MASTER'S DEGREE PROGRAM

ARTIFICIAL INTELLIGENCE.

Inspired by how the human brain works, machines can learn, analyze and make decisions. As an inventor, you can improve existing machine learning methods and find new Artificial Intelligence (AI) methods, thereby helping to shape our future.

JOHANNES KEPLER
UNIVERSITY LINZ

Artificial Intelligence.

„Deep Learning“ is the driving force of recent developments and breakthroughs in the field of Artificial Intelligence (AI). Deep Learning is based on artificial neural networks and is currently the most successful approach to the way machines learn as well as improving the way to function independently and without human intervention.

Neural networks – artificial abstraction models in the human brain – are trained using modern learning algorithms and huge datasets. The result is that speech recognition systems improve independently; cars drive autonomously based on environmental sensor information; medical applications exceed a physician‘s performance. The JKU‘s Master‘s degree program in „Artificial Intelligence“ gives you the expertise and skills necessary to become a driving force of innovation and development. You can also learn more about the connections between AI and law as well as AI’s sociological impact.

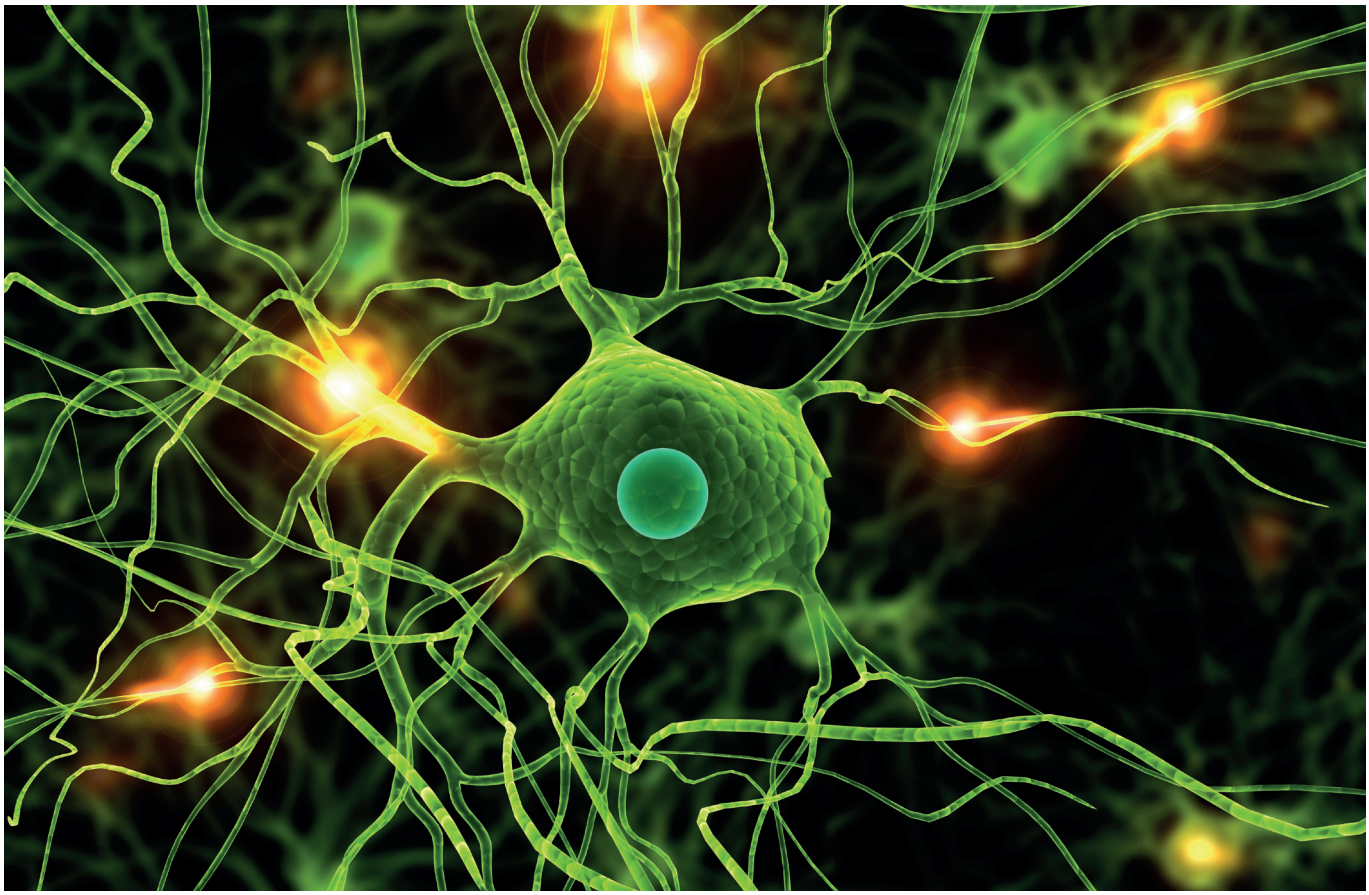
YOUR BENEFITS

Focus on deep learning – the technology of future

The program makes you unique: it is among one of the first AI programs in Europe

You will learn how Artificial Intelligence can serve society – but also where the dangers lie

Focus on social as well as on legal impacts



Program Learnings and Career Prospects.

What will you learn

The Master‘s degree program focuses on modern, extremely successful AI methods in Deep Learning and Reinforcement Learning. Algorithms do not rely on pre-defined rules, but learn by example and from experiences. Special courses not only allow you to think outside of the box, but also cover the various socio-political and legal aspects associated with AI. Depending on the elective track, you learn to …

- Apply AI Techniques to Autonomous Systems: Design computer systems to control robots and their sensors, feedback and information processing; develop autonomous vehicles, drones, and production systems that function independently from human control.
- Embed AI in sensors and devices to make machines, production lines and factories even smarter; use data analysis techniques to, for example, optimize maintenance, logistics, planning, and marketing.
- Apply conventional AI methods based on logic and mathematics to teach machines how to reason logically.
- Apply AI techniques to fields in medicine, biology, biotechnology, genomics, and genetics: Structural Bioinformatics: deep neural networks can predict protein structure and function. Drug Design: AI techniques identify the side effects of drug candidates. Medicine and Healthcare: Medical imaging analysis, predicting the prevalence of disease in specific regions, optimizing hospital processes, improving diagnostics, assist in treating and monitoring patients.

Career Prospects

Graduates of the Bachelor‘s degree program possess a broad range of high-level skills and expertise and are highly sought after in business and industry:

- Information Technology: Austria currently lacks over 10,000 IT specialists, particularly AI experts.
- Manufacturing and Supply Chains: As a specialist and manager, you can develop AI systems to control the flow of goods. As an analyst you can use AI methods to extract corresponding relationships and new information from available data: Where are the weak links in the supply chain? Which parts can be better optimized and how?
- Medicine and Healthcare: Use AI methods to improve diagnostic processes
- Transportation: Use AI methods to help design and develop autonomous vehicles

Master's Degree Program.

Subject Areas

As part of the Master's degree program, students are required to complete courses totaling 120 ECTS credits in the following areas:

SEMESTER	1	2	3	4
Machine Learning and Perception	•	•	•	
AI and Society	•	•	•	
Seminar and Practical Training			•	
Elective Track *	○	○	○	
Area of Specialization **	○	○	○	
Free Electives	•	•	•	•
Master's Thesis Seminar				•
Master's Examination				•
Master's Thesis				•

* Semester 1-3, depending on the chosen Elective Track
** Semester 1-3, depending on the chosen Area of Specialization

See: jku.at/ma-ai, the curriculum, or visit the Student Information and Advising Services (SIBS) for detailed information.

KEY FACTS

DEGREE
Master of Science (MSc)

DURATION
4 Semesters

ECTS
120 Credits

LANGUAGE
English

LOCATION
Linz, optional with Distance Learning

PROGRAM
Full-time

Admission Requirements

- Admission requirements to the Master's degree program: Sucessful completion of the Bachelor's Degree program in Artificial Intelligence at the JKU or a program equivalent in content and scope.

  English Language skills on Level B2 (Matura level) recommended.

  See: jku.at/ma-ai or contact the Admissions Office for additional information about the admission requirements.

Advanced Degrees at the JKU

- Doctorate Degree in Technical Sciences

Academic Advising.

General Information

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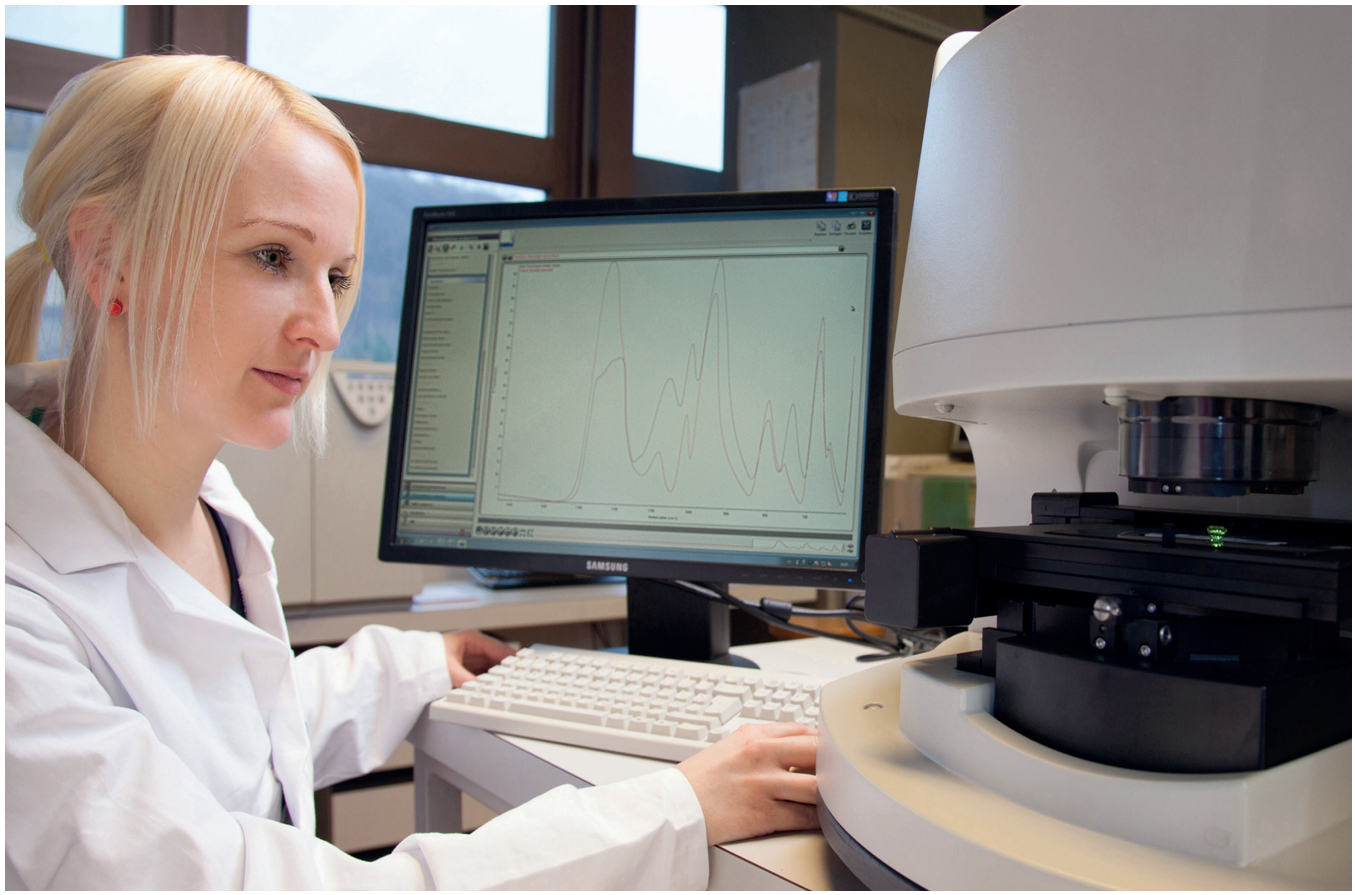

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