Training Day – 48

\*November 22, Friday\*

* \*Topic:\* Creating a Dashboard
* Integrated multiple Matplotlib visualizations into one figure.
* Example: Combined a line chart, bar chart, and pie chart in subplots.

Matplotlib allows you to combine multiple visualizations (such as line charts, bar charts, and pie charts) into a single figure using subplots. This is useful when you want to display different types of visualizations side-by-side for comparative purposes or for a more comprehensive view of the data.

# Using Subplots in Matplotlib

Subplots allow you to arrange multiple plots in a grid layout. You can specify the number of rows and columns in the grid, and then plot different visualizations in each grid cell.

2. Example: Combining Line Chart, Bar Chart, and Pie Chart in Subplots In this example, we'll create a figure that contains three different plots:

A line chart showing a trend over time.

A bar chart representing categorical data.

A pie chart showing the proportions of categories. Code Example:

import matplotlib.pyplot as plt

import numpy as np

# Sample data

x = np.arange(1, 6) y1 = [2, 4, 6, 8, 10] # Line chart data y2 = [5, 3, 6, 2, 7] # Bar chart data labels = ['A', 'B', 'C', 'D', 'E'] # Pie chart categories sizes = [15, 30, 45, 10, 20] # Pie chart data

# Create a figure with 1 row and 3 columns

fig, axs = plt.subplots(1, 3, figsize=(15, 5))

# Line chart in the first subplot

axs[0].plot(x, y1, marker='o', color='b', label='Trend') axs[0].set\_title('Line Chart') axs[0].set\_xlabel('X Axis') axs[0].set\_ylabel('Y Axis') axs[0].legend()

# Bar chart in the second subplot axs[1].bar(x, y2, color='g', label='Values') axs[1].set\_title('Bar Chart') axs[1].set\_xlabel('Categories') axs[1].set\_ylabel('Values') axs[1].set\_xticks(x) axs[1].set\_xticklabels(labels)

axs[1].legend()

# Pie chart in the third subplot

axs[2].pie(sizes, labels=labels, autopct='%1.1f%%', startangle=90) axs[2].set\_title('Pie Chart')

# Adjust layout to prevent overlap

plt.tight\_layout()

# Show the plot plt.show()

