



## Press Release

### Tübingen to host one of four new Competence Centers for Machine Learning in Germany

**University of Tübingen and Max Planck Institute for Intelligent Systems Tübingen research robust learning algorithms**

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Tübingen is to receive a competence center for artificial intelligence and machine learning. This will make it one of four locations at which Germany's Ministry of Education and Research plans to pool scientific projects in artificial intelligence. The Tübingen AI Center will provide research groups at the University and at the Max Planck Institute for Intelligent Systems with a place to develop learning systems. The Federal Ministry of Education and Research will sponsor the center with some 6.6 million euros for an initial four years, starting 1 October. Three other AI centers are to be set up in Berlin, Dortmund and Munich. The centers are to play a key role in the German government's artificial intelligence development strategy.

"We are delighted with the sponsorship for the Tübingen AI center; we see a major opportunity to shape the future of artificial intelligence", says coordinator Matthias Bethge, Professor of Computational Neuroscience and Machine Learning at the University of Tübingen. Researchers at the center will work on new concepts and principles to create more robust learning systems. Learning algorithms must be able to deal with external and unexpected influences. At the same time, their reactions must be predictable and transparent.

"Understanding intelligence so that we can create artificially intelligent systems is a grand scientific challenge with huge potential benefits to society", says Michael Black, managing director of the Max Planck Institute for Intelligent Systems. "While achieving this requires continued basic research, there are already great successes with widespread applications. This center bridges foundational and translational research, which is a central concept of the Cyber Valley initiative. This further shows the leadership role that the Tübingen-Stuttgart region is playing in advancing AI research within Germany and the world."

Artificial intelligence needs robust learning algorithms, says Bethge. While humans can still draw the right conclusions even if conditions

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change, even highly-developed machines are frequently unable to assess new, unexpected conditions. For example, image recognition systems meant to recognize and prevent the uploading of violent images to social media can be fooled by minor pixilation. They fail to recognize relevant material and incorrectly classify it as safe.

The center will also raise the question of and investigate possible misuses of AI technologies. One junior research group will look at ways of protecting sensitive data and finding better solutions. Part of the work at the Tübingen AI center will involve benchmarks-competitions aimed at defining the scientific problems. Research groups will compete to find the best solutions.

The new center is part of the major Cyber Valley initiative in the Stuttgart-Tübingen region, where many partners in academia and industry have joined forces to work in the area of artificial intelligence. The University of Tübingen will be founding at least five new professorships and numerous junior research groups, as well as participating in the training of doctoral candidates at the International Max Planck Research School "Intelligent Systems."  
<http://cyber-valley.de/de>

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