DATA HANDLING AND VISUALIZATION

MGMT 675
AI-Assisted Financial Analysis
Kerry Back

RICE | BUSINESS
Jones Graduate School of Business

TYPES OF PLOTS

- Distributions
  - Histograms, density plots, box plots, pie charts
- Bivariate
  - Line plots, scatter plots (with regression lines and with transparency), hexbin plots
- 3D
  - 3D plots, contour plots

EXTRAS

- Control linestyle, linewidth, point style, point size, titles, axis labels, axis ticks, font sizes

- Annotations

- Subplots

- Interactive plots saved as html

- Ask Julius to get the history of 3-month, 1-year, 5-year, and 10-year Treasury yields from FRED.

VISUALIZATION EXAMPLES

- Ask Julius to create a density plot of marketcap in the metrics dataset.

- Ask Julius to save as a jpeg and provide a link.

- Ask Julius to create a bar chart of total marketcap by sector using the merged dataset.

- Ask Julius to make the font size larger.

- Ask Julius to create a pie chart of the number of firms by sector using the merged dataset.

- Ask Julius to use seaborn to create a boxplot of marketcap by sector. Ask Julius to save as a png.

- Ask Julius to use plotly to create a boxplot of marketcap by sector in the merged dataset and to include the ticker in the hover data. Ask Julius to save as html.

- Ask Julius to calculate the daily percent changes in the crude oil price and to create a filled density plot using seaborn.

- Ask Julius to create a filled contour plot of the function $z = (4x + y)^2$ for x and y between -2 and 2.

- Ask Julius to create a 3D plot of the same function on the same range.

- Ask Julius to use plotly to create a figure containing line plots of the 3-month, 1-year, 5-year, and 10-year Treasury yields. Ask Julius to save as html.

- Ask Julius to recreate the figure using the plotly_white template.

- Ask Julius to use plotly to create an animation showing a plot of the 3-month, 1-year, 5-year, and 10-year Treasury yields as a function of maturity. Tell Julius to use the date as the animation frame.