Contents

Syllabus

Data Visualization Module

Lecture 1: Introduction to the course

Introduction to the Data Visualization module - textbooks - definitions and terminology - visual perception - pre-attentive attributes - Gestalt principles

[21/02/2024] [**slides**]

reading material: Chapter 1 (Munzner 2014)

Lecture 2: Nested model

Analysis framework: nested model - data abstraction (what) - common types of data - task abstraction (why)

[28/02/2024] [**slides**]

reading material: Chapter 2,3,4 (Munzner 2014)

Lecture 3: Visual encoding

Visual encoding - marks and channels - color in visualization - color palette - color deficiency - color spaces

[**slides**] **[06/03/2024]**

reading material: Chapter 5: Marks and Channels, Chapter 10: Map Color and Other Channels (Munzner 2014)

Lecture 4: Common charts

Visualize tabular data - common visual idioms and charts - scatterplot - (stacked) bar chart - streamgraph - dot/line chart - Gantt chart - slopegraph - heatmap - radial bar chart - star plot - radar plot - pie chart - coxcomb chart - parallel coordinates - dual-axis charts - Visual vocabulary

[**slides**] **[13/03/2024]**

reading material: Chapter 7: Arrange Tables (Munzner 2014)

Links: Visual Vocabulary

Lecture 5: Static plotting in Python

Static plotting in Python - basic plotting in matplotlib - style and personalize plots - towards more advanced plotting in matplotlib - introduction to seaborn

[**slides**] [**20/03/2024**]

Resources:

- matplotlib: Examples | Tutorial | User guide
- seaborn: Gallery | Tutorial | API

Lecture 6

Lecture 7

Lecture 8

Lecture 9

Lecture 10

Lecture 11

Lecture 12

Munzner, T. 2014. *Visualization Analysis and Design*. AK Peters Visualization Series. CRC Press. https://books.google.it/books?id=dznSBQAAQBAJ.