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Two-year PostDoc position to work on human vision and deep neural networks

A Postdoctoral position is available to join the group of Felix Wichmann at the University of Tübingen. Our lab is small and familial, with regular contact between all its members.

The successful candidate will work on human vision and artificial deep neural networks, using insights from human vision to improve the robustness and data efficiency of artificial networks. To achieve this goal, we are particularly interested in understanding nonlinear computations in the early stages of the human visual system. Publications relevant for the position are listed below. The research is part of a collaboration with Marcelo Bertalmío (Madrid) and Jesús Malo (Valencia).

The ideal candidate would have a background in psychophysics and computational modelling of visual perception. Good programming skills are a requirement, preferably in Python. Knowledge of deep learning or other machine learning methods would be a plus, as are strong communication and writing skills.

The Tübingen vision science, neuroscience and machine learning scene is vibrant, with many excellent labs and institutions within walking or cycling distance. The Wichmann-lab is well integrated into this research landscape and offers the candidate ample opportunities for collaborations. In addition, we have funds for several research visits to Madrid and Valencia.

Tübingen is a university town of 90,000 inhabitants and 28,000 students, combining the flair of a lovingly restored medieval centre of town with the colourful bustle and typical atmosphere of a young and cosmopolitan students' town. It offers numerous sidewalk cafés and cozy pubs. The nearby Schönbuch nature park and the Swabian Alb offer plenty of recreational opportunities.

The review of applications will start on January 20th, 2025, but applications are considered until the position is filled. Starting date is flexible. The position is for a fixed term of two years.

We seek to raise the number of women in research and therefore urge qualified women to apply.

Informal enquiries as well as application materials should be emailed directly to Felix Wichmann. Applications should contain a CV, a brief statement of research interests, a cover letter with the expected date of availability and the names of three referees.

Relevant publications:

Bertalmío, M., Durán Vizcaíno, A., Malo, J., & Wichmann, F. A. (2024). Plaid masking explained with input-dependent dendritic nonlinearities. *Scientific Reports*, 14(1), 1–7.

Geirhos, R., Jacobsen, J.-H., Michaelis, C., Zemel, R., Brendel, W., Bethge, M., & Wichmann, F. A. (2020). Shortcut learning in deep neural networks. *Nature Machine Intelligence*, 2(11), 665–673.

Schütt, H. H., & Wichmann, F. A. (2017). An image-computable psychophysical spatial vision model. *Journal of Vision*, 17(12), 12, 1–35.

Wichmann, F. A., & Geirhos, R. (2023). Are deep neural networks adequate behavioural models of human visual perception? *Annual Review of Vision Science*, 9, 501–524.