

Electives

Designation	Pillar	Lecturer(s)	SWS	ECTS	WiSe	SoSe
Modellierung, Optimierung und Simulation von Energiesystemen	SA	Prof. Dr. Pruckner	2+2	5.0	x	
Multimedia Security	ML	Dr. Riess	2+2	5.0	x	
Middleware - Cloud Computing	SA	Dr. Distler, Michael Eischer, Laura Lawniczak	4	5.0	x	
Middleware - Cloud Computing (EÜ)	SA	Dr. Distler, Michael Eischer, Laura Lawniczak	4	7.5	x	
Deep Learning	ML	Prof. Dr. Andreas Maier	2+2	5.0	x	
Pattern Recognition	ML	Prof. Dr. Andreas Maier	3+1+2	5.0	x	
Interventional Medical Image Processing	ML	Julian Hoßbach, Prof. Dr. Maier, Tristian Gottschalk	4+4	5.0	x	
Medical Image Processing for Diagnostic Applications	ML	Julian Hoßbach, Prof. Dr. Maier, Tristian Gottschalk	4+4	5.0	x	
Biomedizinische Signalanalyse	ML	Dr. Felix Kluge, Prof. Eskofier	2+2	5.0	x	
Maschinelles Lernen für Zeitreihen Deluxe	ML	Prof. Eskofier, Prof. Oliver Amft, Dr. Ch. Mutschler	2+2+2	7.5	x	
Vernetzte Mobilität und autonomes Fahren	Sym	Dr. Anatoli Djanatliev	2+2	5.0	x	
Ontologien im Semantic Web	Sym	Prof. Dr. Schröder	4	7.5	x	
Artificial Intelligence I	Sym	Prof. Dr. Kohlhase	4+2	7.5	x	
Logik-Basierte Sprachverarbeitung	Sym	Prof. Dr. Kohlhase, PD Dr. Florian Rabe	4	5.0	x	
Informationsvisualisierung	SA	Dr. Roberto Grosso	2+2	5.0		x
Eingebettete Systeme	SA	Prof. Dr. Teich	2+2	5.0	x	
Eingebettete Systeme mit erweiterten Übungen	SA	Prof. Dr. Teich		7.5	x	
Verifikation digitaler Systeme	Sym	Prof. Dr. Oliver Keszöcze	2+2	5.0	x	
Formale Methoden der Softwareentwicklung	Sym	PD Dr. Tadeusz Litak, Paul Wild	4	7.5	x	
Verteilte Systeme	SA	Dr. Jürgen Kleinöder	2+2	5.0		x
Verteilte Systeme erweiterte Übungen	SA	Dr. Jürgen Kleinöder, Dr. Tobias Distler	2+2	7.5		x
Computer Vision	ML	Ph Ronak Kostj, Dr. Vincent Christlein	2+2	5.0		x
Pattern Analysis	ML	Dr. Christian Riess	3+1	5.0		x
Human Computer Interaction	SA	Prof. Dr. Eskofier	3+1	5.0		x
Artificial Intelligence II	ML	Prof. Dr. Kohlhase	4+2	7.5		x
Logic-Based Representation of Mathematical/Technical Knowledge	Sym	Prof. Dr. Kohlhase/PD Dr. Rabe	4	5.0		x
Wissensrepräsentation und -verarbeitung	Sym	PD Dr. Rabe/Prof. Dr. Kohlhase	4+2	7.5		x
Visual Computing in Medicine	ML	PD Dr. Wittenberg, PD Dr. Hastreiter	2+2	5.0	x	x
Approximate Computing	SA	Prof. Dr. Keszöcze, Prof. Dr. Teich	2+2	5.0		x
Swarm Intelligence	SA	Prof. Dr. Rolf Wanka	2+2	5.0		x
Software-Anwendungen mit KI	SA	Prof. Dr. Dirk Riehle	2	5.0		x
Praktische Semantik von Programmiersprachen	Sym	PD Dr. Tadeusz Litak	4	7.5		x
Parallele Systeme	SA	PD Dr. Frank Hannig, Prof. Dr. Teich	2+2	5.0		x
Parallele Systeme mit erweiterten Übungen	SA	PD Dr. Frank Hannig, Prof. Dr. Teich	2+2	7.5		x
Rechnerarchitektur	SA	Prof. Dr. Dietmar Fey	2+2	5.0	x	
Rechnerarchitektur	SA	Prof. Dr. Dietmar Fey	2+2+2	7.5	x	
Advanced Design and Programming	SA	Prof. Dr. Dirk Riehle	4	5.0	x	
Modallogik	Sym	Dr. Daniel Hausmann	4	7.5		x
Nonclassical Logics in Computer Science	Sym	Prof. Dr. L. Schröder, PD Dr. Tadeusz Litak	4	7.5	x	
Algebra des Programmierens	Sym	Prof. Dr. L. Schröder, Prof. Dr. Stefan Milius	4	7.5		x
Algebraische und logische Aspekte der Automatentheorie	Sym	Prof. Dr. Stefan Milius, Dr. Henning Urbat	4	7.5	x	

Advanced Programming Techniques	SA	Prof. Dr. Harald Köstler	4	7.5	x	
Kommunikation und parallele Prozesse	Sym	Dr. Sergey Goncharov und Prof. Dr. Lutz Schröder	4	7.5	x	x
Speech and Language Processing	ML	Prof. Dr. Andreas Maier	2+2	5.0		x
Monad-based Programming	Sym	Dr. Sergey Goncharov	4	7.5	x	x
Computational Neurotechnology	ML	Prof. Dr. Tobias Reichenbach	2+2	5.0		x
Cognitive Neuroscience for AI Developers	SA	Dr. Patrick Krauss	2+2	5.0		x
Reinforcement Learning	ML	Christopher Mutschler	2+2	5.0		x
Computational Visual Perception	SA	Prof. Dr. Andreas Kist, Marc Stamminger, Prof. Egger	4+2	7.5	x	
Artificial Motor Learning	SA	Prof. Dr. Seel	4	5.0		x
Inertial Sensor Fusion	SA	Prof. Dr. Seel	4	5.0	x	
Introduction to Explainable Machine Learning	ML	Prof. Dr. Seel	4	5.0		x
Computational Magnetic Resonance Imaging	SA	Prof. Dr. Knoll	2+2	5.0	x	
Speech and Language Understanding	ML	Prof. Dr. Yang	4	5.0		x
Intent Detection and Feedback	SA	Prof. Dr. Castellini / Egle	4	5.0		x
Algorithmic Bioinformatics	ML	Prof. Dr. David B. Blumenthal	2+2	5.0	x	

Projects

Designation	Pillar	Lecturer(s)	SWS	ECTS	WiSe	SoSe
Projekt Maschinelles Lernen und Datenanalytik	ML	Prof. Eskofier	4	10.0	x	x
Projekt Künstliche Intelligenz	Sym	Prof. Kohlhase	4	10.0	x	x
Projekt Mustererkennung	ML	Dr. Christlein	4	10.0	x	x
Rechnerarchitekturen für Deep-Learning Anwendungen	SA	Dr. Marc Reichenbach / Prof. D. Fey	8	10.0	x	
Agile Methods and Open Source Project	SA	Prof. Dr. Dirk Riehle	4	10.0		x
Projekt Applied Software Engineering	SA	Prof. Dr. Dirk Riehle	0	10.0	x	x
Master Projekt Datenmanagement	ML	Prof. Lenz	4	10.0		x
Project Biomedical Network Science	SA	Prof. Dr. David B. Blumenthal	4	10.0	x	x
AI 1 Systems Project	Sym	Prof. Dr. Kohlhase	4	10.0	x	
AI 2 Systems Project	ML	Prof. Dr. Kohlhase	4	10.0		x
Project Representation Learning	ML	Prof. Dr. Kainz	4	10.0	x	x
Innovationslabor	ML	Prof. Dr. Eskofier / Matthias Zürl	4	10.0	x	x
Digital Psychology Lab	SA	Prof. Dr. Eskofier / Robert Richer / Maximilian Rohleder	2	5.0	x	
Intelligent Sensorimotor Systems Lab	SA	Prof. Dr. Seel	4	10.0	x	x
Computational Imaging Project	SA	Prof. Dr. Knoll	8	10.0	x	x
Legged Locomotion of Robots Deluxe	ML	Prof. Dr. Koelewijn	4	5.0		x
Applied Neuroengineering	SA	Prof. Dr. Del Vecchio	4	10.0	x	
Project Intraoperative Imaging and Machine Learning	ML	Prof. Dr. Breininger	2	5.0	x	
Biomedical Image Analysis Project	ML	Prof. Dr. Andreas Kist	4	10.0		x
AI Project: Computational Visual Perception	SA	Prof. Dr. Egger	4	10.0	x	x
Project Digital Reality	SA	Prof. Dr. Weyrich	6	10.0	x	x
Project on Applied AI in Factory Automation and Production Systems	SA	Prof. Dr.-Ing. Jörg Franke	8	10.0	x	x
Project Music and Audio Processing	SA	Prof. Dr. Meinard Müller	4	10.0	x	x
Ausgewählte Projekte der Computergraphik	SA	Prof. Dr.-Ing. Marc Stamminger	4	10.0	x	x

Seminars

Designation	Pillar	Lecturer(s)	SWS	ECTS	WiSe	SoSe
Seminar Wissensrepräsentation und -verarbeitung	Sym	Prof. Dr. Kohlhase/PD Dr. Rabe	2	5.0	x	x
Seminar Machine Learning and Data Analytics for Industry 4.0	ML	Prof. Eskofier et al.	2	5.0	x	
Seminar Koalgebraische Logik	Sym	Prof. Dr. L. Schröder	2	5.0		
Seminar Nominale Mengen und Automaten	Sym	Prof. Dr. L. Schröder	2	5.0		
Seminar Automaten über unendlichen Wörtern	Sym	Prof. Dr. L. Schröder	2	5.0		
Seminar Theoretische Informatik	Sym	Prof. Dr. L. Schröder	2	5.0	x	x
Seminar Multi-Core Architectures and Programming	SA	PD Dr. Frank Hannig et al.	2	5.0		x
Seminar Deep Learning	ML	Prof. Dr. A. Maier/Dr. Christlein	2	5.0	x	
Seminar Computer Vision	ML	Prof. Dr. A. Maier/Dr. Christlein	2	5.0		x
Seminar Neuartige Rechnerarchitekturen	SA	Dr. Marc Reichenbach / Prof. Dietmar Fey	2	5.0		x
Big Data Seminar	ML	Prof. Dr. Richard Lenz	2	5.0	x	
Ethics in AI	SQ	Dr. Christoph Merdes	2	2,5	x	
Philosophy of AI	SQ	Dr. Christoph Merdes	2	2,5		x
Advanced Simulation Technology	SA	Prof. Dr. Harald Köstler	2	5.0		x
Seminar Graphische Datenverarbeitung	SA	Prof. Dr. Tobias Günther	2	5.0	x	
Nailing your Thesis (Anleitung zum wissenschaftlichen Arbeiten)	-	Prof. Dr. Dirk Riehle	2	5.0		x
Seminar Network Medicine	SA	Prof. Dr. David B. Blumenthal	2	5.0		
Advanced Machine Learning for Anomaly Detection	-	Prof. Dr. Kainz	2	2.5	x	x
Humans in the Loop: The Design of Interactive AI Systems		Prof. Dr. Kainz	2	5.0	x	
Legged Locomotion of Robots		Prof. Dr. Koelewijn	2	2.5		x
Seminar Advanced Deep Learning		Prof. Dr. Breininger	2	5.0		x
Fantastic datasets and where to find them		Prof. Dr. Kist	2	2.5	x	x
Tracking Olympiad		Prof. Dr. Kist	4	5.0		x
Advanced Topics in Human-Computer-Interaction		Prof. Dr. Roth	4	5.0	x	
Catching your eyes: AI-driven modeling and analysis of eye-tracking data		Dr. Zanca	2	2.5		x
Green AI: AI for sustainability and sustainability of AI	-	Prof. Dr. Eskofier / Eva Dorschky	2	5.0	x	x
Inverse Rendering	SA	Prof. Dr. Weyrich	2	5.0		x
Blender Seminar		Prof. Dr.-Ing. Marc Stamminger	2	5.0		x

**For language information, please consult Univis
or contact the lecturer of the course.**

Sym = Symbolic AI
ML = Subsymbolic AI / Machine Learning
SA = AI Systems and Applications