Autonomous robotics: Action, Perception, and Cognition

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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

- exercise from 16:15 to 17:00

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 mathematica/technical material