

Autonomous robotics: Action, Perception, and Cognition

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Theory of Cognitive Systems
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Language

- slides will be in English
- lectures will be in English, sometimes German

Who am I

- theoretical physicist by training, but working in theoretical neuroscience/ cognitive science and motor control for over 20 years
- second life as a roboticist/computer vision person
- way stations: Saarbrücken, Stuttgart, Boca Raton Florida, Bochum, Marseille, Bochum...

What am I?

- Chair Theory of Cognitive Systems
- Director of the Institut für Neuroinformatik
- joint appointment in the Faculty of Physics and Astronomy and in the Faculty of Electrical Engineering and Information Technology

My research

■ research in two related areas

- embodied cognition: motor control, movement planning and representation, decision making, action and spatial memory, visual working memory, perceptual representations, motion perception, grounding of language

- autonomous robotics: scene representation, object recognition, behavioral organization, reaching and grasping, timing, learning

■ based on the theoretical approach of “DST” (dynamical systems theory) and “DFT” (dynamical field theory)

Jean-Stéphane Jokeit

- will run the exercises
- also available for questions etc.
- jean-stephane.jokeit@ini.rub.de
- is a physicist by training, doctoral student at INI
 - working on movement generation in autonomous robotic manipulators

Who are you?

Please send this information

■ to jean-stephane.jokeit@ini.rub.de

■ Name, First name

■ Studienfach

■ Fachsemester

■ (Prüfungsordnung)

■ Matrikelnummer

Exercises

- will be corrected by a team of collaborators organized by Jean-Stéphane Jokeit
- will be discussed by Jean-Stéphane Jokeit
- readings!
- essay!
- give essential bonus points: rules => pdf

Schedule

- every Thursday 14:15 to 16:00
- can we do 14:00?
- exercise from 16:15 to 17:00

Web page

- www.ini.rub.de

- then search for course under teaching/courses... or go directly here:

- https://www.ini.rub.de/teaching/courses/autonomous_robotics_action_perception_and_cognition_summer_term_2018/

What learning experience does this course offer?

- interdisciplinary experience: using analogies with nervous systems to design cognitive robots
- learn concepts from dynamical systems theory and from neural dynamics
- experience the reading and writing of mathematical/technical material