Epistemological Issues of Machine Learning in Science

This interdisciplinary workshop convenes leading scientists and philosophers to explore crucial aspects of Machine Learning's (ML's) impact on science, covering topics such as the interplay between prediction, discovery, explanation, and understanding in ML-dependent fields. The event marks the launch of the DFG-funded Emmy Noether Group *UDNN: Scientific Understanding and Deep Neural Networks*, and is co-organized with the *Lamarr Institute for Machine Learning and Artificial Intelligence* and co-funded by the *Department for Humanities and Theology* at TU Dortmund University.

Main Organizers: Annika N. Schuster, Frauke Stoll & Florian J. Boge. Contact: udnn.fk14@tu-dortmund.de

Speakers

Life Sciences

Jürgen Bajorath (RFWU Bonn)

Axel Mosig (RU Bochum)

Henk de Regt (U Nijmegen)

Eva Schmidt (TU Dortmund)

Tom Sterkenburg (LMU Munich)

Machine Learning Theory

Miriam Klopotek (U Stuttgart)

Marie-Jeanne Lesot (Sorbonne)

David Watson (KC London)

Philosophy

Kathleen A. Creel (Northeastern U)

Brigitte Falkenburg (TU Dortmund)

Konstantin Genin (U Tübingen)

Lena Kästner (U Bayreuth)

Physics/Astronomy

Dominik Elsässer (TU Dortmund)

Michael Krämer (RWTH Aachen)

Mario Krenn (MPI Erlangen)

Wolfgang Rhode (TU Dortmund)

Christian Zeitnitz (BU Wuppertal)

Date: 27.-28.02.2024

Place: Chaudoire Pavillon, TU Dortmund

UDNN

dortmund university

LAMARR INSTITUTE FOR MACHINE LEARNING AND ARTIFICIAL INTELLIGENCE

Emmy Noether-Programm

DFG Deutsche Forschungsgemeinschaft