



Max Planck Institute for Biological Cybernetics MPRG Computational Principles of Intelligence

PhD-Position (m/f/d; E13 TV-L, 65%) in Cognitive Models of Meta-Reinforcement Learning

The Max Planck Research Group on “Computational Principles of Intelligence” at the Max Planck Institute for Biological Cybernetics in Tübingen, in a collaboration with DeepMind and the University of Tübingen, is looking to fill a fully-funded Ph.D. position to work on cognitive models of meta-reinforcement learning.

About the position:

We are looking for a PhD candidate to join our lab to work on cognitive models of meta-reinforcement learning with a particular focus on building models of extended learning in games such as DeepMind’s [Alchemy Testbed](#). The proposed starting date is March 1st 2022 (negotiable). The student will be jointly supervised by Dr. Eric Schulz (MPI Tübingen) and [Dr. Jane Wang](#) (DeepMind), and be part of a collaboration with [Prof. Dr. Zeynep Akata](#) (University of Tübingen) and Prof. Dr. Matthew Botvinick (DeepMind/University College London). An internship at DeepMind or visit at University College London is intended during the PhD depending on successful evaluations. The ideal candidate should hold a M.Sc. degree in cognitive science, machine learning, computer science, or any other computational field and have strong programming skills and mathematical abilities. Some elements to highlight in your application include any background in empirical research, machine learning, cognitive/computational modeling, and evidence of self-motivation and independence. If you have specific skills in computer programming (e.g. PyTorch, TensorFlow, JavaScript, R, Java, etc.) or have successfully completed research projects in the past, please mention that as well.

About the group:

The group conducts research on the fundamental principles of human intelligence. Our goal is to build and test comprehensive theories of the human ability to generalize from little data, to explore efficiently, and to find approximate solutions to complex problems. Our research methods include laboratory and online experiments, computational modeling, machine learning, fMRI, MEG, interactive games and developmental research. You can learn more about our research at cpilab.org

About the institute:

The Max Planck Institute for Biological Cybernetics investigates information processing in the brain. The Institute uses experimental, theoretical and computational methods to study perception, memory, decision-making, motor performance and more. The institute’s working language is English. More details about the institute can be found on its website: kyb.tuebingen.mpg.de

About Tübingen:

Tübingen is a scenic medieval university town. The quality of life is exceptionally high and the atmosphere is both tolerant and inclusive. Most locals speak English and knowledge of German is not required to live here. Tübingen offers excellent research opportunities due to four Max Planck institutions, the University, the University Hospital, the Hertie Institute for Clinical Brain Research, the Werner Reichardt Centre for Integrative Neurosciences, and several companies focusing on machine learning research. You can find out more about Tübingen here: tuebingenresearchcampus.com

How to apply:

Please email a cover letter, your CV, unofficial transcripts, a description of your research interests (not longer than one page), and the names and email addresses of 2-3 referees to eric.schulz@tue.mpg.de. If you have any questions about the project, the research group, or anything else, please do not hesitate to contact us directly. The Max Planck Society is committed to increasing the number of individuals with disabilities in its workforce and therefore encourages applications from such qualified individuals. The Max Planck Society seeks to increase the number of women in those areas where they are underrepresented and therefore explicitly encourages women to apply. Applications received by December 21st 2021 will receive full consideration; review of applications will continue until the position is filled.