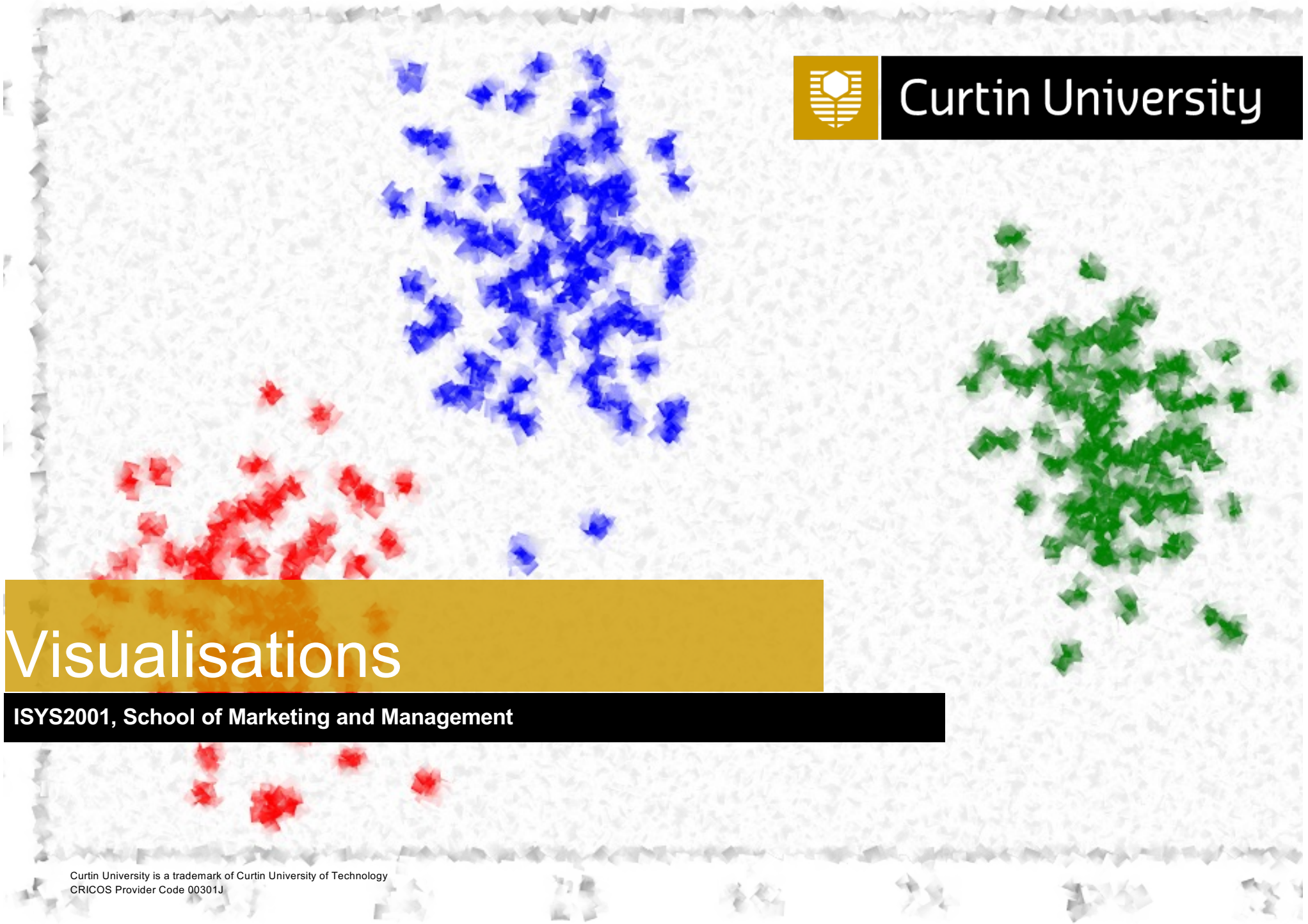

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Visualisations

ISYS2001, School of Marketing and Management

ELECTRONIC WARNING NOTICE FOR COPYRIGHT STATUTORY LICENCES

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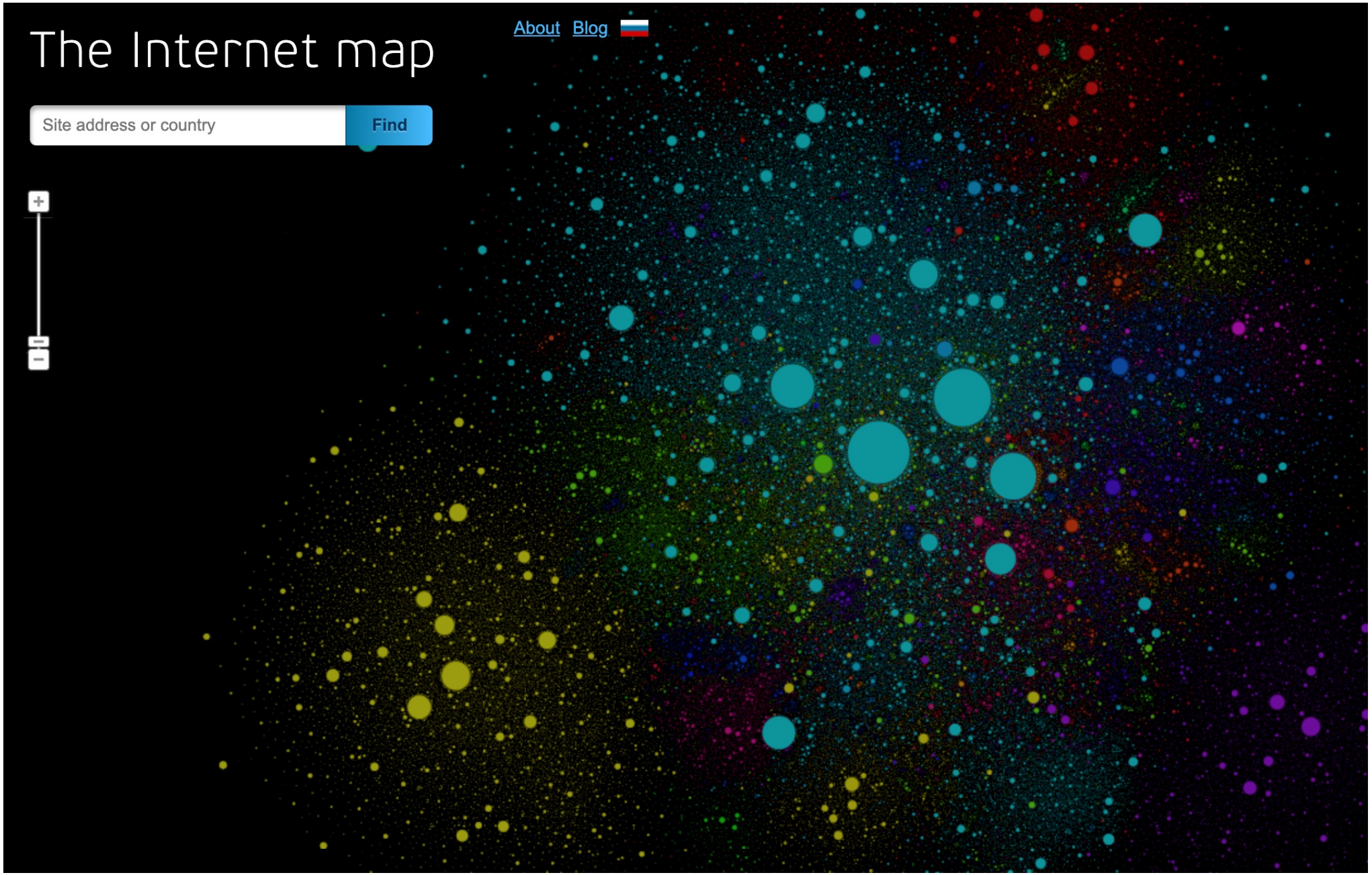
I acknowledge the traditional custodians of the land on which I work and live, and recognise their continuing connection to land, water and community. I pay respect to elders past, present and emerging.

Today

- Describe Visualisation
- Identify the Common Roles
- Use roles to select graph
- List common Python plotting packages
- Develop a visualisation strategy

Data visualization is the process of translating large data sets and metrics into charts, graphs and other visuals. The resulting visual representation of data makes it easier to identify and share real-time trends, outliers, and new insights about the information represented in the data. (IBM, 2021)



http://internet-map.net/

ISYSS2001 – Visualisation

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Common Visualisation Roles

- Showing change over time
- Showing a part-to-whole composition
- Looking at how data is distributed
- Comparing values between groups
- Observing relationships between variables
- Looking at geographical data

Distribution

https://python-graph-gallery.com/

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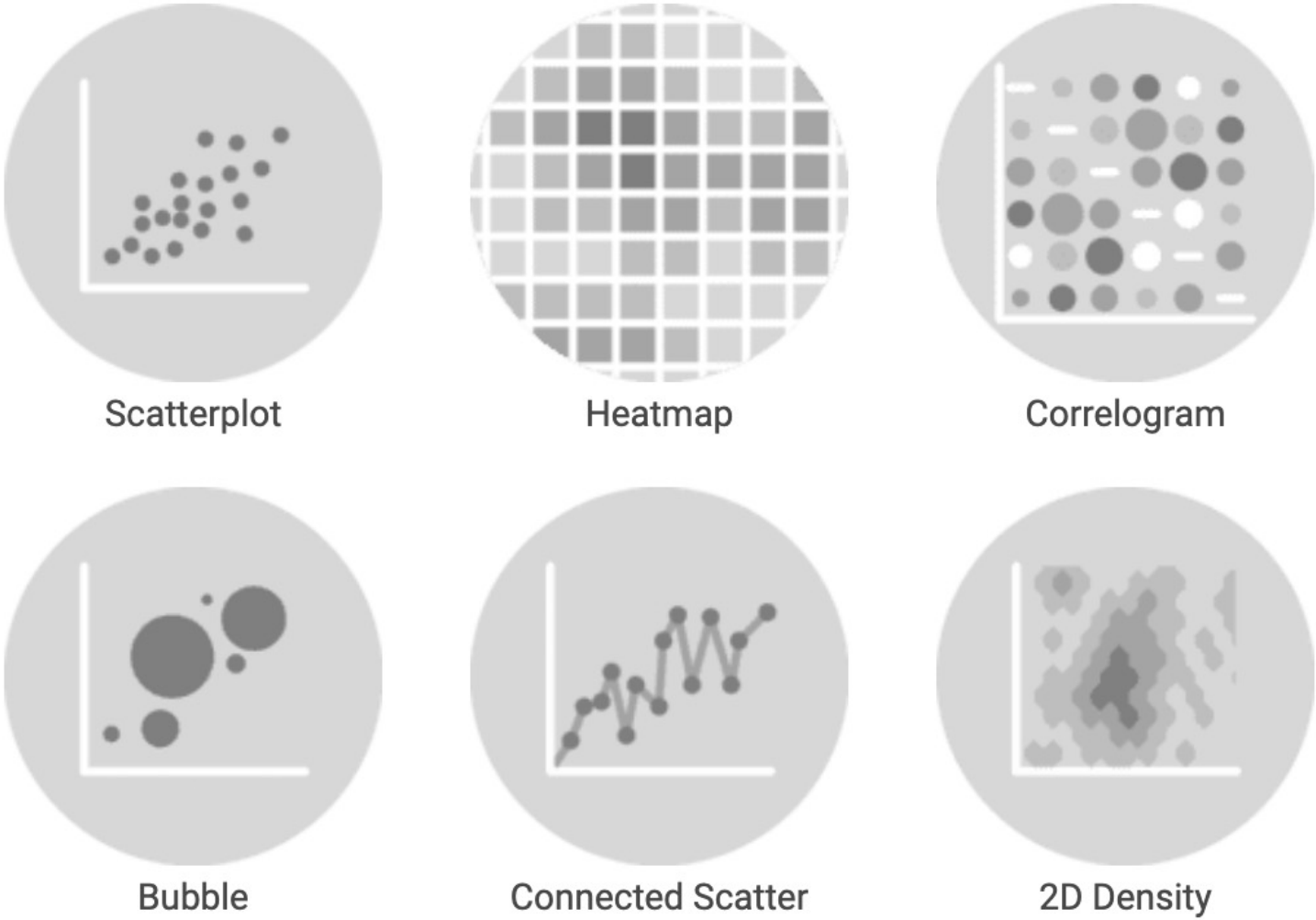
Correlation



https://python-graph-gallery.com/

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Ranking

Barplot

Spider / Radar

Wordcloud

Parallel

Lollipop

Circular Barplot

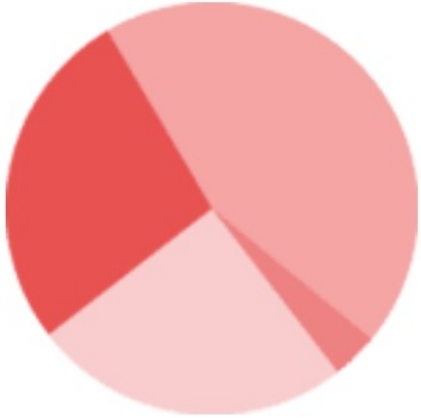
https://python-graph-gallery.com/

Part of Whole

Treemap

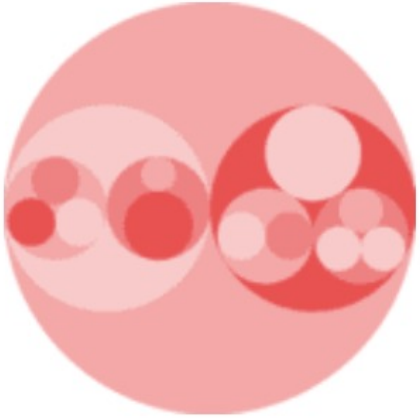
Venn Diagram

Donut



Pie Chart

Dendrogram



Circular Packing

https://python-graph-gallery.com/

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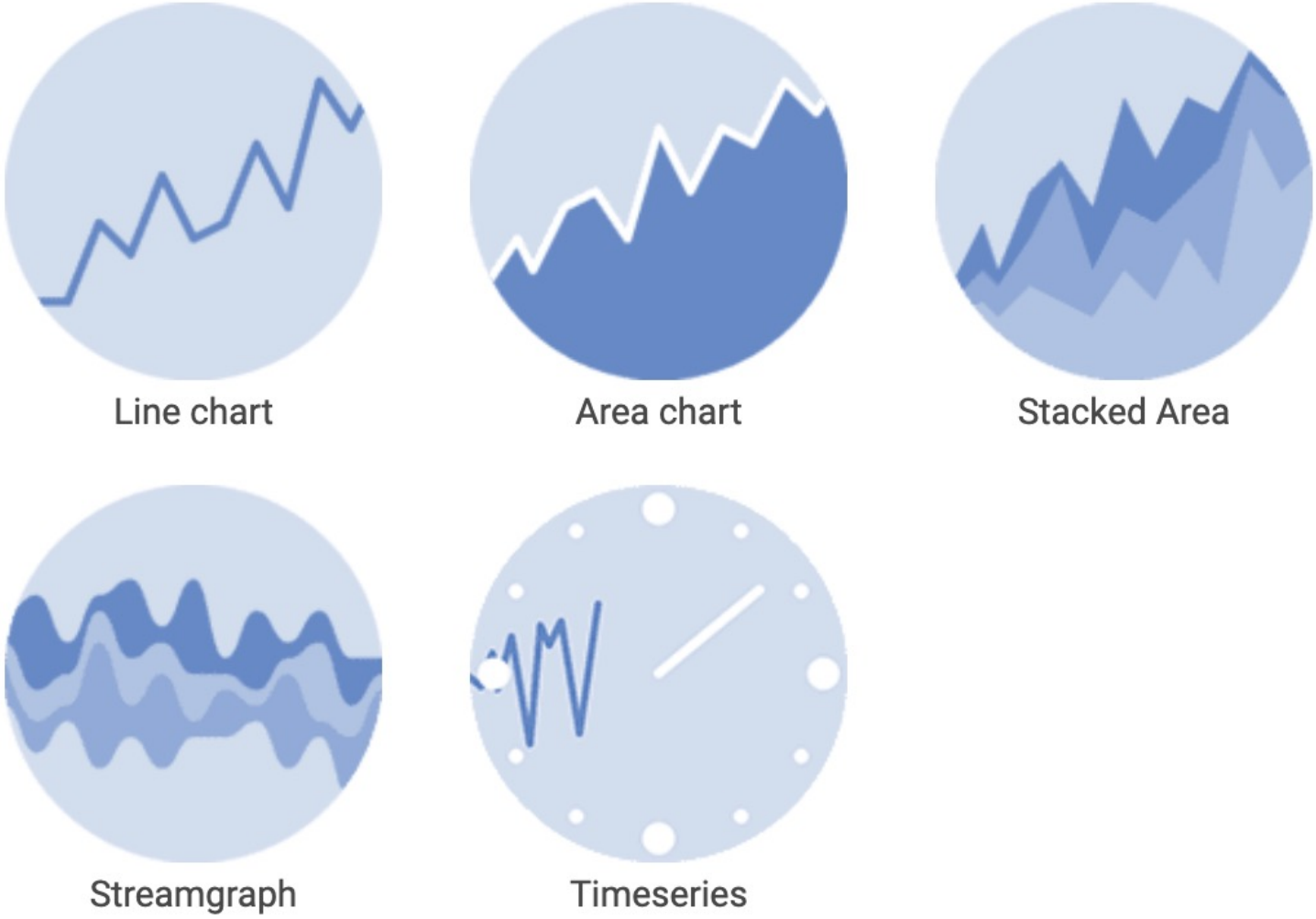
Evolution



https://python-graph-gallery.com/

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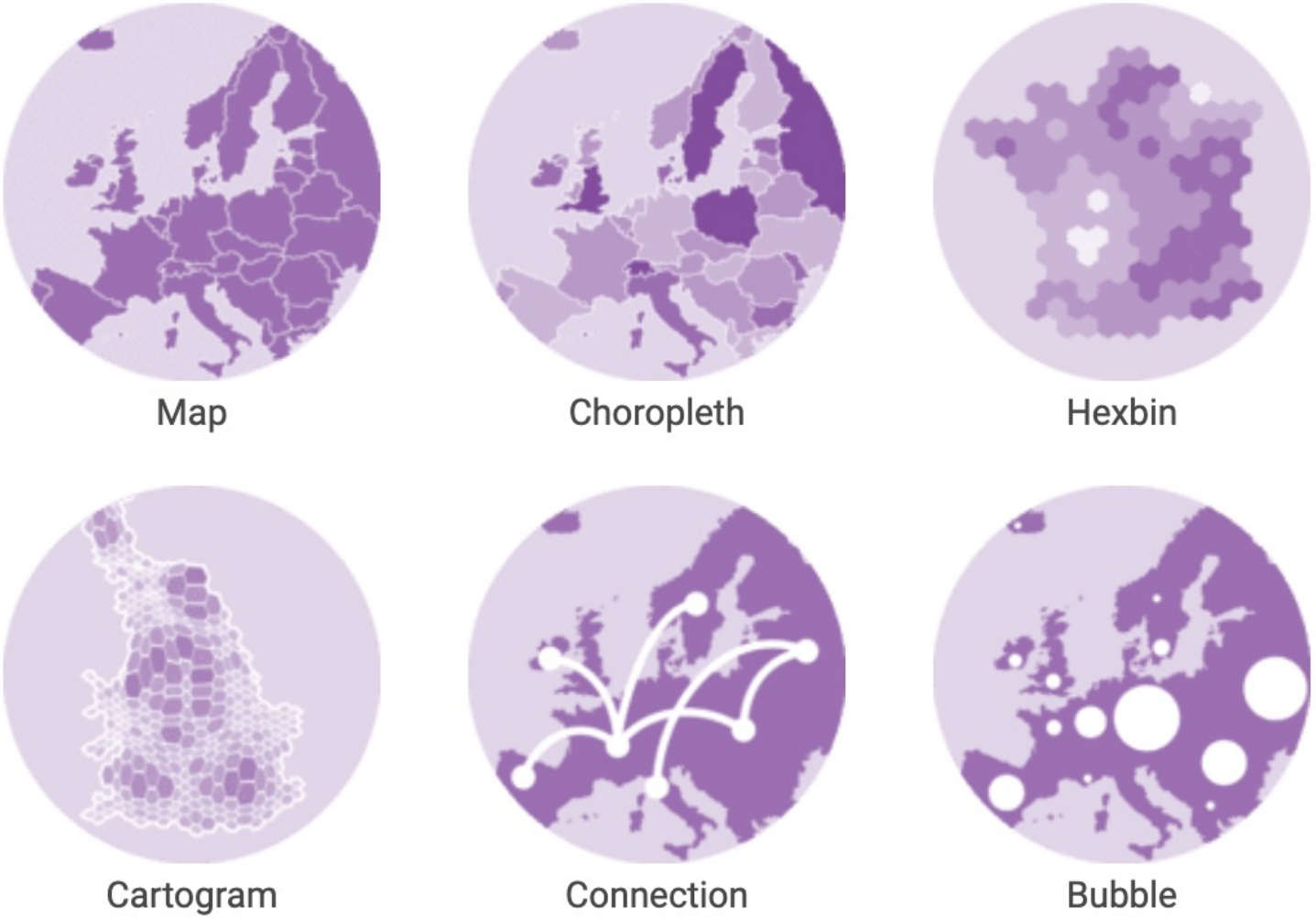
Map



https://python-graph-gallery.com/

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Flow

Chord Diagram

Network

Sankey

Arc Diagram

Edge Bundling

https://python-graph-gallery.com/

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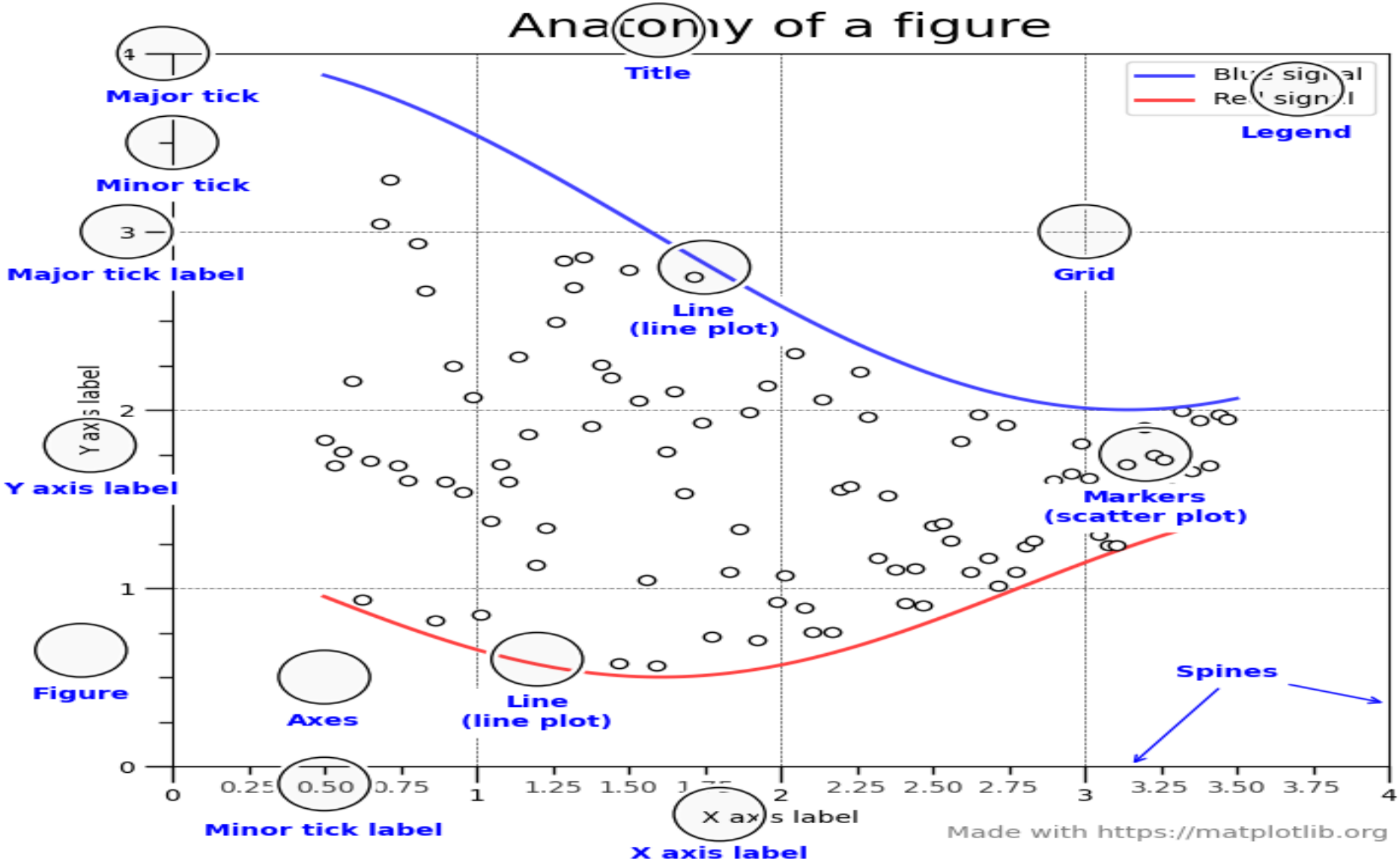
Python Plotting Libraries

- Matplotlib (some interactivity)
- Pandas (basic)
- **Seaborn**
- Ggplot (Copy of famous ‘R’ package)
- Plotly (interactive)
- Bokeh (Interactive)



https://matplotlib.org/3.5.0/gallery/showcase/anatomy.html

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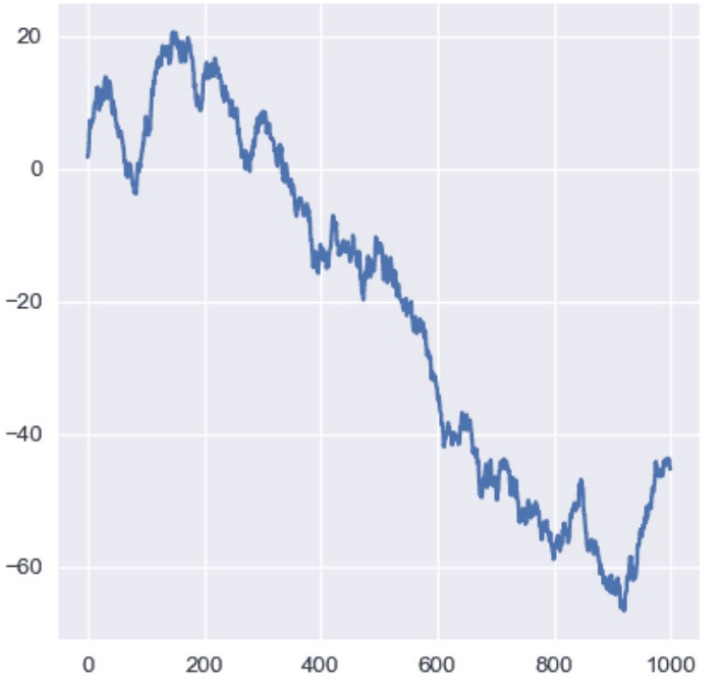
Python Graph Gallery

- Plot + Code




```
# libraries
import matplotlib.pyplot as plt
import numpy as np

# create data
values=np.cumsum(np.random.randn(1000,1))

# use the plot function
plt.plot(values)
```

https://python-graph-gallery.com/line-chart/

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Python Dashboards

- Dash
- Anvil
- Atoti
- Streamlit
- Panel
- Explainer Dashboard

Dashboards

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How to Guide

- Find the data you want
- What story do you want to tell
- Pick from the Python Graph Galley
- Revisit Python lessons

  How to get data (upload, wget, etc)

  Google Packages
- Implement in notebook (or script)

Can you?

- Describe Visualisation
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