Karlsruher Institut für Technologie

KOLLOQUIUM

Informatik-Sonderkolloquium

Machine Learning, Perception, And Abstract Concepts

Prof. Justus Piater, Universität Innsbruck

With every spectacular achievement of a machine learning system, the long-elusive AI breakthrough is popularly proclaimed to be just around the corner. Most recent successes have been due in large part to massive data and computation, in particular using deep artificial neural networks. But can artificial cognition really be achieved just by further scaling up existing machine-learning techniques? I discuss examples of simple, perceptual problems that are easily solved by humans but very difficult for today's machine learning methods. These problems reflect how humans conceptualize their world. Their mastery is thus likely to be an essential prerequisite for autonomous robots to attain higher levels of cognitive abilities. To get there, a few core issues can be identified that should drive research in cognitive robotics.

Justus Piater *is a professor of computer science at the University of Innsbruck, Austria, where he leads the Intelligent and Interactive Systems group. He holds a M.Sc. degree from the University of Magdeburg, Germany, and M.Sc. and Ph.D. degrees from the University of Massachusetts Amherst, USA, all in computer science. Before joining the University of Innsbruck in 2010, he was a visiting researcher at the Max Planck Institute for Biological Cybernetics in Tübingen, Germany, a professor of computer science at the University of Liège, Belgium, and a Marie-Curie research fellow at GRAVIR-IMAG, INRIA Rhône-Alpes, France. His research interests focus on visual perception, learning and inference in sensorimotor systems. He has published more than 170 papers in international journals and conferences, several of which have received best-paper awards, and currently serves as Associate Editor of the IEEE Transactions on Robotics.*

KIT – Campus Süd, Fakultät für Informatik, Am Fasanengarten 5, 76131 Karlsruhe, www.informatik.kit.edu

Mittwoch, 20.12.17, 17:30 Uhr

Informatik-Hauptgebäude (50.34), HS -101 (UG), Am Fasanengarten 5, 76131 Karlsruhe