



IU International

MASTER (M.SC.)

ARTIFICIAL INTELLIGENCE

AI is the sweet spot where mathematical minds meet creativity and vision for a better, more efficient world. A Master's in AI at IU provides you with key technical knowledge, tools, and training and helps you apply this to practical use cases for innovation or industry disruption.

The exciting thing about a degree in artificial intelligence? The huge scope of industries you can enter once graduated. You could move into computer science, automotive, mechanical engineering, healthcare, or even the arts—AI is driving change in nearly all sectors. With this degree, you'll not only have the right skills to achieve top-level career positions but also a great understanding of the social impacts, risks, and business opportunities that AI presents; making you highly attractive to future employers.

At IU, you can select one of four different AI master programmes, including a 120-credit option with specialisations, a shorter 60-credit degree in Artificial Intelligence, or the “Artificial Intelligence for Robotics” and “Artificial Intelligence for Autonomous Vehicles” both also worth 60 ECTS credits. We offer great flexibility in our courses and in our approach to learning to suit your style, speed, and interests.

**Degree**

Master of Science (M.Sc.)

**Duration**

12 or 24 months

**Study start**

Anytime

**Credits**

60 or 120 ECTS

**Study model**

Online

**Fees**

From €98 per month

Study Content

MODULE TITLE	SEMESTER	ECTS
ARTIFICIAL INTELLIGENCE (120 ECTS)		
Artificial Intelligence	1	5 ECTS
Advanced Mathematics		5 ECTS
Use Case and Evaluation		5 ECTS
Seminar: AI and Society		5 ECTS
Advanced Statistics		5 ECTS
Project: AI Use Case		5 ECTS
<hr/>		
Programming with Python	2	5 ECTS
Machine Learning		5 ECTS
Deep Learning		5 ECTS
NLP and Computer Vision		5 ECTS
Electives A		10 ECTS
<hr/>		
Inference and Causality	3	5 ECTS
Reinforcement Learning		5 ECTS
Software Engineering for Data Intensive Sciences		5 ECTS
Seminar: Current Topics in AI		5 ECTS
Electives B		10 ECTS
<hr/>		
Master Thesis & Colloquium	4	30 ECTS
<hr/>		
ARTIFICIAL INTELLIGENCE (60 ECTS)		
Machine Learning	1	5 ECTS
Deep Learning		5 ECTS
Use Case and Evaluation		5 ECTS
Reinforcement Learning		5 ECTS
Seminar: Current Topics in AI		5 ECTS
Project: AI Use Case		5 ECTS
<hr/>		
NLP and Computer Vision	2	5 ECTS
Advanced NLP and Computer Vision		5 ECTS
Master Thesis & Colloquium		20 ECTS

CHOOSE YOUR ELECTIVES

Choose two specialisations from the Electives A programmes:

- AI Specialist
- Data Engineer
- Technical Project Lead
- UI/UX Expert

Choose two specialisations from the Electives B programmes:

- Advanced Robotics 4.0
- Applied Autonomous Driving
- Consumer Behaviour and Research
- Corporate Finance
- DevOps for Data Applications
- Innovate and Change
- Management
- Sales, Pricing and Brand Management

WHAT YOU'LL LEARN

- Apply the concepts covered in your course to build a running AI model or system which you can add to your portfolio of projects.
- Get to know reinforcement learning approaches and the fundamentals of neural networks, natural language and image processing, and more.
- Understand the trade-off between exploration and exploitation and place your studies within an ethical context: self-driving cars, service robots, and social impacts.

MODULE TITLE	SEMESTER	ECTS
ARTIFICIAL INTELLIGENCE FOR AUTONOMOUS VEHICLES (60 ECTS)		
Machine Learning	1	5 ECTS
Deep Learning		5 ECTS
Use Case and Evaluation		5 ECTS
Reinforcement Learning		5 ECTS
Seminar: Current Topics in AI		5 ECTS
<hr/>		
Project: AI Use Case	2	5 ECTS
Architectures of Self-Driving Vehicles		5 ECTS
Case Study: Localisation, Motion Planning and Sensor Fusion		5 ECTS
Master Thesis & Colloquium		20 ECTS
ARTIFICIAL INTELLIGENCE FOR ROBOTICS (60 ECTS)		
Machine Learning	1	5 ECTS
Deep Learning		5 ECTS
Use Case and Evaluation		5 ECTS
Reinforcement Learning		5 ECTS
Seminar: Current Topics in AI		5 ECTS
Project: AI Use Case		5 ECTS
<hr/>		
Master Thesis & Colloquium	2	20 ECTS

CAREER

Senior AI Scientist

A Senior AI Scientist is typically responsible for designing and developing AI based systems such as intelligent assistant systems and automated decision systems, often working at the intersection of human and artificial intelligence. Senior AI scientists might also be responsible for mentoring junior team members

AI Team Lead

AI Team leads need to be proficient in a wide range of skills. They are typically charged with the development of a team of senior and junior AI specialists—including hiring and personnel decisions. Team leads are typically also responsible for ensuring all projects are run on-scope and deliver high quality results. As a team-leader you are often engaged with the internal and external stakeholders of projects and are consulted in the setup and scoping of new projects.

AI Interaction Designer

Combining human and artificial intelligence is one of the big challenges building the workplace of the future. AI Interaction Designers are responsible for reshaping the work environment so that humans and AI systems can work together.