



Project module description

General module information

Title: Adaptive Media Systems

Type: Project module

Language of instruction: English

Location of the lecture: Campus Aalborg

ECTS points: 15 ECTS

Period: 1 September 2022 — 31 January 2023

Placement

1st semester, M.Sc. in Medialogy

Module coordinator

[Hendrik Knoche](#) (coordinator), [Nicola Walker](#) (secretary)

Academic content and relationships to other modules/semesters

The formal study plan description of the module can be found here:

<https://moduler.aau.dk/course/2022-2023/MSNMEDM1221?lang=da-DK>

In this module, students will investigate the potentials of adaptive systems based on machine learning in one or more of the following ways:

1. based on analysis of existing data (e.g., from existing public data sets or provided by the supervisor) and previous research, design, implement, and evaluate an adaptive system
2. Generate data from initial user interactions e.g., an early prototype and use as in 1.
3. Create and evaluate an adaptive system that adapts to or in real-time during user input (e.g., a novel gestural interface) based on machine learning
4. Gather (and evaluate) pre-existing (pre-trained) machine learning models/classifiers, to design, build, and evaluate a new application case

All four projects also have to make use of statistical analysis and/or machine learning for the analysis of the evaluation data.

The project module includes

- Three status seminars, which serve as formal peer reviews in which the students develop their scientific state of the art. This is supported by a self-study MOOC-course and a number of mandatory lectures on scientific communication that help students prepare their project deliverables.
- A one-day workshop (MedCon) event in December after hand-in for which students prepare an extended abstract of their semester project and present their work as both a poster and an oral presentation. Feedback from this event can be used to inform the project exam presentation.

The deliverables for the semester project include a scientific paper, work sheets, an AV production, and a poster including a presentation of the latter at the MedCon.

Objectives and learning goals

The module develops the student's knowledge in:

- data types, their collection, and manipulation,
- machine learning methods and how to apply them in adaptive media systems, and
- scientific methodology and hypothesis-driven research

The module develops the student's skills in:

- Automated collection, preprocessing, cleaning, and mangling of data from users and their interactions
- Analyzing the applicability of machine learning techniques and other means to enable adaptivity



Regarding their PBL competencies students will be able to:

- apply scientific methodology and techniques, based on an evaluation of selected relevant literature to create a synthesized state-of-the-art, review including explaining and applying correct terminology, generate hypotheses, evaluate the project's problem area in a relevant scientific context, and explain its relevance in science and society
- communicate the research-based foundation, problem and results through critical writing, and report orally and in writing in a poster, presentation, and paper format

The students select project proposals from a curated list.

Extent and expected workload

The module involves 15 ECTS of work, consisting of supervised, student-governed problem-oriented project work, supported by 5 lectures on scientific communication.

Pre-requisites for participation

The prerequisites for participation are listed in the module description (see link above).

Examination

The module is examined through a standard group-based project exam. See the module description (see link above) for any further detail on requirements, examination and assessment.

It is a prerequisite for being allowed to take part in the project examination that the project documentation is handed in on time ([see exam rules](#)).