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

  - Bar plots, 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 and animations saved as html

DISTRIBUTION OF MARKET CAPS

- Upload the metrics and tickers datasets and ask Julius to merge them on ticker.

- Ask Julius to create a histogram, a density plot, a filled density plot, and a boxplot of marketcap.

- Ask Julius to use seaborn to create boxplots of marketcap by sector.

- Ask Julius to save the plots as jpegs and provide links.

PIE CHARTS AND BAR CHARTS

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

- Ask Julius to create a bar chart of total marketcap by sector.

HOVER DATA

- 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.

FILLED DENSITY PLOT

- Ask Julius to download crude oil prices from FRED, compute percent changes, and create a filled density plot of the percent changes.

SCATTER AND HEXBIN PLOTS

- Ask Julius to download the daily Fama-French factors from Ken French's data library.

- Ask Julius to use seaborn to create a regplot with Mkt-RF on the x axis and SMB on the y axis.

- Ask Julius to set the transparency parameter alpha to 0.1.

- Ask Julius to create a hexbin plot of SMB and Mkt-RF.

ANIMATIONS

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

- Ask Julius to use plotly to create an animation showing all of the yields as functions of maturity using the date as the animation frame.

3D

- 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.