Python ↔ R Visualization Cheat Sheet: matplotlib / seaborn ↔ ggplot2

Python: matplotlib + seaborn. R: ggplot2. Snippets are minimal and copy-paste friendly.

Setup (example data)

R (ggplot2)	Python (matplotlib / seaborn)
`library(ggplot2) set.seed(1) df <- data.frame( x = rnorm(200), y = rnorm(200) + 0.5, g = sample(c('A','B'), 200, replace=TRUE) )`	`import numpy as np import pandas as pd import matplotlib.pyplot as plt import seaborn as sns rng = np.random.default_rng(1) df = pd.DataFrame({ 'x': rng.normal(0, 1, 200), 'y': rng.normal(0.5, 1, 200), 'g': rng.choice(['A','B'], 200) })`

Scatter plot

R (ggplot2)	Python (matplotlib / seaborn)
`ggplot(df, aes(x, y)) + geom_point() + theme_minimal()`	`plt.figure() plt.scatter(df['x'], df['y']) plt.xlabel('x'); plt.ylabel('y') plt.show() # seaborn sns.scatterplot(data=df, x='x', y='y') plt.show()`

Scatter colored by group

R (ggplot2)	Python (matplotlib / seaborn)
`ggplot(df, aes(x, y, color=g)) + geom_point(alpha=0.7) + theme_minimal()`	`sns.scatterplot(data=df, x='x', y='y', hue='g', alpha=0.7) plt.show()`

Line plot

R (ggplot2)	Python (matplotlib / seaborn)
`df_line <- data.frame(t = 1:50) df_line$y <- cumsum(rnorm(50)) ggplot(df_line, aes(t, y)) + geom_line() + theme_minimal()`	`t = np.arange(1, 51) y = np.cumsum(rng.normal(0, 1, 50)) plt.figure() plt.plot(t, y) plt.xlabel('t'); plt.ylabel('y') plt.show()`

Histogram

R (ggplot2)	Python (matplotlib / seaborn)

`ggplot(df, aes(x)) + geom_histogram(bins=30) + theme_minimal()`	`plt.figure() plt.hist(df['x'], bins=30) plt.xlabel('x') plt.show()` `sns.histplot(data=df, x='x', bins=30) plt.show()`

Density plot

R (ggplot2)	Python (matplotlib / seaborn)
`ggplot(df, aes(x)) + geom_density() + theme_minimal()`	`sns.kdeplot(data=df, x='x') plt.show()`

Boxplot by group

R (ggplot2)	Python (matplotlib / seaborn)
`ggplot(df, aes(g, y)) + geom_boxplot() + theme_minimal()`	`sns.boxplot(data=df, x='g', y='y') plt.show()`

Bar chart (counts)

R (ggplot2)	Python (matplotlib / seaborn)
`ggplot(df, aes(g)) + geom_bar() + theme_minimal()`	`sns.countplot(data=df, x='g') plt.show()`

Facets / small multiples

R (ggplot2)	Python (matplotlib / seaborn)
`ggplot(df, aes(x, y)) + geom_point(alpha=0.7) + facet_wrap(~ g) + theme_minimal()`	`g = sns.FacetGrid(df, col='g') g.map_dataframe(sns.scatterplot, x='x', y='y', alpha=0.7) plt.show()`

Regression line / trend

R (ggplot2)	Python (matplotlib / seaborn)
`ggplot(df, aes(x, y)) + geom_point(alpha=0.5) + geom_smooth(method='lm', se=TRUE) + theme_minimal()`	`sns.regplot(data=df, x='x', y='y', scatter_kws={'alpha':0.5}) plt.show()`

Titles, labels, theme

R (ggplot2)	Python (matplotlib / seaborn)
`ggplot(df, aes(x, y, color=g)) + geom_point() + labs(title='X vs Y', x='X axis', y='Y axis', color='Group') + theme_minimal()`	`sns.scatterplot(data=df, x='x', y='y', hue='g') plt.title('X vs Y') plt.xlabel('X axis'); plt.ylabel('Y axis') plt.legend(title='Group') plt.show()`