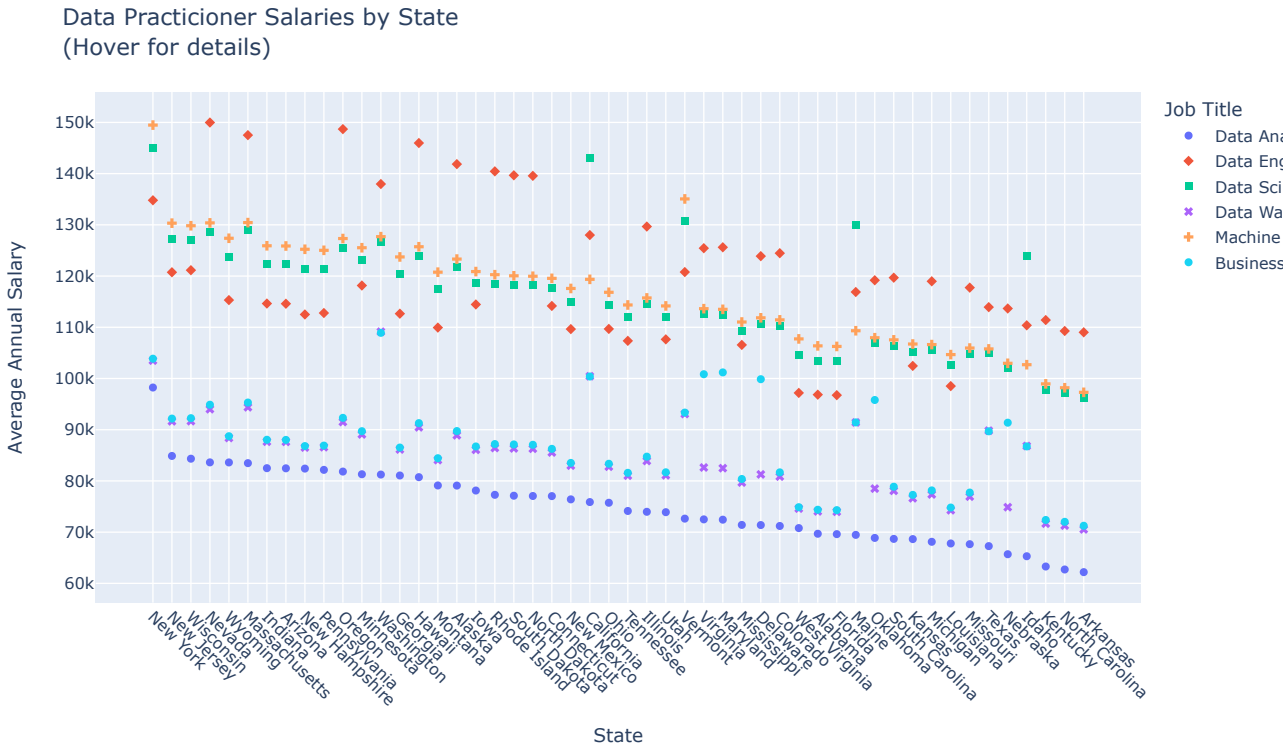
In [60]:
```
fig = px.scatter(salary_df, x="State", y="Annual Salary",
                 color="Job Title",
                 symbol="Job Title",
                 labels={
                     "Job Title": "Job Title",
                     "State" : "State",
                     "Annual Salary" : 'Average Annual Salary'
                 },
                 height=600,
                 width=1100,
                 hover_name='Job Title',
                 hover_data=['Annual Salary'],
```

```
                color_continuous_scale='Portland',
                color_continuous_midpoint=15,

                title='Data Practicioner Salaries by State<br>(Hover for details)</br>'
            )

fig.update_layout(xaxis_tickangle=45)

fig.show()
```



In [ ]: