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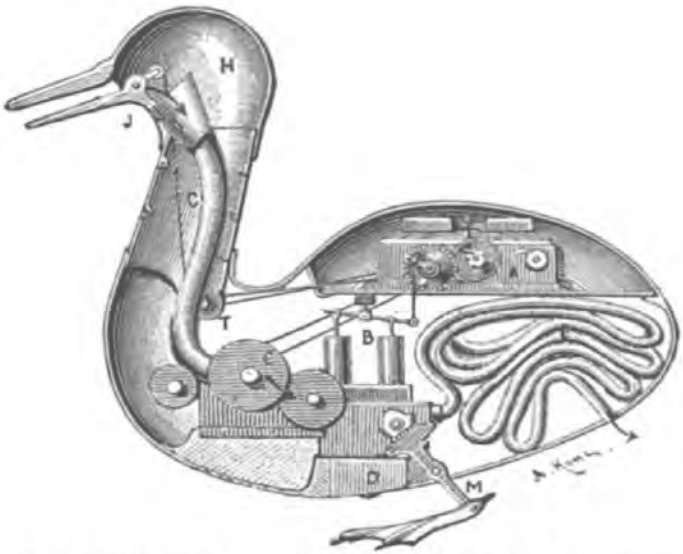
Zürcher Hochschule der Künste
Zurich University of the Arts

UNIVERSITÄT
BERN

CAS / Modules in

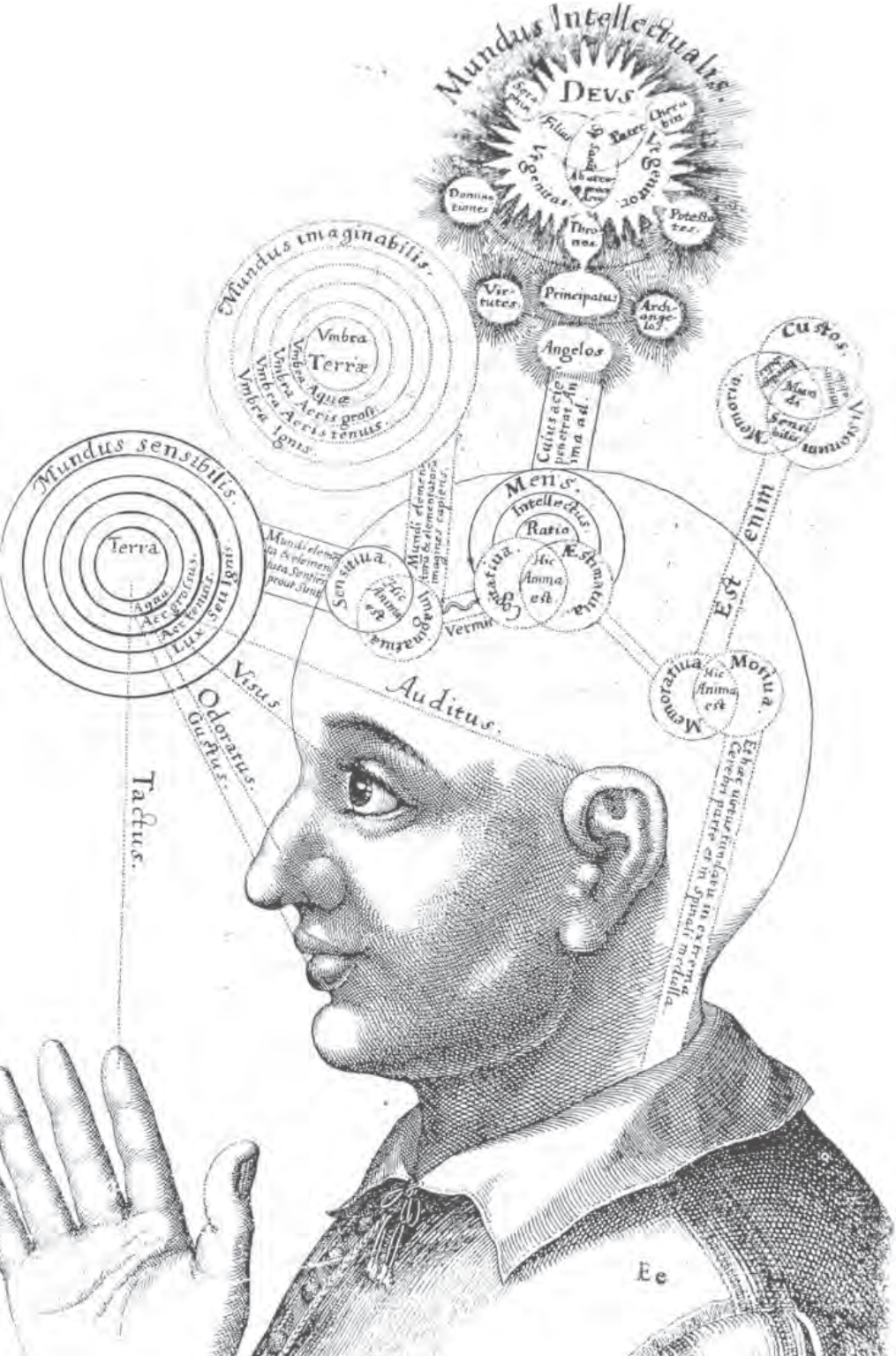
AI for Creative Practices

Continuing Education in Extended Intelligence



INTERIOR OF VAUCANSON'S AUTOMATIC DUCK.

A, clockwork; *B*, pump; *C*, mill for grinding grain; *F*, intestinal tube; *J*, bill; *H*, head; *M*, feet.


Mundus Intellectualis.
DEVS
Filius
Pater
Cherubin
Vt genitus
Vt genitor
Dominationes
Thronos
Potestates
Virtutes
Principatus
Archangelos
Angelos
Mundus imaginabilis.
Vmbra Terræ
Vmbra Aquæ
Vmbra Aeris grossi
Vmbra Aeris tenuis
Vmbra Ignis
Cuius acie penetrat Anima ad.
Custos.
Memoria.
Mundi
Sensibilis
Visionum
Est enim
Mundus sensibilis.
Terra
Aqua
Aer grossus
Aer tenuis
Lux
Seu Ignis
Mundi elementa & elementata Sentiens prout sunt
Sensitiua
Hic Anima est
Imaginatiua
Mundi elementa & elementatorum imagines capiens
Mens.
Intellectus
Ratio
Cogitatiua
Æstimatiua
Hic Anima est
Vermis
Memoratiua
Motiua
Hic Anima est
Visus
Auditus.
Odoratus.
Gustus.
Tactus.
Et hæc uirtus fundatu in extrema Cerebri parte et in Spinali medulla
Ee

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CAS / Modules in AI for Creative Practices

Introduction

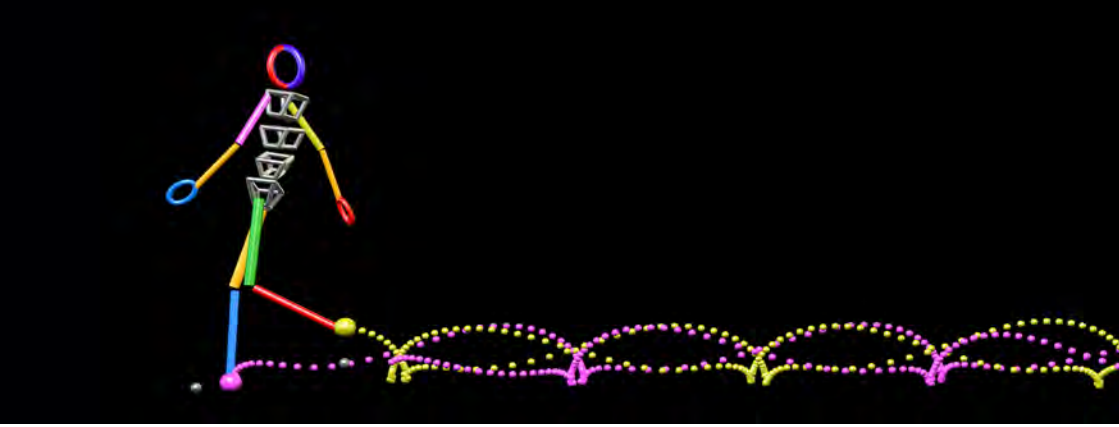
With the advent of ChatGPT and the explosion of AI-driven apps and websites, anyone can create AI-generated content. So-called artificial intelligence, which is becoming increasingly ubiquitous, is also infiltrating art and other creative practices. Trained with examples, computer models can learn to reproduce masters' signature or generate new works. For artists and creative professionals to be able to adapt AI techniques to their specific interests and needs, it is crucial to gain an understanding for the concepts, functional principles, and programming tools that underlie these techniques. AI techniques are new tools that include programming, algorithm development and machine learning models. Artists and creative professionals who want to work with AI need to learn how to use these tools. This CAS provides the technical and conceptual skills to understand AI algorithms and to design and train them for creative applications in the domains of language, images, sound, and movement, along with key cultural, philosophical, and aesthetic questions, and ethical debates around AI.

The CAS AICP is divided into six modules and runs over 20 course days from August to January. It is aimed at artists, technical professionals working for artists, designers, people active in the creative industries, and art institutions. Designed to align with the participants' main professional and study activities, the teaching and learning approaches are oriented towards teamwork and discussion, and aimed at developing practical competency. The final block concludes with an exhibition of the works created during the CAS.



«Research is a kind of future, that is not known in advance.»

PROF. DR. CHRIS SALTER
Immersive Space Lab, Zurich University of the Arts



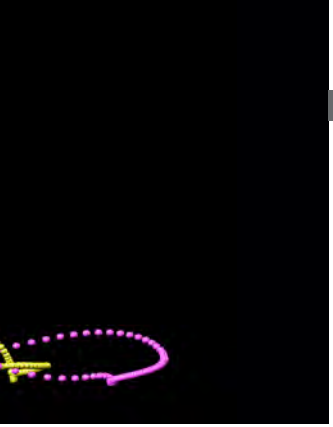
Target Groups

Aimed at students and professionals from the public/private sector that hold a degree from a university, university of applied sciences, or university of arts (e.g. BSc, BA, MSc, MA, PhD).

SUITABLE AND INTENDED FOR CREATIVE PRACTITIONERS AND RESEARCHERS:

Gain an overview of AI in the creative sector with a focus on current developments (deep learning models) and hands-on learning. The content covers a wide range of applications in the arts: from movement and the use of sensors, to images and sound generation and natural language applications. The modules also consider historical, cultural, aesthetical, and technical points of views. Participants will learn how to apply current machine learning models using the Python programming language.

Standard data sets are provided, but participants are encouraged to bring or acquire their own. If you have any questions about whether this program is right for you, please do not hesitate to contact us.



Objectives

The course competence is developed throughout six modules and a CAS project work. Upon completion, the graduates will

Be familiar with key cultural, philosophical, and aesthetic questions, and ethical debates around AI

Have a basic understanding of common neural network architectures and be able to train and assess these neural networks for artistic and creative applications

Be able to perform basic image processing and know the most important applications

Be able to process sounds with deep neural networks and know the most important applications

Be able to process movement data with deep neural networks and know the most important applications

Be able to perform basic Natural Language Processing with deep learning models and know the most important applications

CAS AI for Creative Practices
Summary

CAS AI for Creative Practices

Degree
Certificate of Advanced Studies in AI for Creative Practices
University of Bern
Zurich University of the Arts
(CAS AICP Unibe-ZHdK)

Scope
16 ECTS

Duration
August - July
(2 years is possible)

Start
Every August

Admission
A degree from a university, university of applied sciences, or university of arts

Cycle
Annual

Language
English

Further information
www.weiterbildung.unibe.ch/cas_aicp (until 31.12.2026 thereafter: www.ce.dsl.unibe.ch)

Locations
The courses take place at the University of Bern within walking distance of Bern railway station and at the Zurich University of the Arts, on the Toni Areal. The exception is Module 6, which takes place in the Mürren ski resort, two hours by train from the city of Bern.

All courses are additionally held online. Remote and individual module participation is possible.

Teaching methods
Our teaching methods are modern and peer oriented. The modules use online platforms with multimedia materials, tutorials and assessments to support learning, along with classes for discussion, and feedback. The main programming language is Python.

Workload
The duration of all modules corresponds to approximately 20 classroom hours each and a module work (expected workload is 30 hours), with 2 ECTS credits awarded for each module completed. The final CAS Project comprises 4 ECTS points.









Modules

Module 1

AI and ML Fundamentals

In this block module, participants approach basic AI and ML concepts from a historical, cultural, aesthetic, and technical perspective.

Module 2

Neural Networks

In this module, participants learn about neural networks and study their common applications.

Module 3

AI for Sound

In this module, participants learn how to collect and represent sound data, train models with them and generate new patterns using deep learning.

Module 4

AI for Images

In this module, participants use generative art methods to create images and learn how to handle and process them.

Module 5

AI for Movement/Sensing: Realtime interaction

In this module, participants focus on deep learning for generating data from movement and vice versa. Considered are also real-time interactions.

Module 6

AI for Natural Language

In this module, participants learn basic natural language processing techniques with deep learning, together with their common applications.

Final Project

CAS Thesis

The final CAS Project is seen as the application and consolidation of all gained knowledge. Teamwork and the use of own data are encouraged.



Final Project

Working in teams or individually, participants create and present an extended Intelligence Art project (4 ECTS) based on the CAS modules. Support is provided by selected mentors with different areas of expertise. The work-in-progress will be presented at a vernissage at the end of the CAS. It is complemented with a short written reflection and developed in a digital or analogue artefact (work-in-progress).
The use of own data from work or research is encouraged.



To check if registration is currently possible, visit

Cost

Regular CAS program:	CHF 9900
Employees and students of the University of Bern and of the Zurich University of the Arts:	CHF 6900

Inclusive of all modules, performance assessments, certificates, materials and teaching platforms, coffee breaks, full board hotel in Mürren (Module 6) and diploma apero. Participation to single modules is possible (CHF 1650).

Participants must bring their own laptops (see website for machine requirements).

Registration

Register via **www.weiterbildung.unibe.ch/cas_aicp** (until 31.12.2026 thereafter: www.ce.dsl.unibe.ch)

Registration opens in November and a maximum of 20 applications can be accepted each year. Applications are processed in the order of arrival. The CAS can only be offered if sufficient registrations are received by the deadline.

Registered participants will receive a confirmation of acceptance by email and will be invited to one of the next Introduction events. Attendance to one Introduction is mandatory. Participants can cancel their registrations free of charge up to the registration deadline. After the deadline, the regulations apply.

Schedule
Overview

Module 1	**AI and ML Fundamentals**	21–23.08.2027 (CW 33–34: 3 full days: Sa- Mo)
Module 2	**Neural Networks**	24–27.08.2027 (CW 34: block of 4 afternoons)
Module 3	**AI for Sound**	09–10.10. and 16–17.10.2027 (CW 40–41: 2 weekends afternoon)
Module 4	**AI for Images**	22.10, 29.10, 05.11, 19.11.2027 (CW42–46: Fridays afternoon)
Joint Lectures	**Legal and Neuroscience Aspects**	12.11.2027 (CW 45: full Friday)
Module 5	**AI for Movement and Sensing**	27.11, 04.12, 11.12, 18.12.2027 (CW 47–50: Saturdays afternoon)
Module 6	**AI for Natural Language**	03–07.01.2028 (CW 1 next year, block of 4 full days)

The full schedule can be found on the website.

Further introductionary courses:

Algorithms and programming are important tools in data-driven research. Python is a good scripting language widely used to create pipelines of tasks typical for large computations and analysis on large data sets. It suits the purpose of starting programming in it, as well.

For students who wish to refresh their Python programming knowledge or who are new to the Python programming language, we recommend completing our introductionary self-studypre-course on GitHub (https://github.com/dsl-unibe-ch/Introduction-to-Python).

We offer an online Python Q&A session in the week before course start (CW 32).



CONTACT



PD Dr. Sigve Haug
Director of Studies
sigve.haug@unibe.ch



Dr. Katja Vaghi
Manager
CAS AICP
katja.vaghi@unibe.ch

Lecturers

Our lecturers are local or external experts. Currently, they include

- Prof. Dr. Chris Salter
- Dr. Daniel Bisig
- PD Dr. Sigve Haug
- Dr. Mykhailo Vladymyrov
- Dr. Gunter Lösel
- Dr. Guillaume Witz

Among others, our guest lecturers have included:

- Dr. Olivier Pasquet
- Dr. Giacomo Lepri
- Paulina Zybinska
- Till Müller-Klug

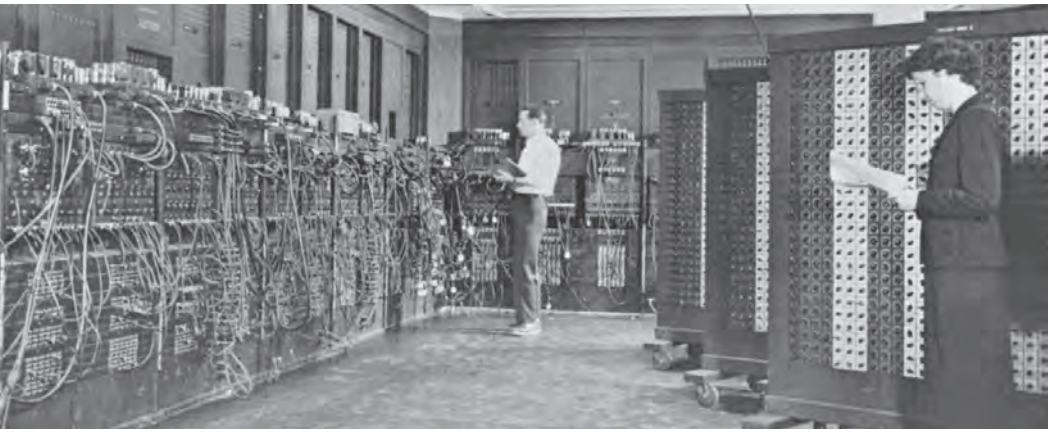
Program management

The Certificate of Advanced Studies (CAS) in AI for Creative Practices (AICP) is offered by the Data Science Lab of the University of Bern and the Continuing Education of the Zurich University of the Arts. The program is managed by Prof. Dr. Chris Salter (ZHdK), Katharina Rengger (ZHdK), PD Dr. Sigve Haug (Director of Studies), Prof. Dr. Christiane Tretter, Prof. Dr. Thomas Wihler and Prof. Dr. Jan Draisma.





Further Studies:
Extended Intelligence



DAS Extended Intelligence

The CAS in AI at the University of Bern can be combined into a Diploma of Advanced Studies in Extended Intelligence - the DAS XI. Please contact us to plan your personal study programme.

The DAS XI comprises 38 ECTS:

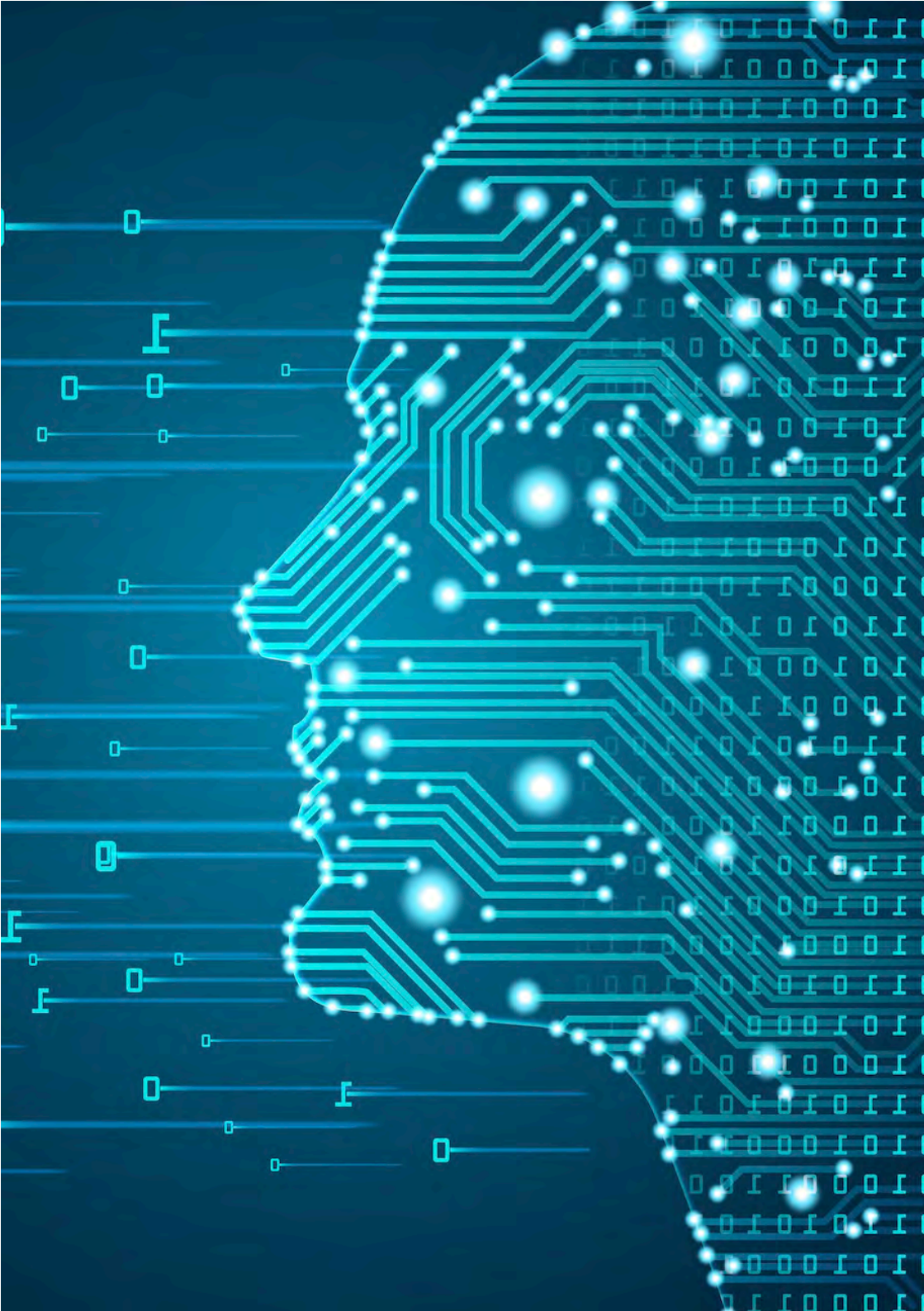
16 ECTS from CAS AML
16 ECTS from CAS ADS/NLP
2 ECTS from DAS Module
4 ECTS from DAS Thesis

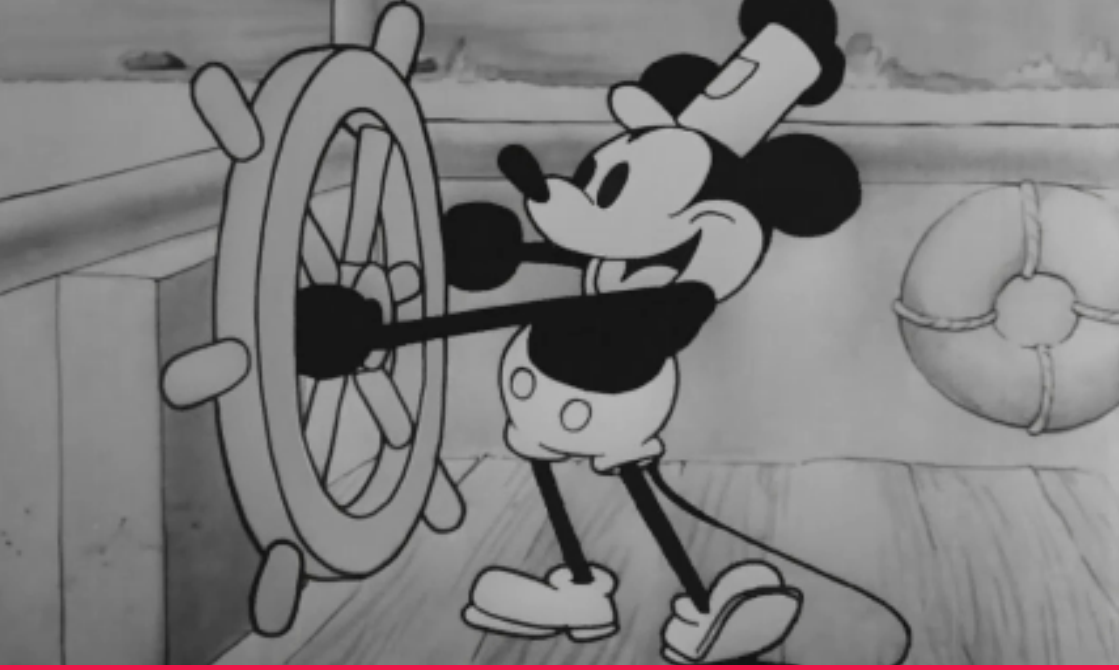
MAS Extended Intelligence

The CAS in AI at the University of Bern can be combined into a Master of Advanced Studies in Extended Intelligence - the MAS XI.

The MAS XI comprises 62 ECTS:

16 ECTS from CAS AML
16 ECTS from CAS ADS/AICP/AI4T/ASDS or AI-MI
16 ECTS from CAS NLP/AICP/AI4T/ASDS or AI-MI
2 ECTS from MAS Module
12 ECTS from MAS Thesis





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