STOCKHOLM UNIVERSITY
Department of Psychology

Syllabus

Machine Learning for Social Scientists
7.5 Credits

Code: PSFOM01
Finalized by: Prefekt vid Psykologiska institutionen, 2024-09-16
Valid from: Autumn semester 2024 (2024-09-02)
Level within study regulation: Third cycle

Course modules Machine Learning for Social Scientists, 7.5 Credits

1. Entry requirements

Admitted to doctoral studies.

2. Learning outcomes

To pass the course, the student should be able to

- Define and differentiate between supervised and unsupervised learning methods.

- Apply regression and classification algorithms to analyze social science data, including linear and logistic regression, k-NN, SVM, decision trees, and random forests.

- Implement clustering techniques and dimensionality reduction methods for unsupervised learning tasks.

- Develop and train basic neural network architectures, and evaluate their performance.

3. Content

The course covers both theory and practical applications of machine learning in social science, with a focus on the latter.

4. Mandatory exams

Students must attend at least four workshops, as well as the concluding seminar with project presentations.

5. Forms of examination

The course is examined by take-home assignments with practical exercises and a take-home exam.

6. Form of instruction

The teaching consists of lectures and lab sessions.