



FID3111 Conformal Prediction

7.5 credits

Konform prediktion

This is a translation of the Swedish, legally binding, course syllabus.

Establishment

The official course syllabus is valid from the autumn semester 2026 as decided by the Faculty Board: dnr PA-2026-0008. Decision date: 2026-08-25.

Grading scale

P, F

Education cycle

Third cycle

Specific prerequisites

Enrolled as a doctoral student.

Intended learning outcomes

Having passed the course, the student should be able to

- account for and discuss the application of techniques for conformal prediction and related frameworks
- implement and apply techniques for conformal prediction to real-world problems, including to control the error rate across groups and to quantify uncertainty when approximating complex models

- formulate research questions within the area of conformal prediction
- design and execute scientific investigations within the area of conformal prediction
- present results and draw conclusions from scientific investigations within conformal prediction
- critically review research contributions within conformal prediction

Course contents

The course covers the following topics:

- theoretical foundations of conformal prediction
- conformal classifiers, regressors and predictive systems
- Mondrian conformal prediction
- conformal anomaly and change-point detection
- software for conformal prediction
- applications of conformal prediction, e.g., within other research areas and application domains
- research methodology for conformal prediction

Examination

- INL1 - Assignment, 7.5 credits, grading scale: P, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability. The examiner may apply another examination format when re-examining individual students. If the course is discontinued, students may request to be examined during the following two academic years.

In order to pass the course, the student needs to

- orally present a chosen topic within the seminar series
- prepare for and actively engage in the discussion of each presented topic within the seminar series
- write and present a scientific paper, including a novel, well-motivated research question, a design of an empirical and/or theoretical investigation to answer the question, results and conclusions from the investigation
- review scientific papers

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.

