



FDD3334 Reading Course on Statistical Anomaly Detection 4.5 credits

Läskurs om statistisk avvikelsetektion

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

If the course is discontinued, students may request to be examined during the following two academic years

Establishment

Course syllabus for FDD3334 valid from Autumn 2014

Grading scale

Education cycle

Third cycle

Specific prerequisites

Knowledge of statistics and computer science.

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

On completion of the course, the student should be able to:

- present an overview over the main methods for statistical anomaly detection.
- evaluate and discuss differences between different methods in terms of their advantages and disadvantages.
- identify and discuss the main challenges of anomaly detection.
- use basic anomaly detection in simple cases.

Course contents

Methods for statistical anomaly detection

Parametric and non-parametric statistical modelling

Bayesian methods for anomaly detection

Course literature

A collection of scientific articles that cover a number of main categories of statistical anomaly detection and examples of their applications.

Examination

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.

Other requirements for final grade

- SEM1 – Reading group, 3.0 credits, grading scale: P, F
- INL1 – Written assignment, 1.5 credits, grading scale: P, F

Examination is carried out by active participation in a reading group, including oral presentation of at least two articles within statistical anomaly detection, and a home assignment in which you should choose and apply some basic anomaly detection method to a given data set.

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.