

# NEURAL NETWORKS & DEEP LEARNING

## FROM THE NEURON TO CHATGPT

### COURSE CONTENT

This course offers basic knowledge and an introduction to **programming first networks** suitable especially for application in **social science and political science research**. This specifically includes models of the area of classification, topic modeling and Natural Language Processing in general.

### BASIC FACTS

- Block course (1-3 June 2023)
- 6 ECTS
- Final submission: group project
- No previous knowledge needed

The course consists of two phases: a **block seminar (1-3 June 2023)** and a **group project phase** (final submission: 15th September 2023).

#### INTENSIVE COURSE

Day 1: Background on **neural networks** and manual implementation in Python

Day 2: Adaptation of **deep learning** for political science research using Python libraries

Day 3: Introduction to **Natural Language Processing** and adaptation in Python

#### GROUP PROJECT

Students will **work together on projects** of their own choosing building either an own neural network or fine-tuning a pre-existing one. There will be both **monthly discussions** on the individual projects as well as **insights on important challenges** of every working stage.

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CONTACT