ONLINE MASTER'S PROGRAM

APPLICATION DEADLINE: 31. OCTOBER 2022
1. **SEMESTER: FEBRUARY - MAY 2023**
2. **SEMESTER: OCTOBER - DECEMBER 2023**
3. **SEMESTER: JANUARY - APRIL 2024**

eXplainable Artificial Intelligence in Healthcare Management (xAIM)

Who:
Computer scientists, AI and/or healthcare professionals

How:
Online, asynchronous. Compatible with your job (no need to re-locate)

Why:
Unique new master's that bridges AI and healthcare

The importance of artificial intelligence (AI) is increasing worldwide. Its potential is also becoming more and more apparent with regard to the challenges in the healthcare sector.
It is therefore extremely important to address the lack of digital skills in this area by training qualified healthcare professionals in the field of AI and computer scientists in the field of healthcare.
With our new master's program, we want to address this issue.

THE XAIM MASTER'S DEGREE PROGRAM - AN OVERVIEW

Our xAIM online master's program aims to create an interdisciplinary environment where students are trained to work at the intersection of Data Science, AI and Healthcare. Students will learn the fundamentals of Machine Learning and Data Science so that they can handle and analyze large, heterogeneous and complex datasets representative of the healthcare sector. Concepts from the health sector are taught to further their understanding and to enable them to interpret the data and results. The entire program will put a strong focus on the current state of the art and possible future AI applications in healthcare, as an important goal of the master's program is to provide practical knowledge and the ability to apply the acquired skills. To complete the curriculum, there will be a strong emphasis on ethical and social implications of AI applications.

ADMISSION REQUIREMENTS

One of the following:

- Bachelor's degree in Biology, Biomedicine, Life Sciences, Health Care or a closely related subject, alternatively graduation in medicine
- Bachelor's degree in Data Science, Computer Science, Mathematics, Statistics, Economics, Management or a closely related subject

Additionally:

- Knowledge of the English language at a level no lower than level B2 of the CEF (Common European Framework)

TUITION FEE

Tuition fee is € 2,500 per student. The top 80% of students who will successfully graduate will receive a **Thesis Award of 2,500 €**

COURSES AND TEACHING LANGUAGE

The master's program consists of **three semesters**. The first two include three compulsory modules each and a selection of four electives in total. Approximately 80% of the content is delivered through asynchronous teaching methods, such as short videos or quizzes, 20% is delivered through interactive seminars. The third semester is dedicated to writing the master's thesis. Besides, a 450-hour internship is expected to be finished by March 2024. The language of instruction is **English**. The individual courses are covered by the faculties of the participating universities.

FIRST SEMESTER

Mandatory Courses

Data Driven Healthcare
(AI)
Participants acquire the basic skills to understand and manage biomedical data, including electronic acquisition, storage and exploration using statistical methods.

Introduction to Data Science
(AI)
In theory and through practical exercises, participants acquire knowledge in data science, techniques of data mining and data clustering and more.

Trustworthy AI
(Ethical and Legal Considerations)
Participants learn how to quantitatively assess trustworthiness of AI in practice.

Elective Courses

Coding in Python
(AI)

Text Mining
(AI)

Introduction to Healthcare Management
(Healthcare and Management)

Advanced AI Assessment
(Healthcare and Management)

SECOND SEMESTER

Mandatory Courses

Transforming Healthcare
(Healthcare and Management)
Participants gain knowledge of healthcare challenges at different levels of analysis as well as of transformation strategies to address these challenges using the potential of AI.

AI and Healthcare Workforce
(Healthcare and Management)
Participants learn about the challenges of the healthcare workforce and the relationship between clinicians and patients when adopting AI devices.

Z-Inspection®: A Process to assess trustworthy AI in Practice
(Ethical and Legal Considerations)
Participants learn how to assess trustworthiness of AI systems for healthcare using socio-technical scenarios.

Elective Courses

Computer Vision and Deep Learning
(AI)

Advanced Topics in AI
(AI)

AutoML
(AI)

Information Ethics and Legal Aspects
(Ethical and Legal Considerations)

PARTNERS

The project is coordinated by the **University of Pavia** and includes the Goethe University (D), Keele University (UK), Leibniz University Hannover (D) and University of Ljubljana (SL).

SUPPORTED BY

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If you would like to know more about this new master's program, visit our website or contact us via mail:

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