

Stat. 651: Review

Prof. Eric A. Suess

Review

Today we are going to review some of the ideas related to Data Visualization that we have discussed in this class.

In Stat 650 we covered Chapters 1, 2, 4, 5, 6, 7, Appendices A, B, and D.

In Stat 651 we covered Chapters 2, 3, 14, 17, 18 (Chapter 20 will not be on the Final for the class.)

Stat 651

- ▶ ggplot2 and the Grammar of Graphics
- ▶ Interactive Graphs
- ▶ Spatial Data
- ▶ Network graphs

Color

- ▶ ColorBrewer
- ▶ quantitative/sequential
- ▶ divergent
- ▶ qualitative/categorical

Grammar of Graphics

- ▶ Aesthetics - Change one dimension of a graph using one variable.
 - *Do not* change two dimensions with one variable.
- ▶ Scales
- ▶ Guides
- ▶ Facets
- ▶ Layers

Interactive Graphs

- ▶ D3, htmlwidgets, Leaflet, Plot.ly, DataTables, dygraphs, streamsgraphs, Shiny, Tableau, PowerBI
- ▶ What variable is usually used to represent motion/change in a dynamic visualization?
 - **Answer:** *Time*

Spatial Data

- ▶ maps - ggmap, leaflet, ESRI, ArcGIS, MS Excel, Tableau, PowerBI
- ▶ Choropleth maps - Countries, States, Counties, Voting districts
- ▶ Statebin
- ▶ Geocoding
- ▶ Latitude and Longitude

Network graphs

- ▶ Graphs with edges and vertices
- ▶ Centrality
- ▶ Study the ideas of graphs now, it will make learning about how Tensorflow implements computational graphs to fit neural networks.
- ▶ Again these topics are from Chapter 20 and will not be on the Final.

Read the first chapter

- ▶ Read Chapter 1 Look at Data from the online book socviz.
- ▶ In this chapter the author talks about good and bad visualization.
- ▶ Color
- ▶ Shapes