



Machine Learning in Science

6th Annual Conference 2024

VENUE – Freistil (Wöhrdstraße 25, 72072 Tübingen)

Poster Session

TUESDAY, July 9, 2024 (4:00 to ~6:30 pm)

Individual Cluster Projects		
1.	Francesco Carnazza , Federico Carollo, Miriam Klopotek, Sabine Andergassen, Georg Martius, Igor Lesanovsky	Machine learning dynamics of order parameters
2.	Valentyn Boreiko* , Alexander Panfilov* , Václav Voráček, Jonas Geiping, Matthias Hein	Universal Threat Model for Language Models
3.	Gege Gao , Weiyang Liu, Anpei Chen, Andreas Geiger, Bernhard Schölkopf	GraphDreamer: Compositional 3D Scene Synthesis from Scene Graphs
4.	Moritz Haas , Albert Agisha, Ulrike von Luxburg, Bedartha Goswami	Estimating Spatial Correlation Requires Correcting for Anisotropic Temporal Autocorrelation: A Bias Correction for EOFs, Climate Networks and Beyond
5.	Ekaterina Kneschaurek , Constantin Völter, Vladimir Starostin, Valentin Munteanu, Mikhail Romodin, Maik Hylinski, Dmitry Lapkin, Alexander Gerlach, Alexander Hinderhofer, Frank Schreiber	Deep learning-based feature detection on 2D surface X-ray scattering data
6.	David Künstle , Ulrike von Luxburg, Felix A. Wichmann	Machine learning approaches for psychophysical scaling with ordinal comparisons

7.	Michela Petriconi , Güner Dilsad Er, Katharina Eggensperger, Raysa Benatti, Emilia Magnani, Nora Castner, Melis Ilayda Bal, Sabrina Chebbi, Ifeoma Nwabufo, Claire Vernade	TWiML: Tübingen Women in Machine Learning
8.	Alessandro Simon , Georg Martius, Martin Oettel	Unraveling the physics of patchy particles with density functional theory and ML
9.	Siying Xu , Kerstin Hammernik, Marcel Früh, Andreas Lingg, Jens Kübler, Patrick Krumm, Daniel Rückert, Sergios Gatidis, Thomas Küstner	Accelerate Cardiac Cine MRI using Deep Learning-based Methods
10.	Roxana Zeraati* , Sina Khajehabdollahi* , Emmanouil Giannakakis, Tim Jakob Schäfer, Georg Martius, Anna Levina	Long timescales required for memory tasks arise from distinct mechanisms shaped by learning curricula
AIMS Fellows		
11.	Pauline Ornela Megne Choudja , Thomas Küstner	Longitudinal tracking and segmentation of lesions in PET/CT hybrid imaging
12.	Akpoly Fifame Edwige , Arya Samanta, Daniel Boateng, Jean-Philippe Baudouin, Yana Savytska, Kira Rehfeld	Rainfall forecasting in the Sahel region using Machine Learning techniques
13.	Berthine Nyunga Mpinda , Hendrik Lensch, Mehran Hosseinzadeh, Valay Bundelev	Explainable Medical Image Classification
14.	Stephen Kiilu , Ali Bahrainian, Carsten Eickhoff	Enhancing the Reasoning Capabilities of LLMs
15.	Immaculate Wanjiru Kimani , Dominik Papies	Unveiling the Influence: Exploring Financial Inclusion through Social Media Influencers in Emerging Economies

	Cluster Network Projects	
	Compositionality in Minds and Machines	
16.	Turan Orujlu , Martin V. Butz, Charley M. Wu	Intuitive Physics through the Lens of Pearl's Causal Hierarchy
	Modeling and Understanding Spatiotemporal Environmental Interactions (MUSTEIN)	
17.	Jannik Thümmel , Jakob Schlör, Sebastian Hoffmann, Bedartha Goswami	Learning representations of subseasonal to seasonal ocean dynamics
18.	Fedor Scholz , Manuel Traub, Thomas Scholten, Christiane Zarfl, Martin V. Butz	Fully differentiable, fully distributed River Discharge Prediction
19.	Manuel Traub , Fedor Scholz, Thomas Scholten, Christiane Zarfl, Martin V. Butz	Efficient Scaling of Rainfall Prediction in Binarized Latent Spaces
20.	Florian Ebmeier , Nicole Ludwig, Jannik Thümmel, Volker H. Franz	Time Series Anomaly Detection using Probabilistic Reconstructions
	Uncovering the inner structure of medical images through generative modeling	
21.	Nikolas Morshuis , Matthias Hein, Christian Baumgartner	Finding diverse solutions to inverse problems
22.	Jaivardhan Kapoor , Jakob H. Macke, Christian F. Baumgartner	Linear aging prediction of brain MRI scans in autoencoder latent space
23.	Sarah Müller , Louisa Fay, Lisa Koch, Sergios Gatidis, Thomas Küstner, Philipp Berens	Benchmarking Dependence Measures to Prevent Shortcut Learning in Medical Imaging
	Probabilistic Inference in Mechanistic Models (PIMMs)	
24.	Jonathan Schmidt	

25.	Guy Moss , Julius Vetter, Cornelius Schröder, Richard Gao, Jakob H. Macke	Sourcerer: Sample-based Maximum Entropy Source Distribution Estimation
26.	Jonas Beck , , Nathanael Bosch, Michael Deistler, Kyra L. Kadhim, Jakob H. Macke, Philipp Hennig, Philipp Berens	Diffusion Tempering Improves Parameter Estimation with Probabilistic Integrators for Ordinary Differential Equations
27.	Sebastian Bischoff , Pavlin G. Poličar, Cornelius Schröder, Blaž Zupan, Jakob H. Macke, Manfred Claassen	A new embedding method for RNA velocity data
Machine Learning in Education		
28.	Hanqi Zhou , David Nagy, Charley Wu	Harmonizing Program Induction with Rate-Distortion Theory