

Assistant Professor in Cognitive Science specialising in cognitive modeling

The department have a strong history of using AI methods such as artificial neural networks and reinforcement learning to model various cognitive phenomena such as visual perception and motor control especially in relation to attention and emotion processing. The developed models are mostly implemented using the Ikaros system that is an infrastructure for computational modeling of cognitive brain processes. It has been developed at the department over the last 20 years and has been used by several research groups internationally.

Ikaros Project: <https://ikaros-project.org>, <https://github.com/ikaros-project>

The group was instrumental in defining the field of Epigenetic Robotics that studies cognitive development using robotic systems and which has led to a series of international conference on the topic (now merged with the yearly international conference on development and learning).

Lund University Cognitive Robotics Lab: <https://www.crl.lu.se/>

The assistant professor will contribute to our understanding of cognitive processes by developing computational cognitive models using modern AI techniques to reproduce the results of empirical studies.

The research environment has an existing call for an assistant professor in the adjacent field of cognitive robotics, funded by the strategic research area The e-Science Collaboration (eSENCE) and has a newly appointed lecturer (former assistant professor funded by WASP-HS) in cognitive science with a specialty in social robotics and AI. In addition, the broader environment of the Department of Philosophy has a newly recruited assistant professor in practical philosophy focusing on e.g. AI and neurophilosophy. The addition of a specialist in cognitive modeling to this environment is important in order to ground the research in models of fundamental mechanisms of cognition, such as perception, memory, and action.

The assistant professor should contribute to the ongoing work on computational cognitive modeling and strengthen the collaboration with the empirical research at Lund University Cognitive Science (LUCS). The combination of empirical research and computational modeling offers a unique possibility to make an impact internationally in cognitive science.

The assistant professor will work closely with colleagues at LUCS and the Department of Philosophy, and be an integral part of the research in the Robotics Lab. Applications for research funding will be supported and co-funded by the department and opportunities for pedagogical qualification towards senior lectureship will be given through involvement in teaching and supervision of graduate and postgraduate students in Cognitive Science and neighboring subjects, where expertise in cognitive modeling is in high demand.