Sep 22, 2025

Data Visualization

Week 1. Introduction

Why "Data Visualization" ?

These factors necessitate that Data Visualization be considered as a separate course:

- The increasing volume of data due to declining storage costs in parallel with technological advancements, and the need to quickly derive insights from this data,

- The effectiveness of visual representation compared to other explanatory techniques,

- The growing demand in the industry for skilled professionals who can extract meaning from data using visual tools.

Aim

- Understanding data visualization methods.

- Practicing data storytelling techniques.

- Gaining awareness of bad visualization habits.

Self-Thinking

How many ways can we use to present data?
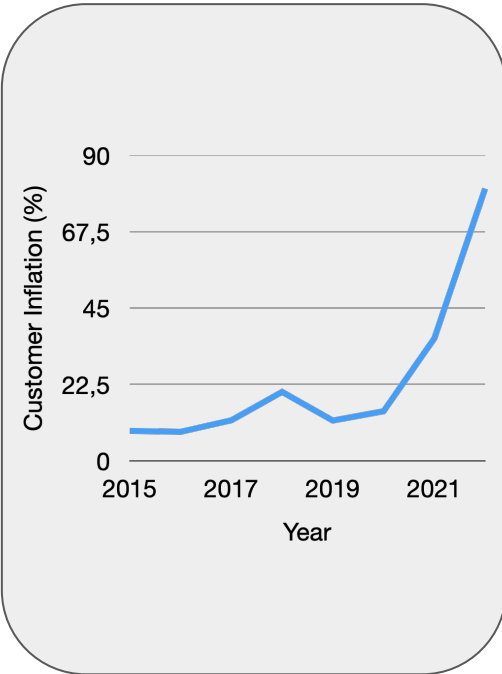
Why "Visual Representation" ?

Text

Since 2015, consumer inflation in Turkey has increased each year compared to the previous year. In 2015, inflation rose by 8.81% compared to the previous year, followed by increases of 8.53%, 11.92%, 20.3%, 11.84%, 14.6%, 36.08%, and 80.21% in the subsequent years.

Table

Year	Consumer Inflation (%)
2015	8.91
2016	8.53
2017	11.92
2018	20.3
2019	11.84
2020	14.6
2021	36.08
2022	80.21

Plot

Why "Visual Representation" ?

The human brain processes visual data 60,000 times faster than text data.*

*https://oit.williams.edu/files/2010/02/using-images-effectively.pdf

Applications

Throughout the course, the exercises will be conducted using R. posit Cloud (https://posit.cloud) will be used for this purpose.
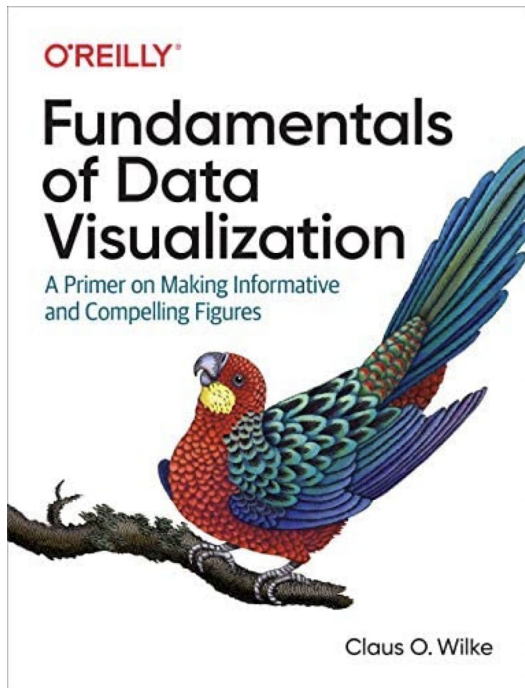
Course Materials

All materials can be accessed through the course's GitHub page:
https://github.com/mcavs/Course_DataVisualization

Grading

- 10 Hands-on exercises - <u>3 of them: *cornerstones of final project*</u> (50%)
  - project draft #1 (title + abstract + data source + RQs) - <u>minor changes can be done</u>
  - project draft #2 (some plots)
  - project draft #3 (improved plots + draft report)

- Project - *poster presentation in the last week* (50%)
  - an open event for 2 hours
  - a poster summarize your project in the size of A1
  - GitHub repository (report + code + data + poster)

Book

It is open source and free:
https://clauswilke.com/dataviz/

Practice

Now 15 mins break time,
please prepare your posit session for hands-on practice <u>before the second lesson</u> (you have 5 mins after break time)!