



Data Visualization with Python

Cheat Sheet : Maps, Waffles, WordCloud and Seaborn

Function	Description	Syntax	Example	Visual
Folium				
Map	Create a map object with specified center coordinates and zoom level.	<code>folium.Map(location=[lat, lon], zoom_start=n)</code>	<code>world_map = folium.Map()</code>	
	Add a marker to the map with custom icon, popup, and tiles	<code>folium.Marker(location=[lat, lon], popup='Marker Popup', tiles='Stamen Toner').add_to(map)</code>	<code>canada = folium.Map(location=[56.130, -106.35], zoom_start=4)</code>	
Marker	Tiles as Stamen Toner		<code>folium.Marker(location=[556.130, -106.35], tooltip='Marker', tiles='Stamen Toner').add_to(world_map)</code>	
	Tiles as Stamen Terrain	<code>folium.Marker(location=[lat, lon], popup='Marker Popup', tiles='Stamen Terrain').add_to(map)</code>	<code>folium.Marker(location=[556.130, -106.35], tooltip='Marker', tiles='Stamen Terrain').add_to(world_map)</code>	
Circle	Add a circle to the map with specified radius, color, and fill opacity.	<code>folium.features.CircleMarker(location=[lat, lon], radius=n, color='red', fill_opacity=n).add_to(map)</code>	<code>folium.features.CircleMarker(location=[56.130, -106.35], radius=1000, color='red', fill_opacity=0.5).add_to(world_map)</code>	
Chorpleth	Create a choropleth map based on a GeoJSON file and a specified data column.	<code>folium.Choropleth(geo_data='path/to/geojson_file', data=df, columns=['region', 'value_column'], key_on='feature.properties.id', fill_color='YlGnBu', fill_opacity=0.7, line_opacity=0.2, legend_name='Legend').add_to(map)</code>	<code>world_map.choropleth(geo_data=world_geo, data=df_can, columns=['Country', 'Total'], key_on='feature.properties.name', fill_color='YlOrRd', fill_opacity=0.7, line_opacity=0.2, legend_name='Immigration to Canada')</code>	
PyWaffle				
Waffle	Create a waffle chart based on values and categories.	<code>plt.figure(FigureClass = Waffle, rows = 20, columns = 30, values = values)</code> <code>waffle_chart = waffle.Waffle(values=[value1, value2, ...], rows=n, columns=n)</code>	<code>plt.figure(FigureClass = Waffle, rows = 20, columns = 30, values = df_dsn['Total'], cmap_name = 'tab20', legend = {'labels': label, 'loc': 'lower left', 'bbox_to_anchor': (0, -0.1), 'ncol': 3})</code>	
Legend	Add a legend to the waffle chart.	<code>waffle_chart.legend(loc='upper left', bbox_to_anchor=(1, 1))</code>		
Title	Add a title to the waffle chart.	<code>waffle_chart.set_title('Waffle Chart Title')</code>		
Labels	Add labels to the waffle chart.	<code>waffle_chart.set_labels(['Label 1', 'Label 2', ...])</code>		

WordCloud

Visual

A word cloud shaped like a cat, featuring words like 'Alice', 'time', 'know', 'went', 'king', 'queen', 'hatter', 'well', 'back', 'gryphon', 'tongue', 'said', 'made', 'Oh', 'king', 'great', 'tongue', 'back', 'never', 'began', 'time'. The words are arranged in a way that they form the outline of a cat's head and body. The word 'Alice' is the largest and most prominent, located in the center of the cat's face. Other large words include 'time', 'know', 'went', 'king', 'queen', 'hatter', 'well', 'back', 'gryphon', 'tongue', 'said', 'made', 'Oh', 'king', 'great', 'tongue', 'back', 'never', 'began', 'time'. The words are in various colors, including green, yellow, orange, and red. The background is black.

Research Method	Approximate Number of Publications (n)
Other	15,000
Case study	10,000
Interview	5,000
Survey	2,000
Focus group	4,000
Experiment	25,000

Method	n
Quantitative	48
Qualitative	42
Mixed methods	52
Experimental	18
Other	12

A scatter plot showing the total number of cases (Y-axis, ranging from 100,000 to 300,000) over time (X-axis, ranging from 1980 to 2010). The data points are represented by red dots. A solid red line indicates the linear regression fit, and a light red shaded area around the line represents the confidence interval. The plot shows a clear upward trend in the number of cases over the 30-year period.