Deep Learning, Python and various topics related to Industry 4.0

Artificial Intelligence in Industrial Applications

Expect these Contents

This Short Course introduces the fundamentals of Cyber Physical Systems, Network Infrastructure, Innovative Sensor Systems and Data Integration to provide a comprehensive understanding of data acquisition in an industrial context, as well as a training in programming languages and tools commonly used for industrial AI, such as Python, scikit learn, and TensorFlow (Keras).

- Understand Key AI concepts such as machine learning, deep learning, reinforcement learning and time series processing
- Apply Supervised Learning in Predictive Quality
- Perform information integration in industrial networks
- Assess the potential of data driven solutions for industrial scenarios
- Master programming basics in Python

Summer School

June 22 - July 5, 2025 (2 weeks)

2,250 €

On-campus

Supporting Program

RWTH Certificate with 3 ECTS (approx. 75 hours)

Accommodation included

Insights into the world of AI and smart manufacturing

Apart from understanding the theoretical concepts, you will also experience how they are put into practice. Learn how state-of-the-art AI-based technologies are used in the industry!

RWTH International Academy gGmbH
www.academy.rwth-aachen.de/short-courses

INTERNATIONAL ACADEMY | RWTH AACHEN UNIVERSITY

Artificial Intelligence in Industrial Applications – Summer School*

TIME (CEST)	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
08:00 - 08:30							
08:30 - 09:00							
09:00 - 09:30			Industry 4.0, Cyber-Physical Systems & Data Analytics	Industry 4.0, Cyber-Physical Systems & Data Analytics	City Trip	Information and Communication Technology	
09:30 - 10:00							
10:00 - 10:30		Pick up					
10:30 - 11:00		Welcome Orientation					
11:00 - 11:30							
11:30 - 12:00							
12:00 - 12:30		Lunch Break				Lunch Break	
12:30 - 13:00							
13:00 - 13:30							
13:30 - 14:00	Individual arrival	Get to know Aachen City Rally	Industry 4.0, Cyber-Physical Systems & Data Analytics	Group Work		Information and Communication Technology	Free time for excursions, sight-seeing and self-study
14:00 - 14:30							
14:30 - 15:00							
15:00 - 15:30				Information and Communication Technology			
15:30 - 16:00							
16:00 - 16:30							
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17:30 - 18:00							
18:00 - 18:30							
18:30 - 19:00							
19:00 - 19:30							
19:30 - 20:00							
20:00 - 20:30							
20:30 - 21:00							

Organizational and social event

Lecture, academic program

Academic supporting program (institute/company visit, scheduled self-study, group work, case study, project work)

***Exemplary Schedule** (Information presented is subject to change. Errors and omissions reserved)

Artificial Intelligence in Industrial Applications – Summer School*

TIME (CEST)	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
08:00 - 08:30							
08:30 - 09:00							
09:00 - 09:30		Industrial Internet of Things	Company Visit	Group Work	Deep Learning & Artificial Neural Networks	Preparation for Exam	
09:30 - 10:00							
10:00 - 10:30							
10:30 - 11:00				Python and Database Programming Basics		Final Exam	
11:00 - 11:30							
11:30 - 12:00							
12:00 - 12:30		Lunch Break		Lunch Break			
12:30 - 13:00							
13:00 - 13:30							
13:30 - 14:00	Free time for excursions, sightseeing and self-study	Industrial Internet of Things		Python and Database Programming Basics	Deep Learning & Artificial Neural Networks	Farewell Event	Individual departure
14:00 - 14:30							
14:30 - 15:00							
15:00 - 15:30							
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16:00 - 16:30							
16:30 - 17:00							
17:00 - 17:30							
17:30 - 18:00							
18:00 - 18:30				Barbeque			
18:30 - 19:00							
19:00 - 19:30							
19:30 - 20:00							
20:00 - 20:30							
20:30 - 21:00							

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