UNIVERSITY OF APPLIED SCIENCES UPPER AUSTRIA
OBERÖSTERREICH

Campus Hagenberg

AIS

BSc

Full-time,
English Language

Artificial Intelligence Solutions

Develop AI solutions for a wide range of practical tasks

Artificial Intelligence (AI) has been causing a media frenzy about the potential benefits for the economy in general, and the world of work in particular. However, AI is not limited to chatbots and language models, but has many more diverse and more complex applications. And for the full range of possibilities to be exploited, it will require comprehensively trained AI engineers who can master practical challenges.

Such mastery will only be possible by combining AI methodologies with other essential competences – such as computer science, software development, project management and various soft skills.

Career Profile

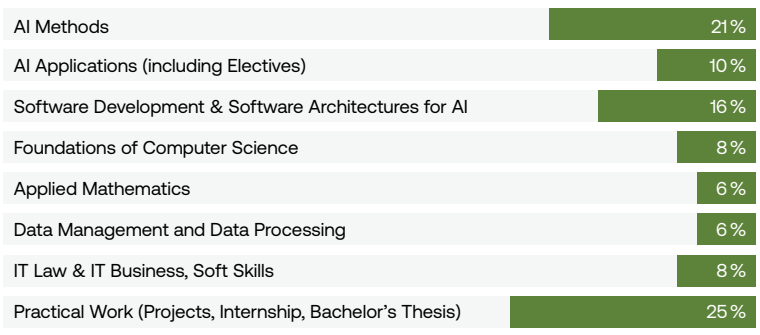
You'll acquire all the skills necessary to see through AI projects from conception to implementation. This includes skills in the acquisition and pre-processing of data, the integration of ready-made AI components, as well as competence in customized machine learning models.

Once an AI solution has proven to be functional, it will need implementation, which, in turn, requires competences in cloud computing and/or embedded systems, plus software development methods and project management.

Due to the practical orientation of the study program, you will become familiar with applying AI methods of computer vision and natural language processing in domains such as industry, medicine/healthcare, business and finance.

Graduates will work, for example, as AI engineers and data scientists, as product/process owner for intelligent systems, or will advise software companies on how to integrate AI components into software systems.

Profile



Figures in per cent, based on ECTS-Credits

Degree
→ Bachelor of Science in Engineering (BSc)

Duration
→ 6 semesters (180 ECTS)

Annual Intake
→ 30

Admission Requirements
→ University entrance qualification (e.g. A-Levels, university pre-entry certificate, completed vocational matriculate exam)
English at B2 level

Application
→ Online – details & deadlines on fh-ooe.at/application

Admission Procedure
→ by interview

Language of Instruction
→ English

Semester Abroad
→ Semesters abroad and internships are encouraged and actively supported.

Tuition Fees
→ EU/EEA citizens: 363.36 EUR per semester (plus Austrian Student Union fee).
→ Citizens from non-EU/EEA countries: 726.72 EUR per semester (plus Austrian Student Union fee).

fh-ooe.at/en/ais

Curriculum

Core and elective courses ECTS / semester	1	2	3	4	5	6
→ AI Methods						
Introduction to AI	5					
Logic and Symbolic AI		5				
Machine Learning		5	5			
Heuristic Optimization and Symbolic Regression			5			
Neural Networks & Deep Learning			5	5		3
→ AI Applications						
Time Series Analysis			3			
Computer Vision				5		
Natural Language Processing				5		
Electives						5
→ Software Development & Software Architectures for AI						
Object-Oriented Programming in Python	5					
Project Management		2,5				
DevOps/MLOps		2,5				
Software Architectures for Big Data			5			
IT and Data Security			2			2
Embedded AI				5		
Requirements Engineering					2	
UI & UX Design						2,5
→ Foundations of Computer Science						
Foundations of Computer Science	5					
Algorithms and Data Structures	5					
Programming in C and C++			5			
→ Applied Mathematics						
Basics of Linear Algebra and Calculus	5					
Basics of Probability and Statistics		5				
→ Data Management and Data Processing						
Databases and Data Warehouses		5				
Data Preprocessing		2,5				
Data and Information Visualization		2,5				
→ IT Law and IT Business						
IT and AI Law						2,5
Basics of Business						2,5
Business Models and Product Management						2,5
→ Soft Skills						
Ethics and Trustworthy AI	3					
Creative Techniques	2					
Data Storytelling					1	
Scientific Work					2	
→ Practical Work						
Study Project				10		
Internship					25	
Bachelor Thesis & Examination						10

ECTS: European Credit Transfer System
Note: Students have to achieve a minimum of 180 ECTS credits in total (30 ECTS credits per semester).

Study Focus

- → **Machine Learning** and many other **AI Methods**, such as, various architectures of (deep) neural networks, bagging and boosting, support vector machines, symbolic AI, symbolic regression, etc.
- → **AI Technologies** and **AI Software Components** in computer vision, natural language processing, and time series analysis
- → Software Development & Computer Science Foundations
- → Cloud Computing & Embedded Systems
- → IT Law & IT Business
- → Electives: 5 ECTS in the 6th semester can be chosen from a catalogue of several courses with advanced **AI Applications** in domains such as industry, medicine/healthcare, business and finance.

Practical Experience and Research

Due to the practical orientation of the study program, AI solutions are developed and implemented as part of projects from the 4th semester onwards. Project ideas usually come from partner companies or one of our numerous research groups. The range of topics is broad, as Artificial Intelligence plays a role in most of our partner companies and our research groups on campus.

Study Abroad

The study program is internationally oriented, which is why the language of instruction is English. In particular, the professional internship in the 5th semester can be completed abroad. There is also an option to study at one of the faculty's numerous partner universities in the 6th semester.

Good to Know

→ Required level in English: B2 (level equivalent to Austrian „Matura“ school-leaving certificate).

Contact

Head of Studies
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