CURRICULUM M.SC. ARTIFICIAL INTELLIGENCE

DISTANCE LEARNING, 120 ECTS CREDITS

Semester FT	Semester PT I	Semester PT II	Module	Course Code	Course	ECTS credits	Type of Exam
1. Semester	1. Semester	1. Semester	Artificial Intelligence	DLMAIAI01	Artificial Intelligence	5	Exam
			Programming with Python	DLMDSPWP01	Programming with Python	5	Written Assignment
			Advanced Mathematics	DLMDSAM01-01	Advanced Mathematics	5	Exam
	2. Semester	2. Semester	Advanced Statistics	DLMDSAS01	Advanced Statistics	5	Advanced Workbook
			Machine Learning	DLMDSML01	Machine Learning	5	Exam
			Project: AI Use Case	DLMAIPAIUC01	Project: AI Use Case	5	Portfolio
2. Semester	3. Semester	3. Semester	Advanced Research Methods	DLMARM01-01	Advanced Research Methods	5	Written Assignment
			Deep Learning	DLMDSDL01	Deep Learning	5	Bitte wählen...
			Continual Learning with Neural Networks	DLMAICLNN01	Continual Learning with Neural Networks	5	Bitte wählen...
		4. Semester	Seminar: AI and Society	DLMAISAIS01	Seminar: AI and Society	5	Research Essay
	4. Semester		ELECTIVES A*		e.g. NLP and Computer Vision	10	
3. Semester		5. Semester	ELECTIVES B*		e.g. Computer Vision for Autonomous Systems	10	
			ELECTIVES C		Internship or modules to choose	5	
	5. Semester	6. Semester	ELECTIVES C		Internship or modules to choose	5	
			ELECTIVES C		Internship or modules to choose	5	
		7.	ELECTIVES C		Internship or modules to choose	5	
4.	6.	8.	Master Thesis	MMTHE01 MMTHE02	Master Thesis Thesis Defense	27 3	Master Thesis Presentation:
Total 120 ECTS credits							

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Information about electives C:
Decide at the beginning between an internship at a company or modules from electives C. You will complete the internship with a practical reflection. If you decide on the modules from electives C, all modules from this area must be completed. Mixed forms of internship and compulsory electives C are not possible.

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* Electives: Two modules per elective to choose from, each elective module can only be chosen once.

FT: Full-Time, 24 months
PT I: Part-Time I, 36 months
PT II: Part-Time II, 48 months

Electives A:	Electives B:	Electives C:
Software Engineering for Data Intensive Sciences	Fraud Detection FinTechs	Internship: Master AI, Machine Learning and Data Science
NLP and Computer Vision	AI in Production	**or**
Reinforcement Learning	Project: Industrial Internet of Things	Start Up Lab
Inference and Causality	Introduction to AI in E-Commerce and Marketing	Case Study: Model Engineering
Explainable and Interpretable Machine Learning Models	Corporate Governance of IT, Compliance, and Law	Use Case and Evaluation
Seminar: Current Topics in AI	AI in Marketing and Analytics	
Natural Language Processing	Personalization and Recommender Systems	
Project: Prompt Engineering	Demand Forecast and Inventory Control	
Voice Assistants	Artificial Intelligence in Procurement	
Image Processing and Low Level Vision	Concepts of Artificial Intelligence in Supply Chain Management	
Mid-Level Vision and Video	Multi-Agent Systems	
Project: Generative Deep Learning	Robo Advisory	
Corporate Governance of IT, Compliance, and Law	NLP in Education	
	NLP for Accessibility	
	AI in Healthcare	
	AI in Medical Imaging and Diagnostics	
	Medical NLP	
	Medical Robotics and Devices	
	High-Level Vision	
	Project: Computer Vision	
	Industrial and Mobile Robots	
	Project: Collaborative Robotics	
	Architectures of Self-Driving Vehicles	
	Case Study: Localization, Motion Planning and Sensor Fusion	
	Functional Security	
	Computer Vision for Autonomous Systems	
	Industrial Automation	
	Advanced NLP and Computer Vision	
	Project: NLP and Computer Vision	
	Data Engineering	
	Project: Data Engineering	
	IT Project Management	
	Project: Technical Project Planning	
	User Interface and Experience	
	Project: Human Computer Interaction	
	International IT Law	
	Seminar: Legal Framework for IT-Security	