

# Tutorial F - Machine learning using the PCNtoolkit

## Content

Would you like to learn more about modeling individual differences and heterogeneity in psychiatry? In this tutorial, we will abandon the classical patient vs. healthy control framework. You will be guided through how to run an analysis using normative modeling implemented in the PCNtoolkit (using cloud-hosted Python notebooks in Google Colab).

## Installation guide

Attendees should have a Google account and Google Chrome installed on their laptops. All of the tutorial will be run on Google Colab. If attendees wish to familiarize themselves with Colab before the tutorial, they can look at these links to get a sense of how Colab works:

- <https://colab.research.google.com/notebooks/intro.ipynb>
- <https://www.youtube.com/watch?v=inN8seMm7UI>

However, it is not required to look at these links and should only be done if attendees feel like being extra prepared. The tutorial will contain brief instructions on how to get started using Google Colab.

## Further support

If you have trouble getting to this point before the Practical Tutorial Session, please consult the **#tutorial-helpdesk channel on Discord**. You will be given access to the CPC discord workspace at the beginning of the course. Check if anyone has had the same issue and has managed to solve it and how. If no one else has encountered the same problem, post your question. We will be monitoring the channel and providing support. In addition, given the volume of attendees this year, we would be really grateful if you could assist us by answering queries on Discord yourself if you come across a problem, you know and have solved.

## Tutors

- Charlotte Fraza ([charlotte.fraza@donders.ru.nl](mailto:charlotte.fraza@donders.ru.nl))
- Barbora Rehak Bučková ([barbora.rehak-buckova@radboudumc.nl](mailto:barbora.rehak-buckova@radboudumc.nl))