



The “[Human and Machine Cognition](#)” lab led by Charley M. Wu in collaboration with Peter Dayan of the [Max Planck Institute for Biological Cybernetics](#) and the University of Tübingen invite applications for a

Postdoc Research Fellow (m/f/d; E13 TV-L, 100%, 2 years)

on the topic of **Representation Learning**: How do people represent an infinitely complex world despite finite cognitive resources? How do these representations balance learning efficiency, compositionality, ease of control, and multi-task generalizability?

Potential topics include:

- Selective attention and generalization in naturalistic environments
- Representational complexity and the explore-exploit tradeoff
- The learning of useful primitives and abstractions for compositional reasoning

in addition to the interests of the candidate.

For inquiries, please contact: [charley.wu\[at\]uni-tuebingen\[dot\]de](mailto:charley.wu[at]uni-tuebingen[dot]de)

About the position:

This position is suited for researchers who have recently finished or are about to finish their PhD in a relevant discipline, such as computational neuroscience, cognitive science, computer science, or psychology. The ideal candidate is self-motivated, comfortable with both analytic and critical thinking, and has a strong computational and mathematical background. Relevant areas of expertise include reinforcement learning, machine learning, and cognitive modeling. Please indicate in your application if you have prior experience with conducting experiments, computational modeling, machine learning, and/or neuroimaging (EEG/fMRI/MEG). Links to publicly available code examples (e.g., github, OSF, etc...) should be provided to demonstrate programming proficiency.

What we offer:

The position is jointly funded by the Cluster of Excellence “[Machine Learning: New Perspectives for Science](#)” and an Alexander-von-Humboldt-Professorship award. The position is based at the University of Tübingen, but collaboration with the MPI Biological Cybernetics is expected. There are no formal teaching duties, allowing full flexibility for conducting research. There will be opportunities to mentor and work with PhD students working on related topics.

About Tübingen:

Tübingen is a scenic university town on the Neckar river in South-Western Germany. The quality of life is exceptionally high and the atmosphere is diverse, inclusive, and most locals speak English. Tübingen offers excellent research opportunities due to the University, four Max Planck institutes, the University Hospital, and Europe’s largest AI research consortium. You can find out more about Tübingen here: <https://www.tuebingen.de/en/>

How to apply:

Please send a cover letter, a research plan (max 1 page), your CV, and contact information of two referees *as a single PDF* to Susan Fischer ([susan.fischer\[at\]tue\[dot\]mpg\[dot\]de](mailto:susan.fischer[at]tue[dot]mpg[dot]de)). The university seeks to raise the number of women in research and teaching and therefore urges qualified women academics to apply for these positions. Equally qualified applicants with disabilities will be given preference. The employment will be arranged by the central administration of the University of Tübingen. Please submit your application by **November 1st, 2022**.