The Chair for Machine Learning in Science (Prof. Dr. Jakob Macke) at the Excellence Cluster "Machine Learning: New Perspectives for Science" at the University of Tübingen has openings for

PhD Students, Postdoctoral Researchers and Scientific Programmers (m/f/d) (E13 TV-L)
to work at the intersection of
Machine Learning and Computational Neuroscience

Come work with us and use deep learning to build, optimize and study **mechanistic models of neural computations!** In a first project, funded by the ERC Grant *DeepCoMechTome*, we want to make use of connectomic reconstructions of the fruit fly to build large-scale simulations of the fly brain that can explain visually driven behavior—see, e.g., our prior work with Srinivas Turaga's group, described in Lappalainen et al., Nature, 2024 (press release). In a second project, funded by the DFG through the CRC *Robust Vision*, we want to use differentiable simulators of biophysical models (Deistler et al., 2024) to build data-driven models of visual processing in the retina.

We are open to candidates who are more interested in neurobiological questions, as well as to ones more interested in machine learning aspects (e.g. training large-scale mechanistic neural networks, learning efficient emulators, coding frameworks for collaborative modelling, automated model discovery for mechanistic models, …) of these projects.

Candidate qualifications: We are looking for candidates with a strong quantitative background and degrees in a relevant discipline, ideally in machine learning, computational neuroscience, or numerical simulation, a genuine interest in collaborative work at the interface of machine learning and neuroscience, and strong programming skills (ideally Python and relevant deep learning tools).

Application: Initial fixed-term contracts will be until 30th June 2028 (ERC), resp. 31st December 2028 (SFB), with possible extension; starting date is flexible. Employment will be carried out by the central administration of the University of Tübingen.

Please submit your application materials to mls-jobs@inf.uni-tuebingen.de, including a CV with publication list, relevant transcripts, a statement of research interests (max. two pages), contact details of two referees, and a link to a code repository (or work samples). **Please apply before May 31, 2025.** Our PhD students are typically part of the IMPRS-IS and/or the ELLIS PhD programs, and we will encourage successful applicants to subsequently apply for these programs.

Our group: We (www.mackelab.org) develop machine learning and AI methods to accelerate scientific discovery, with a particular focus on neuroscience. We aim to provide an interdisciplinary, collaborative and supportive work environment which emphasizes diversity and inclusion. In addition to making central contributions to these interdisciplinary projects, positions will offer opportunities for developing your own research program. Working language in the group and institute is English (and many academics in Tübingen do not speak German).

Scientific environment: We are embedded in Tübingen's renowned research community in AI and computational neuroscience, including the Cyber Valley, the Tübingen AI Center, ELLIS, the Excellence Cluster Machine Learning, the Bernstein Center for Computational Neuroscience and the Hertie Institute for AI in Brain Health. We are situated in the AI Research Building, in close proximity to the Max Planck Institutes, and participate in the two International Max Planck Research Schools (IMPRS) 'Intelligent Systems' and `Mechanisms of Mental Function and Dysfunction'.

Institutional commitment to diversity, equity, and inclusion: The university is committed to equal opportunities and diversity and seeks to raise the number of women in research and teaching. We urge qualified women academics to apply for these positions. Equally qualified applicants with disabilities will be given preference in the hiring process.