

# Automated Image and Video Analysis for Social Scientists

*ViDSS International Workshop*

Digitisation has both increased the presence of images in daily life and made it easier for scholars to access and collect large quantities of pictures. In this course, we'll dig into the necessary theoretical and methodological expertise needed to apply machine learning methods to address social science questions. We will combine theoretical sessions where we'll discuss research using computer vision methods for the study of politics, communication science, etc.; with sessions where we'll cover in detail key methodological advances needed to fully understand state-of-the-art computer vision methods (deep learning, neural networks, convolutional neural networks, etc.), as well as practical sessions where we'll go over Python tutorials implementing different computer vision techniques, for image processing (e.g. splitting videos into analytical frames), object and face detection, image (supervised and unsupervised) classification, facial trait analysis, etc.

**Lecturer:** Felicia Loecherbach, PhD (Postdoctoral Fellow, New York University)

**Participants:** Student members of the Vienna Doctoral School of Social Sciences (ViDSS). If places are available, doctoral candidates in the social sciences who are not (yet) ViDSS members can join. Doctoral candidates receive 2 ECTS upon participation. Postdoctoral researchers may apply but doctoral candidates will be prioritised.

The practical part of the course is taught in Python but is also accessible for students only knowing R. However, for Python beginners, we do recommend to acquire basic Python skills, as covered by the course "Python 3 Introduction" at the [ZID](#) (new courses will go up for the next semester).

**Date:** 29.04.2024 09:00–17:00  
30.04.2024 09:00–17:00

**Venue:** ViDSS Meeting Room, Kolingasse 14–16, 1090 Vienna, OG01 (SR 11)

**Capacity:** 20

**Application:** Please send an e-mail to [daniel.wiesner@univie.ac.at](mailto:daniel.wiesner@univie.ac.at) (17.03.2024)

**Organisers:** Hannah Greber, Daniel Wiesner

## Preliminary programme:

Day 1	09:00–12:00	Lecture: Introduction to Images-as-Data in Social Science Research Lecture: Introduction to Neural Nets and Computer Vision
	13:00–17:00	Technical Setup and First Steps Tutorial: Intro to Images as Data and Image Processing Lecture and Tutorial: Supervised Classification
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Day 2	09:00–12:00	Lecture and Tutorial: Unsupervised Classification Tutorial: Face Detection, Recognition and Analysis
	13:00–17:00	Optional Tutorial: Multimodal Modelling Working on own datasets and additional questions