

Introduction to Artificial Intelligence , 2.0 credits

Introduktion till Artificiell Intelligens , 2.0 hp

Third-cycle education course

6FITN80

Department of Science and Technology

Valid from: First half-year 2026

Approved by
The Board of PhD Studies

Approved
2026-03-03

Registration number

Entry requirements

Admitted to doctoral studies.

Specific information

This course gives an Introduction and reviews the history (the basics) of modern AI systems. The goals are to learn how to use AI for scientific and technical writing (information sorting and retrieval, paper writing, prompting and retrieval-augmented generation (RAG)), how to incorporate AI systems in daily development tasks (software development, automation), aspects regarding responsible AI and the legal context at EU level, where to find resources (models and data) and how to perform systematic evaluation of systems and models (how LLMs are evaluated and their limitations, risk assessment of agentic systems).

Learning outcomes

On completing the course, the student has shown:

- Understanding of the plethora of existing AI systems, their strengths and weaknesses
- The ability to use LLM systems to analyze, summarize and aggregate complex text corpora
- The ability to use LLM to summarize and critique individual text
- The ability to use AI based software development systems
- Knowledge of EU AI act and ethical implications
- Ability to assess risks of agentic systems

Contents

This course is basically designed to be a "handbook" for researchers who want to navigate the current AI landscape. Instead of just seeing AI as a "black box" that gives you answers, we want you to treat these systems as intellectual co-pilots. The goal is to move from being a passive user to being a critical architect of your own research and daily development workflow, and leverage these models and systems in a way that ensures that high standards of rigorous technical methods are kept. The course consists of four parts. Part 1: Introduction and history (The basics). Part 2: Using AI for scientific writing and development Part 3: Responsible AI & EU legal context. Part 4: Resources and evaluation.

Educational methods

The course is given in the form of lectures (4 x 3h), seminars (2 x 1h) and labs (2 x 1h). In addition to this, the participants practice self-study.

Examination

- Active participation in seminars
- Individually written report on laboratory work

Grading

Two-grade scale

Course literature

A list of recommended literature will be provided by the course coordinator before the start of the course.

General information

Priority will be given to doctoral students at ITN, and the teaching will take place on Campus Norrköping.