```python
import pandas as pd
import numpy as np
import seaborn as sns
import plotly.express as px
import matplotlib.pyplot as plt
```

```python
df=pd.read_csv('D:/OASIS/2.Unemployment Analysis with Python/archive/Unemployment in India.csv')
df=pd.read_csv('D:/OASIS/2.Unemployment Analysis with Python/archive/Unemployment_Rate_upto_11_2020.csv')
```

```python
df.head(100)
```

Out[3]:

	Region	Date	Frequency	Estimated Unemployment Rate (%)	Estimated Employed	Estimated Labour Participation Rate (%)	Region.1	longitude	latitude
0	Andhra Pradesh	31-01-2020	M	5.48	16635535	41.02	South	15.9129	79.7400
1	Andhra Pradesh	29-02-2020	M	5.83	16545652	40.90	South	15.9129	79.7400
2	Andhra Pradesh	31-03-2020	M	5.79	15881197	39.18	South	15.9129	79.7400
3	Andhra Pradesh	30-04-2020	M	20.51	11336911	33.10	South	15.9129	79.7400
4	Andhra Pradesh	31-05-2020	M	17.43	12988845	36.46	South	15.9129	79.7400
...	...	...	...	...	...	...	...	...	...
95	Jammu & Kashmir	31-07-2020	M	10.88	3558889	38.03	North	33.7782	76.5762
96	Jammu & Kashmir	31-08-2020	M	11.09	3429950	36.66	North	33.7782	76.5762
97	Jammu & Kashmir	30-09-2020	M	16.17	3210281	36.31	North	33.7782	76.5762
98	Jammu & Kashmir	31-10-2020	M	16.14	3106691	35.05	North	33.7782	76.5762
99	Jharkhand	31-01-2020	M	10.61	10198029	42.92	East	23.6102	85.2799

100 rows × 9 columns

In [4]: ```df.shape```

Out[4]: (267, 9)

In [5]: ```df.info()```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 267 entries, 0 to 266
Data columns (total 9 columns):
 #   Column                                     Non-Null Count  Dtype
---  ------                                     --------------  -----
 0   Region                                     267 non-null    object
 1    Date                                      267 non-null    object
 2    Frequency                                 267 non-null    object
 3    Estimated Unemployment Rate (%)           267 non-null    float64
 4    Estimated Employed                        267 non-null    int64
 5    Estimated Labour Participation Rate (%)   267 non-null    float64
 6   Region.1                                   267 non-null    object
 7   longitude                                  267 non-null    float64
 8   latitude                                   267 non-null    float64
dtypes: float64(4), int64(1), object(4)
memory usage: 18.9+ KB
```

In [6]: `df.describe()`

Out[6]:

	Estimated Unemployment Rate (%)	Estimated Employed	Estimated Labour Participation Rate (%)	longitude	latitude
count	267.000000	2.670000e+02	267.000000	267.000000	267.000000
mean	12.236929	1.396211e+07	41.681573	22.826048	80.532425
std	10.803283	1.336632e+07	7.845419	6.270731	5.831738
min	0.500000	1.175420e+05	16.770000	10.850500	71.192400
25%	4.845000	2.838930e+06	37.265000	18.112400	76.085600
50%	9.650000	9.732417e+06	40.390000	23.610200	79.019300
75%	16.755000	2.187869e+07	44.055000	27.278400	85.279900
max	75.850000	5.943376e+07	69.690000	33.778200	92.937600

In [7]:
```
x=df.Region
x
```

```
Out[7]:  0        Andhra Pradesh
         1        Andhra Pradesh
         2        Andhra Pradesh
         3        Andhra Pradesh
         4        Andhra Pradesh
                      ...
         262       West Bengal
         263       West Bengal
         264       West Bengal
         265       West Bengal
         266       West Bengal
         Name: Region, Length: 267, dtype: object
```

```python
In [8]:  y=df[' Estimated Unemployment Rate (%)']
         y
```

```
Out[8]:  0         5.48
         1         5.83
         2         5.79
         3        20.51
         4        17.43
                    ...
         262       7.29
         263       6.83
         264      14.87
         265       9.35
         266       9.98
         Name:  Estimated Unemployment Rate (%), Length: 267, dtype: float64
```

```python
In [9]:  df.head()
```

	Region	Date	Frequency	Estimated Unemployment Rate (%)	Estimated Employed	Estimated Labour Participation Rate (%)	Region.1	longitude	latitude
0	Andhra Pradesh	31-01-2020	M	5.48	16635535	41.02	South	15.9129	79.74
1	Andhra Pradesh	29-02-2020	M	5.83	16545652	40.90	South	15.9129	79.74
2	Andhra Pradesh	31-03-2020	M	5.79	15881197	39.18	South	15.9129	79.74
3	Andhra Pradesh	30-04-2020	M	20.51	11336911	33.10	South	15.9129	79.74
4	Andhra Pradesh	31-05-2020	M	17.43	12988845	36.46	South	15.9129	79.74

BAR Region

In [10]:
```python
figure = px.bar(df,x='Region',y=' Estimated Unemployment Rate (%)',color='Region',title='Unemployment Rate',animation_f
figure.update_layout(xaxis={'categoryorder':'total ascending'})
figure.show()
```
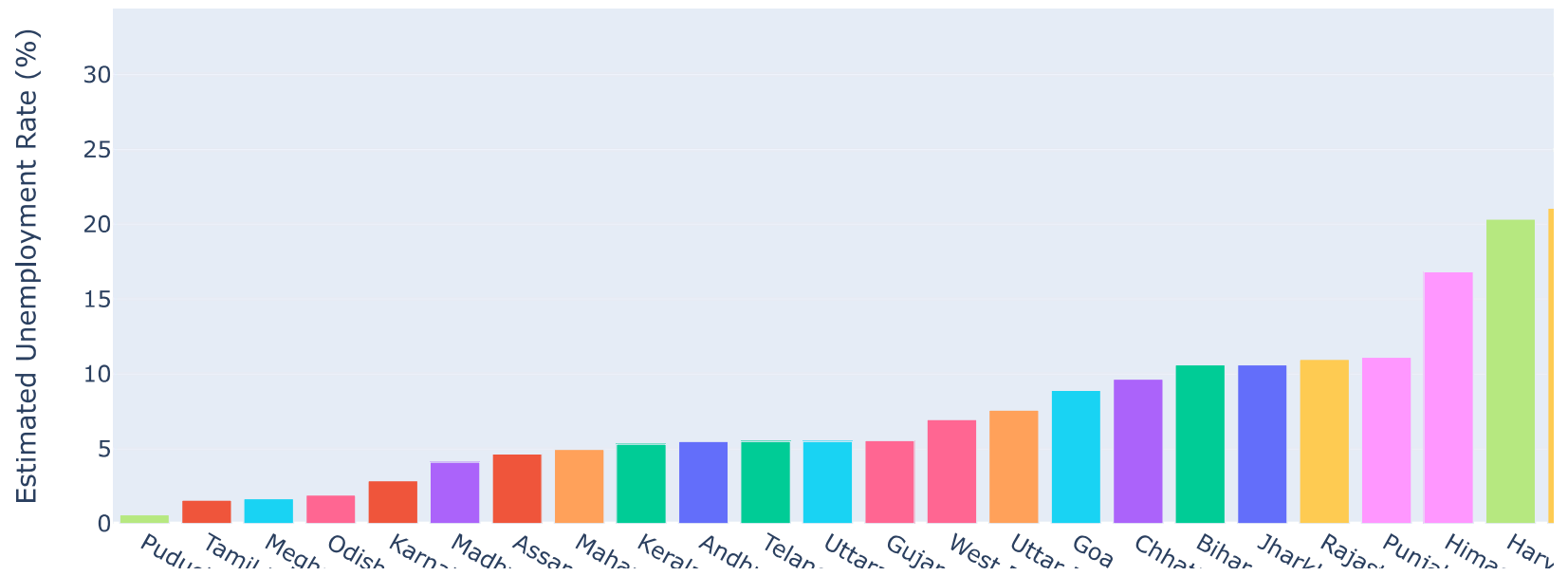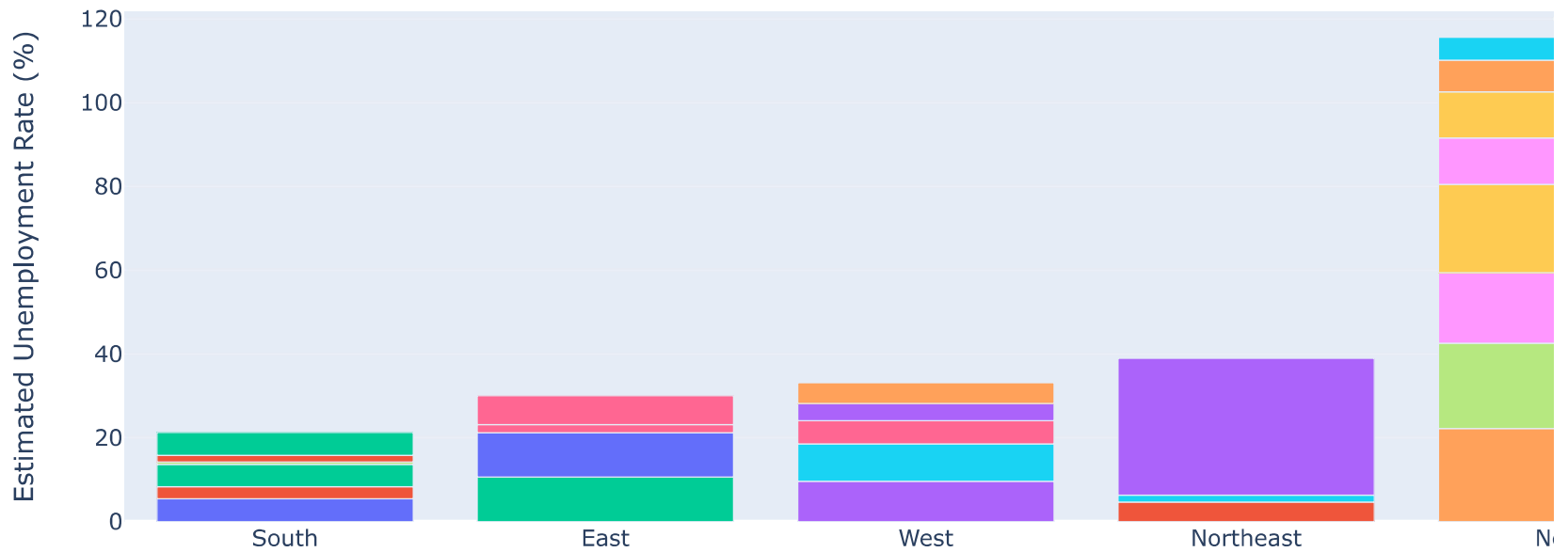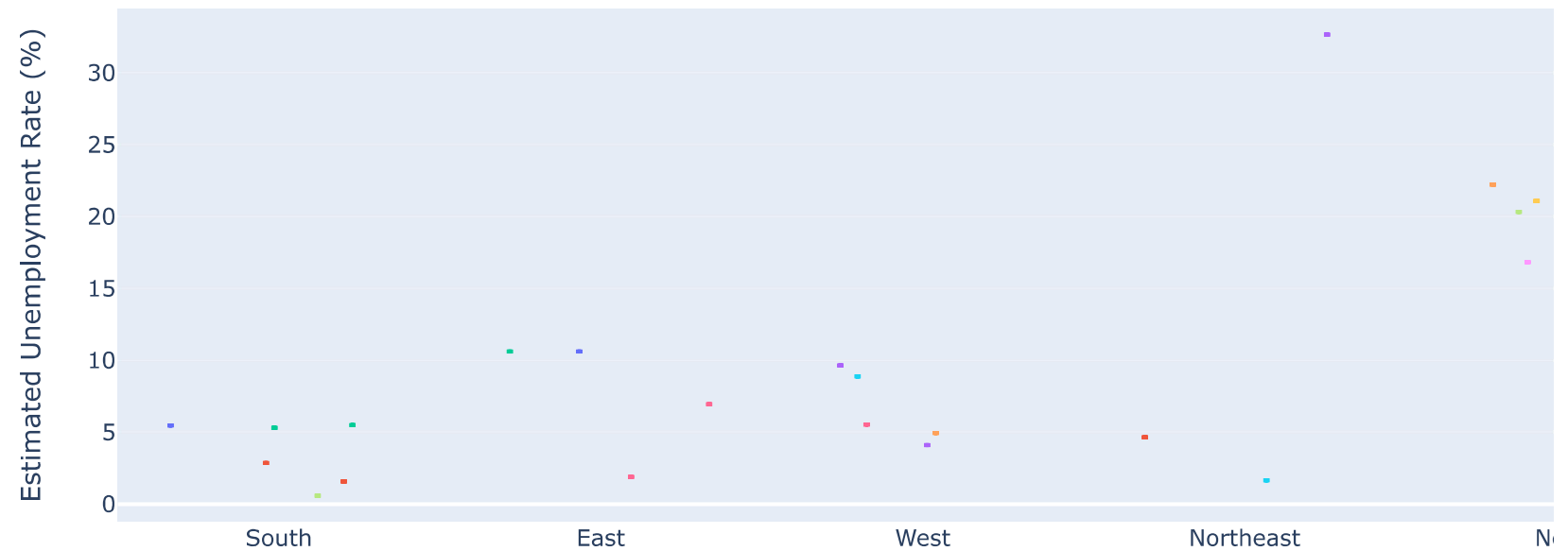
Unemployment Rate

BAR Region.1

```
In [11]: figure = px.bar(df,x='Region.1',y=' Estimated Unemployment Rate (%)',color='Region',title='Unemployment rate',animation
         figure.update_layout(xaxis={'categoryorder':'total ascending'})
         figure.show()
```
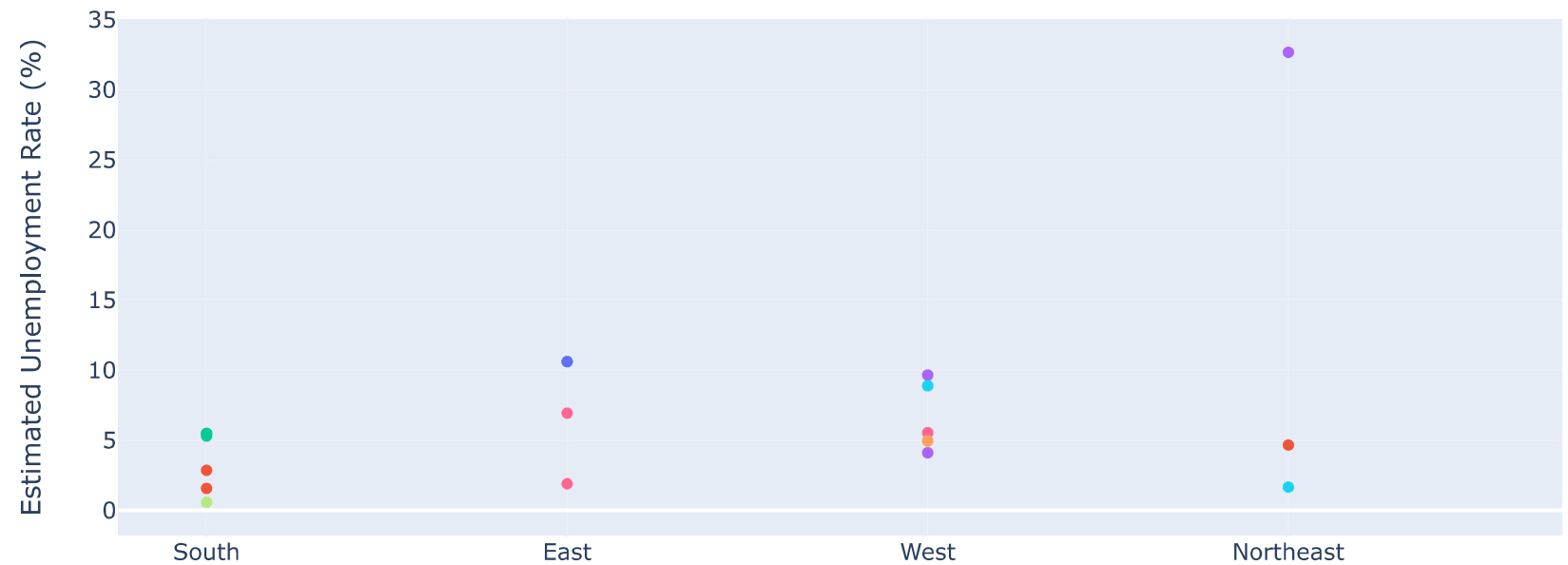
Unemployment rate

BOX Region.1

```
In [12]:  figure = px.box(df,x='Region.1',y=' Estimated Unemployment Rate (%)',color='Region',title='Unemployment Rate',animation
          figure.update_layout(xaxis={'categoryorder':'total ascending'})
          figure.show()
```

Unemployment Rate

SCATTER Region.1

```
In [13]: figure = px.scatter(df,x='Region.1',y=' Estimated Unemployment Rate (%)',color='Region',title='Unemployment Rate',anima
         figure.update_layout(xaxis={'categoryorder':'total ascending'})
         figure.show()
```
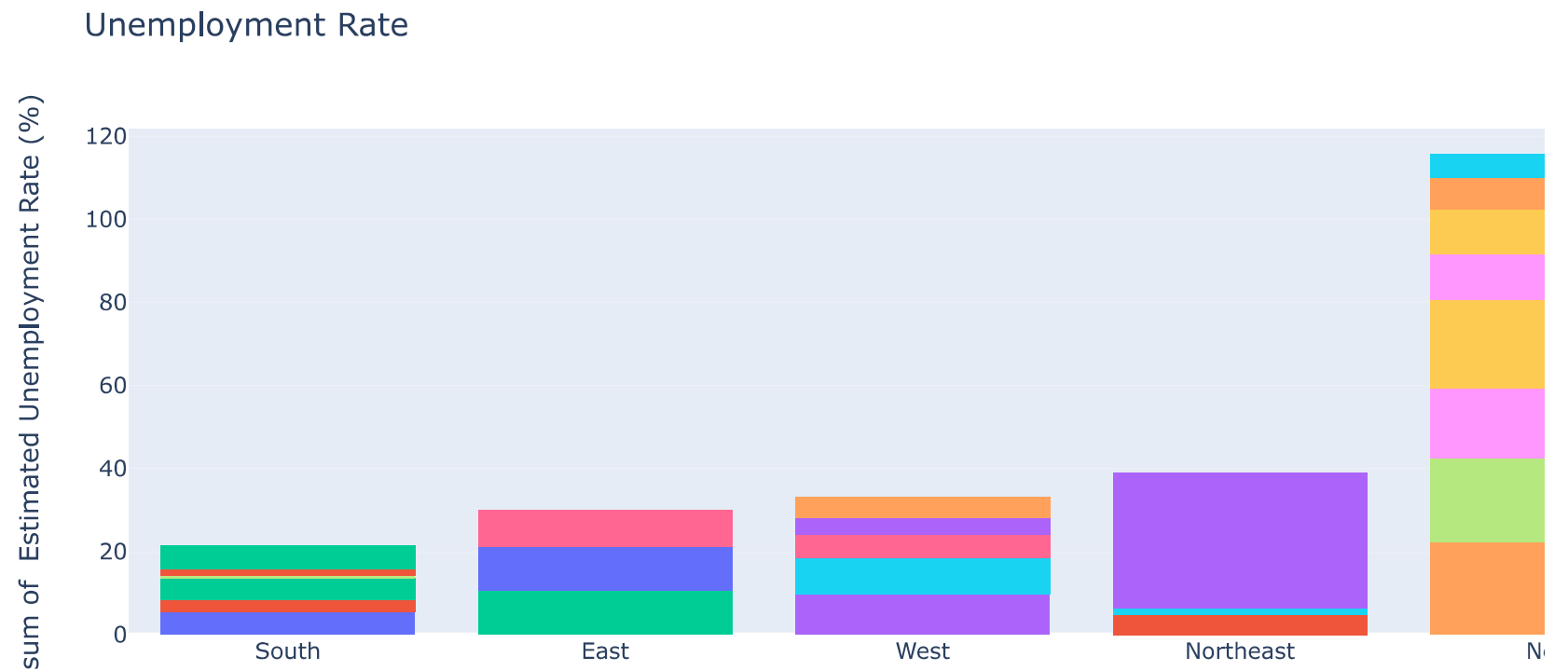
Unemployment Rate

HISTOGRAM Region.1

In [14]:
```python
figure = px.histogram(df,x='Region.1',y=' Estimated Unemployment Rate (%)',color='Region',title='Unemployment Rate',ani
figure.update_layout(xaxis={'categoryorder':'total ascending'})
figure.show()
```

Unemployment Rate
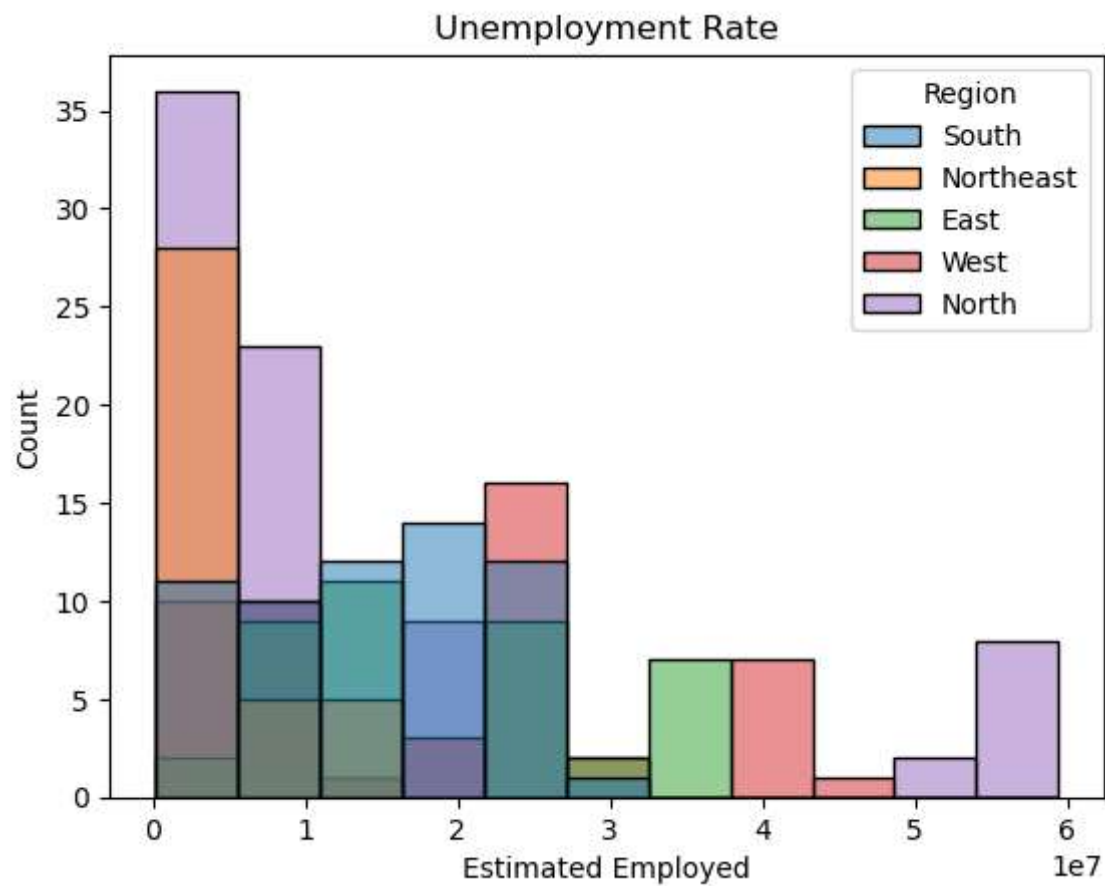
|	Region	Date	Frequency	Estimated Unemployment Rate (%)	Estimated Employed	Estimated Labour Participation Rate (%)	Region.1	longitude	latitude
0	Andhra Pradesh	31-01-2020	M	5.48	16635535	41.02	South	15.9129	79.74
1	Andhra Pradesh	29-02-2020	M	5.83	16545652	40.90	South	15.9129	79.74
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3	Andhra Pradesh	30-04-2020	M	20.51	11336911	33.10	South	15.9129	79.74
4	Andhra Pradesh	31-05-2020	M	17.43	12988845	36.46	South	15.9129	79.74

In [16]:
```python
df.columns= ['States','Date','Frequency',
             'Estimated Unemployment Rate',
             'Estimated Employed',
             'Estimated Labour Participation Rate',
             'Region','longitude','latitude']
```

HISTPLOT

In [17]:
```python
plt.title('Unemployment Rate')
sns.histplot(x="Estimated Employed", hue="Region", data=df)
plt.show()
```

```
In [18]: plt.figure(figsize=(12, 10))
         plt.title('Unemployment Rate')
         sns.histplot(x='Estimated Unemployment Rate', hue='Region', data=df)
         plt.show()
```

Unemployment Rate
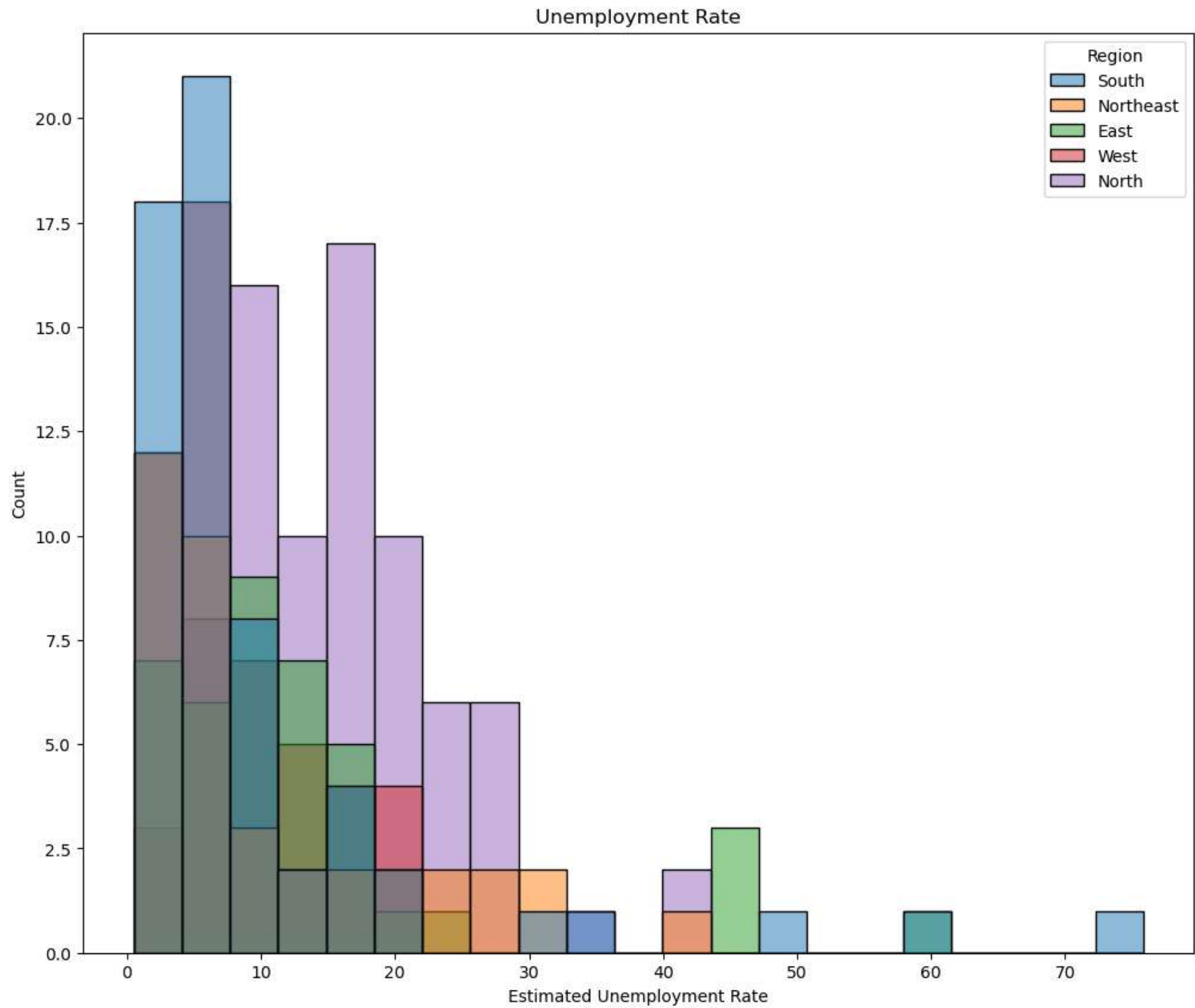
SUNBURST

In [19]:
```python
data = df[['States', 'Region', 'Estimated Unemployment Rate']]
figure = px.sunburst(data, path=['Region', 'States'],
                     values='Estimated Unemployment Rate',
                     width=700, height=700, color_continuous_scale='RdY1Gn',
                     title='Unemployment Rate')
figure.show()
```

Unemployment Rate

```
In [ ]:

In [ ]:
```