technische universität dortmund		Content	Lecture 00			
<b>Computational Intelligence</b> Winter Term 2024/25		<ul> <li>Organization (Lectures / Tutorials)</li> <li>Disambiguation: <i>Computational Intelligence</i></li> </ul>				
Prof. Dr. Günter Rudolph						
Computational Intelligence						
Fakultät für Informatik						
TU Dortmund						
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Organizational Issues	Lecture 00	Organizational Issues	Lecture 00			
Who are you? either studying " <i>Automation and Robotics</i> " (Master of or studying " <i>Informatics</i> " (Bachelor of Science)	Science)	Who am I ? Günter Rudolph Fakultät für Informatik, Computation: Guenter.Rudolph@tu-dortmund.de OH 14. Room 2.32	al Intelligence ← best way to contact me			
or studying " <i>Data Science</i> " (Master of Science) or … let me know!		office hours: Tuesday, 10:30–11:30am and by appointment	← ir you want to see me			

Organizatio	onal Issues		Lecture 00		Organization	nal Issues	Lecture 00	
Lectures	Wednesday from 08-Oct-2024	10:15-11:45	OH 14 / E23	weekly	Exams			
Tutorials	either Thursday ਯ Thursday ਯ TBA	08:15-09:45 14:15-15:45 TBA	OH 12 / 1.054 OH 12 / 1.054 TBA	bi-weekly bi-weekly bi-weekly	Effective sind	ce winter term 2014/15: written e	xam (not oral)	
	from 17-Oct-2024 (g	roups 1+2) / 24-Oct-202	24 (groups 3+4) / TBA (g	roups 5+6)	<ul> <li>Informatik,</li> </ul>	Bachelor: Module	$\rightarrow$ written exam	(90 min)
Tutors	Marco Pleines Jonas Kramer	, DrIng. , B.Sc.			<ul> <li>Automation</li> </ul>	n & Robotics, Master: Module	$\rightarrow$ written exam	(90 min)
					Data Scier	nce / Statistics, Master: Module	$\rightarrow$ written exam	(90 min)
Informatio http://ls teaching/	<b>n (web pages &amp; m</b> 11-www.cs.tu-dor lectures/CI/WS20	<b>oodle)</b> rtmund.de/peop 024-25/lecture	ole/rudolph/ .jsp		• whoever e	lse	$\rightarrow$ written exam	(90 min)
Tutorial inf Slides	fo see m see w	<u>oodle</u> eb page			mandatory	for registration to written exam:	must pass tutorial!	
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Prerequisit	es		Lecture 00		Concept For	mation & Demarcation Lines	Lecture 00	
Basic kr	nowledge about				Mathematics	Computer Scie	ence	Statistics
• program	mming,				Logic	Artificial Intellio	ence	Data Sc.
• logic	Ū.				5	<b>3</b>		ing
is helpfu	l.				OR	Computational Intelligence	Machine Learning	ata Minino
					Biology	Soft Computing	Deep Learning	
But wha	at if something is u	Inknown to me				Cognitive Compu	ting	Cognition Science
covered in the lecture								
pointer	s to literature							
and d	on't hesitate to as	k!						
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Overview "Computational Intelligence" Lecture 00		Overview "Computational Intelligence"	Lecture 00			
What is CI ? $\Rightarrow$ umbrella term for computational methods inspired by nature			<ul> <li>term "computational intelligence" made popular by John Bezdek (FL, USA)</li> <li>originally intended as a demarcation line</li> <li>⇒ establish border between artificial and computational intelligence</li> </ul>			
<ul> <li>artifical neural networks</li> </ul>			• nowadays: blurring border $\rightarrow$ current widespread perception: CI $\subset$ AI			
<ul> <li>evolutionary algorithms</li> </ul>	historica	l backbone				
• fuzzy systems	J					
• swarm intelligence			our goals:			
<ul> <li>artificial immune systems</li> </ul>	hewer d	evelopments	1. know what CI methods are good for!			
<ul> <li>growth processes in trees</li> </ul>			2. know when refrain from CI methods!			
•			3. know why they work at all!			
			4. know how to apply and adjust CI methods to	your problem!		
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