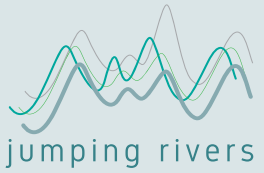
Data visualisation with Seaborn

Parisa Gregg



Welcome

Training Environment access

- Welcome page: https://seaborn.jumpingrivers.training/welcome/
- password: cantaloupe-quince

Materials

- https://github.com/jumpingrivers/2023-nhs-r-seaborn

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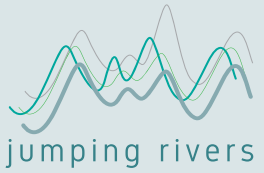
Me



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- **Data science consultancy**
  - Python / R, machine learning, dashboards, API's
- **Data engineering**
  - Data pipelines, server health and security, managed Posit (RStudio) services
- **Training**
  - Python, R, Git, Tableau + many more
- **Community**
  - Conferences/meetups, blogs, open-source

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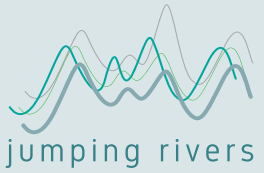
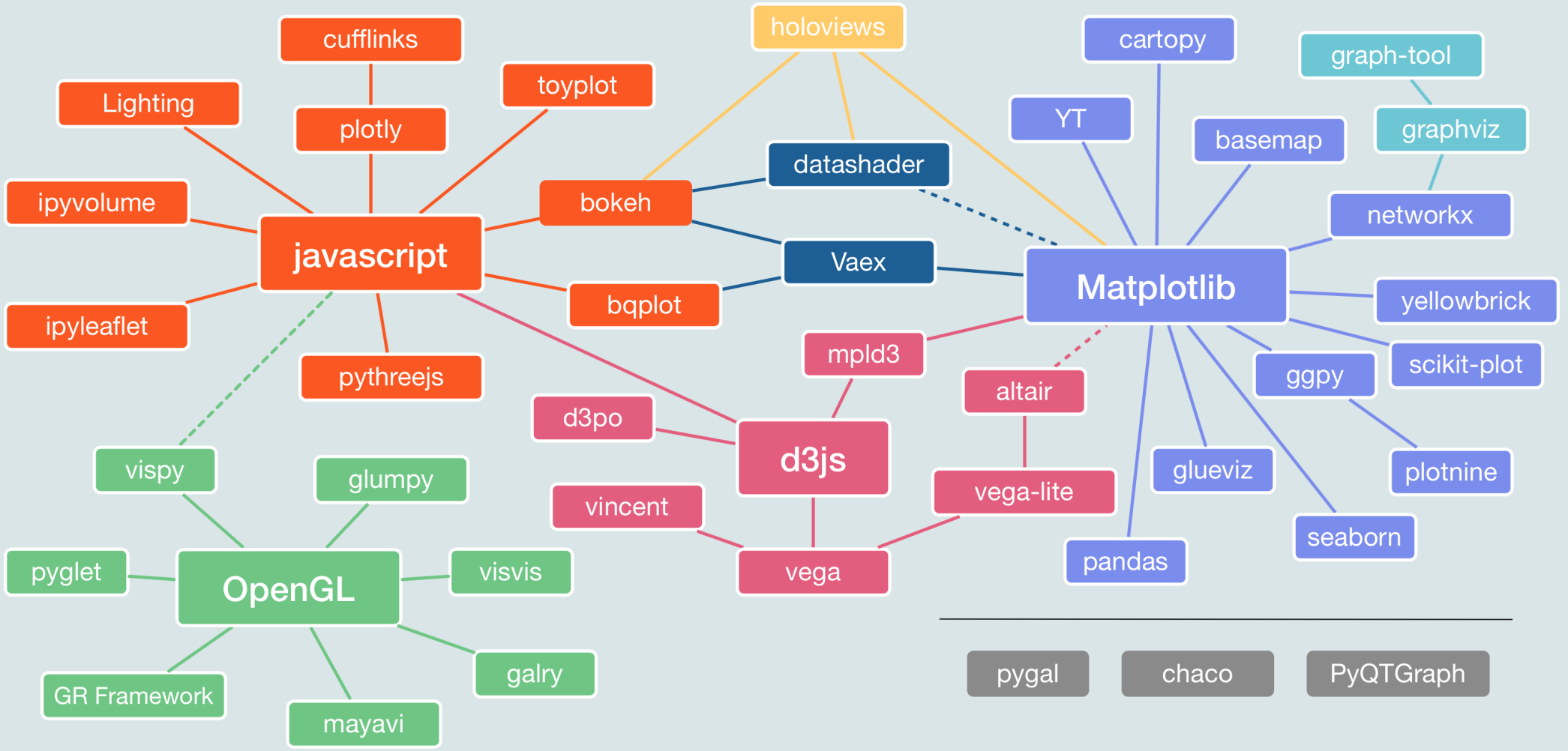
Plotting in Python





Python plotting landscape

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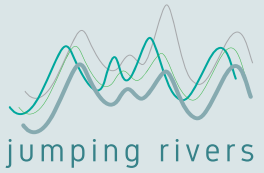
Matplotlib

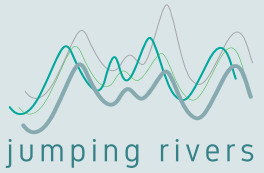
- Stable plotting interface
- Flexible customisation
- Active development community
- Comprehensive documentation



Alternatives to Matplotlib

For all its strengths, Matplotlib *does* have a few downsides:

- The default appearance of plots is not particularly appealing.
- Complex figures are non-trivial and require many lines of code.



Alternatives to Matplotlib

- **Javascript-related**
  - Interactive visualisations
  - plotly
- **OpenGL-related**
  - Interactive 3D figures
  - PyOpenGL,
  - visvis
  - pyglet.

Alternatives to Matplotlib

- **D3.js-related**
  - Interactive data visualisations
  - Optimised for the web
  - mpld3
  - Vega-Altair
- Bulit on top of Matplotlib
  - Plotnine
  - Seaborn

What is Seaborn?

- Builds on Matplotlib
- Integrates with Pandas data structures
- Detailed statistical plots with few lines of code

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What is Seaborn?

New in v0.12

- `seaborn.objects` interface
- More flexible customisation within Seaborn API
- Currently still experimental and not covered in this workshop

The plan

Part 1: Introduction to Seaborn

- First plots
- Seaborn and Matplotlib

Part 2: Statistical visualisations with Seaborn

- Bivariate relationships
- Distributions
- Categorical data
- Multi-panel plots

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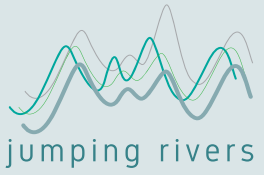
Takeaways

- You'll be able to download every file (including your exercise solutions)
- Materials are also available at https://github.com/jumpingrivers/2023-nhs-r-seaborn

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