

Data Visualization

Instructor

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Office Hours

4 pm – 5 pm, Mondays

Course Overview

Data Visualization (Teams Code: k0z1h3w / zosu1uv)

We are going to learn the basics of data fetching, data preprocessing, visualization of data, and finally publishing the results which we are going to create in this course.

Python and JavaScript is preferred as the programming language for the applications of this course.

Required Text

Interactive Data Visualization with Python 2nd Edition, Packt, *Abha Belorkar et al.*

Building Data Science Applications with FastAPI, Packt, *Francois Voron*

Data Visualization with Python and JavaScript, O'Reilly, *Kyran Dale*

Course Materials

- Python 3.x (Anaconda is preferred)
- Jupyter Notebook from Anaconda
- Pycharm from JetBrains / Visual Studio Code from Microsoft
- Mac / PC with a Linux distro or a Linux terminal in Windows 10/11.

Course Schedule

| Week | Subject | Week | Subject |
|------|--|------|--------------------------------------|
| 01 | Data Structures in Python | 08 | Publishing Data Reports with Flask |
| 02 | Data Preprocessing with NumPy and Pandas | 09 | Basics of JavaScript |
| 03 | Data Visualization with Matplotlib: 2d Plots | 10 | Using JavaScript with FastAPI |
| 04 | Data Visualization with Matplotlib: 3d Plots | 11 | SVGs and HTML with D3.js |
| 05 | Animated Data Visualization with Matplotlib | 12 | Interactive Visualization with D3.js |
| 06 | Data Visualization with Seaborn | 13 | A Dashboard with Python and JS |
| 07 | Creating Interactive Visualization with Plotly | 14 | Deploying the Dashboard to a Server |