

HLRS Summer School Trust and ML 26.7.- 28.7.2023

Locations:

Rühle-Saal, High-Performance Computing Center Stuttgart, Nobelstraße 19, 70569 Stuttgart, Germany (Directions: www.hlrs.de/contact)

TIK Seminar Room, Allmandring 30 (2 minutes from HLRS, directions: <https://t.ly/9JPP1>)



Day 1 26.7. Ethical and normative aspects of Trust in ML – Location Rühle Saal

9:00 Welcome and Intro (Michael Resch)

9:30 Concepts of Trust (Andreas Kaminski)

11:00 *Coffee break*

11:30 A philosophical perspective on Trust in ML (Andreas Kaminski)

13:00 *Lunch break*

14:30 Trust in ML a practical approach – the VCIO framework (Sebastian Hallensleben)

16:00 *Coffee break*

16:30 Participant presentations

18:30 *End (Unithekle – optional)*

Day 2 27.7. Technical Aspects of ML (Hands-on Session) – Location Rühle Saal

9:00 Introduction to the training cluster (Lorenzo Zanon)

9:30 Pre-processing, Feature Engineering and Machine Learning 1 (Lorenzo Zanon)

11:30 *Coffee break*

11:45 Can we use deep learning for a small dataset? 1 (Khatuna Kakhiani)

13:00 *Lunch break*

14:30 Can we use deep learning for a small dataset? 2 (Khatuna Kakhiani)

15:45 *Coffee break*

16:00 Natural Language Processing (Loyal Ali)

18:00 *End (-> Maulwurf or Unithekle - optional)*

Day 3 28.7. Epistemic aspects of Trust in ML – Location TIK Seminar Room

9:00 Epistemology and theory of ML: Impossibility results (Tom Sterkenburg)

10:30 *Coffee break*

11:00 Epistemology and theory of ML: Statistical learning theory and beyond (Tom Sterkenburg)

12:30 *Lunch break*

13:15 Evaluation

14:00 Standards of error and accuracy (Nic Fillion)

15:30 *Coffee break*

16:00 The epistemology of computational error (Nic Fillion)

17:30 End