

# AI and your Future Profession

**Artificial intelligence (AI) and data are all around us nowadays; think of the face ID on your phone, the recommendations of Netflix, the advertisements you see on social media and the chatbot of your health insurer. Professionally, too, you will undoubtedly come into contact with the impact of AI and data in more or fewer ways.**

For example:

- Can we predict the recurrence of leukemia?
- How much care does a patient need based on their Apache IV score?
- How can we get better image recognition with less use of contrast fluid in MRI scans by AI?
- Which students hand in their public transport card on time?
- When are types of advertisements (online, physical, analogue) most effective?
- Which clients run an additional risk of getting a bailiff at the door?
- What is the right energy mix of a building, and when should which rooms be heated?

Do you want to prepare for the future in which you will have to deal with AI and data in your profession? So that you can use the power of data to become a better professional? Will your future job change drastically through the use of data and algorithms? And how can you also ensure that these algorithms are applied fairly and transparently?

## Freedom of choice and structure

The programme has two essential starting points:

1. Freedom of choice for you as a student. In the first half of the programme, you can introduce your assignment and datasets within the courses so that they fit the profession for which you are being trained. However, we also offer ready-made assignments with associated datasets from your field. In the second half of the semester, in consultation with the teachers, you largely determine your learning goals and how you will achieve them.

2. You work at the technical level that suits you. When you have a non-technical academic background, then you can choose the technically 'light' variant where you do not have to program but work with tooling such as Excel or Power BI. If you follow an ICT related course, and have a more technical background, then you can go into depth with programming in python or R, for example, neural networks or specific variants of AI.

## Admission requirements

No prior knowledge is required. However, except for Introduction to AI, Data Science and Ethics, you should have an affinity with data and be handy with software.

We will offer this programme in the February semester only, starting in February 2024.

## Courses

### AI and your Profession 1

In Introduction to AI, Data Science and Ethics, you will learn the basics of AI and Data Science. You will learn the different concepts and applications through many examples. Then based on guest lectures by various experts, we look at how AI and data science are applied in, for example, healthcare, business and government. In addition, we pay special attention to the ethical aspects (trustworthiness) of the use of AI. Finally, you will finish the course by performing an ethical/reliability analysis of an AI application from your field.

#### Credits

5

### From Data to Value

In this course you will learn the basics of collecting, editing, visualizing and analyzing data. You will work hands-on with tooling that suits your technical level. Then, in consultation with the lecturers, you select a dataset from your field. Ideally, we also involve a professorship from your domain.

#### Credits

5

### AI and your Future Profession 2

You work in a learning community on a larger practical assignment that fits your profession. Depending on the assignment and your wishes, you can delve into specific AI applications in your profession such as image recognition, autonomous systems (e.g. self-driving cars), judiciary, data-driven business models, AI in games, etc. In stand-ups and demos, you show your progress and learn from fellow students about their issues in other fields. Depending on the needs, we organize workshops with experts from our network. In the field of ethics, we delve deeper into concepts such as trustworthy AI, explainable AI, and ELSA aspects.

#### Credits

5

### Project AI and your Future Profession

In this second half of the semester, you can largely determine your learning objectives. You will work in a learning community on a more significant practical assignment that suits your profession. Depending on the assignment and your wishes, you can delve into specific AI applications in your future domain, such as image recognition, autonomous systems (e.g. self-driving cars), Justice, Data-driven Business models, AI in games, etc. In stand-ups and demos, you show progress and learn from fellow students about their issues in other fields. Depending on the need, we organize workshops with experts from our network. For example, in the field of ethics, we look closely at concepts such as trustworthy AI, explainable AI and ELSA aspects.

## **Credits**

15