

Fuzzy Systems

Introduction

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About me: Rudolf Kruse

In 1979 diploma in mathematics (minor computer science) at TU Braunschweig

There dissertation in 1980, habilitation in 1984

2 years full-time employee at Fraunhofer Institute

In 1986 offer of professorship for computer science at TU Braunschweig

Since 1996 professor at the University of Magdeburg

Research: data mining, explorative data analysis, fuzzy systems, neuronal networks, evolutionary algorithms, Bayesian networks

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Consultation: Thursday, 10 a.m. – 11 a.m. in room G29-014

About the lecture

Stream available on <https://mediasite.ovgu.de>

Download available on <https://elearning.ovgu.de> (eventually)

Information about the course:

<https://www.is.ovgu.de/Teaching/SS+20/Fuzzy+Systems.html>

- Weekly lecture slides as PDF
- Also assignment sheets for the exercise
- Online registration for exercises on the LSF
- Important announcements and dates!

Content of the lecture

Introduction, fuzzy sets and fuzzy logic

Theory

Fuzzy control

Fuzzy data analysis

Learning fuzzy systems

About the exercise

Active participation and explanations of your solutions

Assistant will call attention to mistakes and answer questions

Pure ‘calculations’ of sample solution is not the purpose

Assistant:

- Jonas Schulze, jonas.schulze@ovgu.de

First assignment due April 27/29

- Monday: 3.15 – 4:45 pm (via <https://zoom.us>)
- Wednesday: 3.15 – 4:45 pm (via <https://zoom.us>)

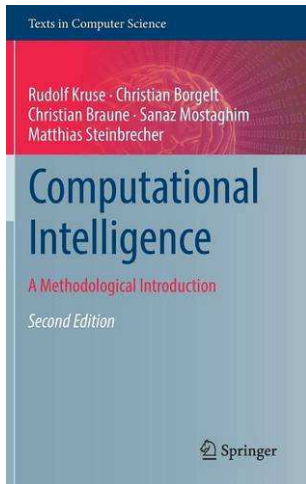
More information to come, please check the website every once in a while.

Conditions for Exam and Certificate

Exam or Certificate will get who...

- regularly contributes well in the exercises,
- uploads solutions to at least $\geq 50\%$ of all assignments,
- presents ≥ 2 solutions to written assignments during exercises (this number is reduced in case not everybody can present twice due to the number of students per exercise).
- Students who fulfill these criteria can to write the exam (120 min), which they need to pass to successfully finish the course.

Books about the course



<http://www.computational-intelligence.eu/>

What are we going to talk about?!

Research on fuzzy systems wants to establish

- theoretical and methodological bases for computational intelligence,
- tools and techniques for design of intelligent systems.

Fuzzy systems focus on applications

- where some aspects of imprecision plays an important role.

Fuzzy set theory and fuzzy logic

- with a solid mathematical foundation.