Cognitive Computational Science (Seminar)

Research on the human mind becomes increasingly more interdisciplinary. Today, Psychologists, Philosophers, Neuroscientists, Linguists and Computer Scientists collaborate to understand the working of the brain. In this seminar we will explore key aspects of these fields and how they can be incorporated into models to further our understanding of human cognition. Topics include:

Philosophy of modeling in science

Models

Learning

Cognitive and Behavioral

Decision making

Neural Nets

Notes on the Process: The Seminar will follow a sub selection of chapters from the selected book (see Material). Each student is expected to read the chapter over two weeks. Each other week two groups of 5 students each will prepare one chapter:

A) The first group will prepare 5- key-questions that will be made available to everyone as a self-assessment whether you understood the key-concepts (different to the insights described after) of the chapter and will be available one week before the next session.

B) The second group will prepare 5 insights that they gained from some parts of the chapter and present them with some additional context during the seminar for discussion (short presentations, 1-2 Slide/Insight). Insights are not supposed to be summaries of the chapter or have to reflect any key-concept. Assume everyone has read the chapter already and the key-concepts were captures by group A). These insights can be personal, besides the main points of the chapter, ideally go beyond the things described in the chapter, can be extended with own material and ideally are topics for discussion with others.

At the end of the semester, we will have a short exam directly based on the insights and questions discussed during the seminar.

The grade consists of: 25% Exam, 25% active participation in seminar, 25% preparation of insights, 25% key-questions. Questions & Insights will be graded group-wise.

Material: Chapter [1,2,4,12,13,14,15] of Computational Modeling of Cognition and Behaviour by Stephan Lewandowsky & Simon Farrell, Cambridge University Press; 2018, ISBN - 10: 9781107525610

PrüferIn: Benedikt Ehinger, René Skukies, Judith Schepers

Sprache: English