

2024
CALDISS WORKSHOPS

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Update your digital skills. Learn new things.





CALDISS is short for Computational Analytics Laboratory of Digital Social Science. We are here to help students and researchers at The Faculty of Social Sciences and Humanities with various kinds of data related issues and obstacles. Therefore, we provide different workshop introductions and courses within different software and its uses.

Please look through this catalogue to see our courses.

### Introduction to data analysis with R/Python



This workshop is available either in R or Python.

This workshop introduces how to do data analysis in either R or Python. Both R and Python are very powerful tools for data analysis and can be used for statistics, visualization, web scraping, machine learning, and so on. After this workshop, you will have the basic knowledge of the language and software to jump into one of our many workshops offered through this workshop catalogue.

Read more about this introduction on the next page...



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in

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#### **Duration**

3 hours

#### Requirements

✓ Own laptop or MacBook. Otherwise, no further prerequisites.

#### Request now

Request by filling out the form here: https://bit.ly/3aCmwsN

Or contact CALDISS: <a href="mailto:caldiss@adm.aau.dk">caldiss@adm.aau.dk</a>



- Working with the R/Python language in either RStudio (for R) or Jupyter Notebook (for Python)
- > Creating variables and objects
- Importing and exporting data
- Creating simple visualizations

# Extended introduction in R/Python

This workshop is available either in R or Python and builds on the introductory workshop. It will focus on the generic programming functions of R or Python.

Read more about this course on the next page...

#### Requirements

- ✓ Own laptop or MacBook
- √ Basic R/Python (see our introductory workshop)

#### Request now

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#### You will work with:







#### Difficulty

Beginner

Intermediate

Advanced

#### Duration

3 hours



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- Basic programming skills in R/Python (if statements and for loops)
- Creating your own basic functions
- Using functional programming to create reusable code
- > Applying functions on tabular data

# Working with Table Data in R/Python

This workshop is available either in R or Python.

Building on basic knowledge of Python/R, this workshop teaches how to work with table data: from data-wrangling to doing statistics and basic visualizations.

**Note!** This workshop does not teach the mathematical and theoretical foundations of statistics but illustrates how to do statistics with the programming language.

#### Requirements

- ✓ Own laptop or MacBook
- ✓ Basic R/Python (see our introductory workshop)
- Statistics (preferred)

#### Request now

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#### You will work with:



#### Difficulty

Beginner Intermediate Advanced

#### Duration

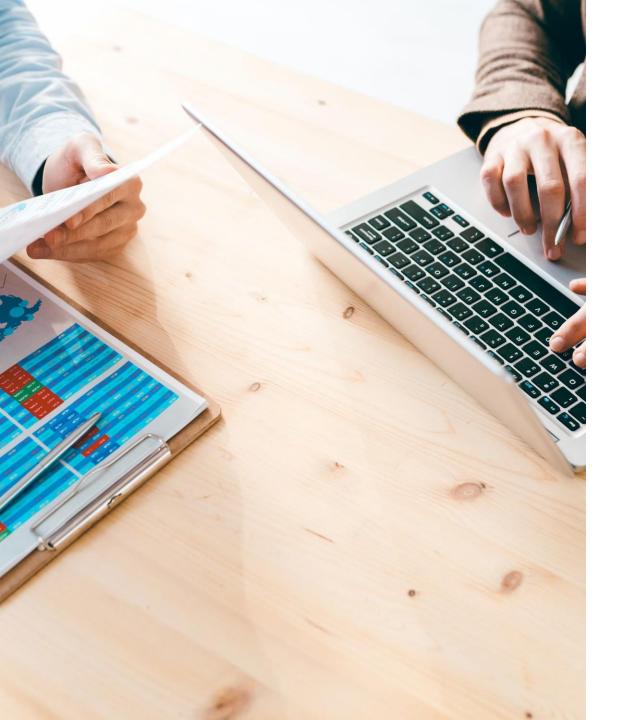
2x3 hours



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- Why Python/R for data wrangling and statistics?
- Working with data frames: data structured in rows and columns
- > Joining, merging, and creating new variables
- Re-coding, filtering, and sorting data
- Working with text variables (strings) and dates
- Doing descriptive statistics and creating models
- Visualizing data

# Text Mining and Natural Language Processing in R/Python

This workshop is available either in R or Python.

Building on basic knowledge of R/Python, this workshop will cover how to work with textual data in R/Python. The workshop will cover everything from reading text data into R/Python, various text mining techniques to basic Natural Language Processing (NLP) algorithms and tools.

Read more about this workshop on the next page...

#### Requirements

- ✓ Own laptop or MacBook
- √ Basic R/Python (see our introductory workshop)

#### Request now

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#### You will work with:



///



#### Difficulty

Beginner

Intermediate

Advanced

#### Duration

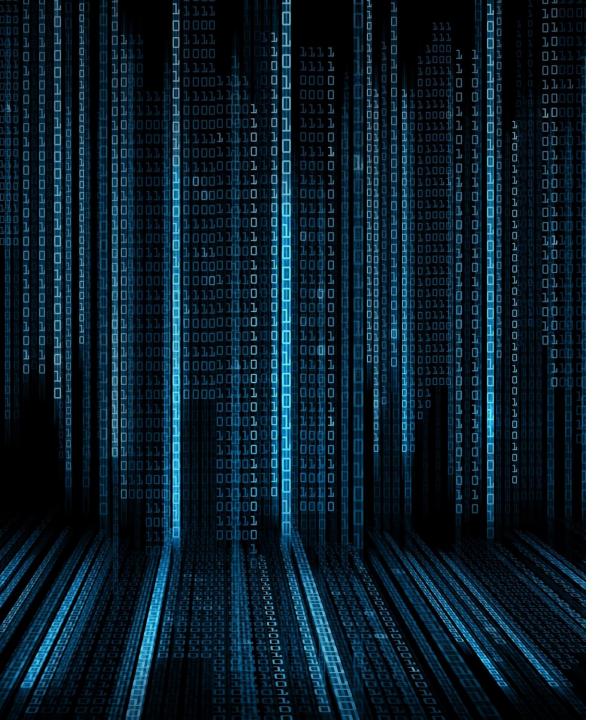
2x3 hours (2 days)



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- Loading textual data into R/Python
- Getting familiar with essential text mining packages in R/Python
- Building a corpus in R/Python
- Pre-processing text data for analysis
- Using language models
- Exploring key features of texts (keywords, word associations)
- Discovering common themes in texts using topic modeling

#### Web Scraping with R/Python



This workshop is available either in R or Python.

The web presents both a new data source and a new research field for researchers. This has seen an increased interest in techniques broadly referred to as "web scraping": Getting data from the web. This workshop introduces the practices of and tools for web scraping in R/Python. It covers both how the programming languages interact with the web and how they can be used for collecting data either via scraping or by using APIs.



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#### **Duration**

2x3 hours

#### Requirements

- ✓ Own laptop or MacBook
- √ Basic R/Python (see our introductory workshop)

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- What is "web scraping"?
- How programming languages interact with the web
- Collecting raw website data using R/Python
- Parsing raw website data using R/Python
- > Introduction to API's
- > Good practices and considerations when working with the web

# Working with Register Data in SAS

Statistics Denmark (https://www.dst.dk/) possess a variety of register data containing a lot of different information. Working with data from Statistics Denmark can present a challenge compared to typical data analysis workflows due to the peculiar structure and formats of the data.

Read more about this workshop on the next page...

#### Requirements

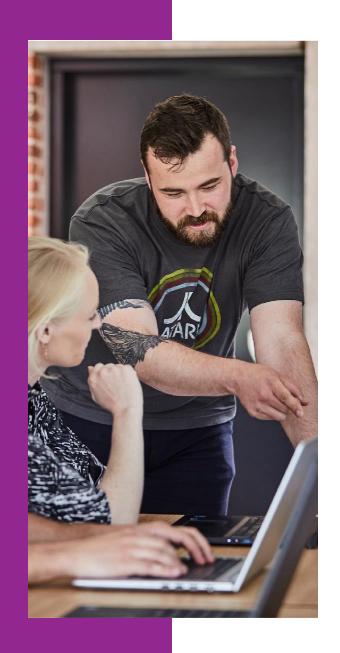
- ✓ Own laptop or MacBook
- √ Basic SAS (see our Introductory workshop)

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You will work with:



Difficulty

Beginner

Intermediate

Advanced

Duration

3 hours



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# What are the advantages of taking this workshop?

The workshop introduces good practices for getting started working with register data - both what register data looks like and how to work with it in either SAS. The workshop contains exercises on simulated register data allowing you to familiarize yourself with the data before you have to work with the real thing.

- Types and structures of register data
- Tips and tricks for combining register data in SAS
- ► How to use the documentation from Statistics Denmark
- How to handle frequently encountered problems when working with register data (string and date variables)

### Introduction to Qualitative Data Analysis with NVivo



This workshop introduces doing qualitative data analysis with NVivo. The workshop will introduce the NVivo interface and main terminology. Throughout the workshop, you will create your own NVivo project while being introduced to features like importing, querying, and coding data in NVivo.

It is possible to work with data of your own during the workshop. The introduction can be supplemented with a more in-depth workshop on using NVivo.

Read more about this workshop on the next page...



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#### Duration

3 hours

#### Requirements

✓ Own laptop or MacBook. Otherwise, no further prerequisites.

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- What is NVivo?
- > Navigating the NVivo user interface
- > The main terminology of NVivo: files, codes, cases, classifications, and attributes
- Creating a project in NVivo
- Coding text files to codes and cases
- > Querying your data for common or specific terms

### Analyzing Data with NVivo

Building on a basic understanding of NVivo, this workshop introduces various tools for exploring and analyzing data in an existing NVivo project. NVivo offers a ton of functions for finding specific intersections of data, visualizing summaries, reporting results, and so on. How to further develop an NVivo project and track changes is also covered.

It is recommended to work with data of your own during the workshop.

Read more about this workshop on the next page...

#### Requirements

- ✓ Own laptop or MacBook
- √ Basic NVivo (see our introductory workshop)

#### Request now

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#### You will work with:



#### Difficulty

Beginner Intermediate

Advanced

#### **Duration**

3 hours

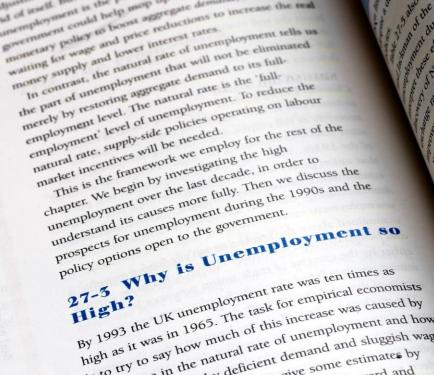


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- Exploring an NVivo project using diagrams
- Creating summary visualizations using charts
- Using coding and crosstab queries for finding specific excerpts
- Recoding and restructuring a project
- Using sets to structure and track changes in a project



high as it was in 1903. The tank to say how much of this increase was caused by is to try to say how natural rate of unemployment and the say in the natural rate of unemployment. is to try to say now much of unemployment and how an increase in the natural rate of unemployment and sluggish an increase in the natural rate of unemployment and sluggish an increase in the natural rate of unemployment and sluggish an increase in the natural rate of unemployment and sluggish an increase in the natural rate of unemployment and how an increase in the natural and deficient demand and sluggish wage much was caused by deficient give some estimates by much was caused by action of Oxford and Richard Lavard adjustment. In Table 27-5 we give some estimates by adjustment. In Table 27 of the London School of Established Stephen Nickell of Oxford and Richard Layard and And Stephen Nickell of Oaton School of Economics.

Richard Jackman of the London School of Economics. Richard Jackman
Table 27-5 shows the average unemployment rate during seven periods, from 1956-59 through to natural rate of during seven periods, shows the steady rise in the 1991–95. The top row shows in successive with the average unemployment rate in successive periods. Figure average unemploy.

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The second row shows that there has been a steady rise. in the natural or equilibrium rate of unemployment, which we ignore here. in the natural or equalities the 1950s and the 1980s.

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# Go learn!

