NeurIPS 2022: accepted papers from Cyber Valley partner institutions

1. **Optimal Binary Classification Beyond Accuracy**
   Shashank Singh (Max Planck Institute for Intelligent Systems), Justin Khim
2. **Probable Domain Generalization via Quantile Risk Minimization**
   Cian Eastwood (Max Planck Institute for Intelligent Systems), Alexander Robey, Shashank Singh (Max Planck Institute for Intelligent Systems), Julius von Kügelgen (Max Planck Institute for Intelligent Systems), Hamed Hassani, George J. Pappas, Bernhard Schölkopf (Max Planck Institute for Intelligent Systems)
3. **Direct Advantage Estimation**
   Hsiao-Ru Pan (Max Planck Institute for Intelligent Systems), Nico Gürtler (Max Planck Institute for Intelligent Systems), Alexander Neitz, Bernhard Schölkopf (Max Planck Institute for Intelligent Systems)
4. **Invariance Learning in Deep Neural Networks with Differentiable Laplace Approximations**
   Alexander Immer (Max Planck Institute for Intelligent Systems), Tycho F.A. van der Ouderaa, Gunnar Rätsch, Vincent Fortuin, Mark van der Wilk
5. **Truncated Proposals for scalable and hassle-free simulation-based inference**
   Michael Deistler (University of Tübingen), Pedro J Gonçalves (University of Tübingen), Jakob H Macke (University of Tübingen/ Max Planck Institute for Intelligent Systems)
6. **Efficient identification of informative features in simulation-based inference**
   Jonas Beck (University of Tübingen), Michael Deistler (University of Tübingen), Yves Bernaerts (University of Tübingen), Jakob Macke (University of Tübingen/ Max Planck Institute for Intelligent Systems), Philipp Berens (University of Tübingen)
7. **Embrace the Gap: VAEs Perform Independent Mechanism Analysis**
   Patrik Reizinger (University of Tübingen), Luigi Gresele (Max Planck Institute for Intelligent Systems), Jack Brady (University of Tübingen), Julius von Kügelgen (Max Planck Institute for Intelligent Systems), Dominik Zietlow (Max Planck Institute for Intelligent Systems/Amazon Web Services, Tübingen), Bernhard Schölkopf (Max Planck Institute for Intelligent Systems), Georg Martius (Max Planck Institute for Intelligent Systems), Wieland Brendel (University of Tübingen), Michel Besserve (Max Planck Institute for Intelligent Systems)
8. **Amortized Inference for Causal Structure Learning**
   Lars Lorch, Scott Sussex, Jonas Rothfuss, Andreas Krause, Bernhard Schölkopf (Max Planck Institute for Intelligent Systems)
9. **Active Bayesian Causal Inference**
   Christian Toth, Lars Lorch, Christian Knoll, Andreas Krause, Franz Pernkopf, Robert Peharz, Julius von Kügelgen (Max Planck Institute for Intelligent Systems)
10. **Sampling without Replacement Leads to Faster Rates in Finite-Sum Minimax Optimization**
    Aniket Das, Bernhard Schölkopf (Max Planck Institute for Intelligent Systems), Michael Muehlebach (Max Planck Institute for Intelligent Systems)

11. **Function Classes for Identifiable Nonlinear Independent Component Analysis**
    Simon Buchholz, Michel Besserve, Bernhard Schölkopf (all Max Planck Institute for Intelligent Systems)
12. **AutoML Two-Sample Test**
    Jonas M. Kübler, Vincent Stimper, Simon Buchholz, Krikamol Muandet, Bernhard Schölkopf (all Max Planck Institute for Intelligent Systems)
13. **Causal Discovery in Heterogeneous Environments Under the Sparse Mechanism Shift Hypothesis**
    Ronan Perry, Julius von Kügelgen, Bernhard Schölkopf (all Max Planck Institute for Intelligent Systems)
14. **Neural Attentive Circuits**
    Nasim Rahaman (Max Planck Institute for Intelligent Systems), Martin Weiss, Francesco Locatello, Christopher Pal, Yoshua Bengio, Bernhard Schölkopf (Max Planck Institute for Intelligent Systems), Li Erran Li, Nicolas Ballas
15. **Exploring the Latent Space of Autoencoders with Interventional Assays**
    Felix Leeb, Stefan Bauer, Michel Besserve, Bernhard Schölkopf (all Max Planck Institute for Intelligent Systems)
16. **Interventions, Where and How? Experimental Design for Causal Models at Scale**
    Panagiotis Tigas, Yashas Annadani (Max Planck Institute for Intelligent Systems), Andrew Jesson, Bernhard Schölkopf (Max Planck Institute for Intelligent Systems), Yarin Gal, Stefan Bauer
17. **Assaying Out-Of-Distribution Generalization in Transfer Learning**
    Florian Wenzel (Amazon Web Services, Tübingen), Andrea Dittadi, Peter Vincent Gehler (Amazon Web Services, Tübingen), Carl-Johann Simon-Gabriel (Amazon Web Services, Tübingen), Max Horn (Amazon Web Services, Tübingen), Dominik Zietlow (Amazon Web Services, Tübingen), David Kernert (Amazon Web Services, Tübingen), Chris Russell (Amazon Web Services, Tübingen), Thomas Brox (Amazon Web Services, Tübingen), Bernt Schiele (Amazon Web Services, Tübingen), Bernhard Schölkopf (Amazon Web Services, Tübingen), Francesco Locatello (Amazon Web Services, Tübingen)
18. **When to Make Exceptions: Exploring Language Models as Accounts of Human Moral Judgment**
    Zhijing Jin, Sydney Levine, Fernando Gonzalez, Ojasv Kamal, Maarten Sap, Mrinmaya Sachan, Rada Mihalcea, Josh Tenenbaum, Bernhard Schölkopf (Max Planck Institute for Intelligent Systems)
19. **Posterior Refinement Improves Sample Efficiency in Bayesian Neural Networks**
    Augustinus Kristiadi (University of Tübingen), Runa Eschenhagen (University of Tübingen), Philipp Hennig (University of Tübingen/Max Planck Institute for Intelligent Systems)
20. **Posterior and Computational Uncertainty in Gaussian Processes**
    Jonathan Wenger (University of Tübingen), Geoff Pleiss, Marvin Pförtner (University of Tübingen), Philipp Hennig (University of Tübingen/Max Planck Institute for Intelligent Systems), John P. Cunningham
21. **Relational Proxies: Emergent Relationships as Fine-Grained Discriminators**
    Abhra Chaudhuri, Anjan Dutta, Massimiliano Mancini, Zeynep Akata (University of Tübingen/Max Planck Institute for Intelligent Systems)

22. **Curious Exploration via Structured World Models Yields Zero-Shot Object Manipulation**
    Cansu Sancaktar, Sebastian Blaes, Georg Martius (all Max Planck Institute for Intelligent Systems)
23. **Performative Power**
    Moritz Hardt (Max Planck Institute for Intelligent Systems), Meena Jagadeesan, Celestine Mendler-Dünner (Max Planck Institute for Intelligent Systems)
24. **Anticipating Perfomativity by Predicting from Predictions**
    Celestine Mendler-Dünner (Max Planck Institute for Intelligent Systems), Frances Ding, Yixin Wang
25. **Neural Shape Deformation Priors**
    Jiapeng Tang, Lev Markhasin, Bi Wang, Justus Thies (Max Planck Institute for Intelligent Systems), Matthias Nießner
26. **Increasing Confidence in Adversarial Robustness Evaluations**
    Roland S. Zimmermann (University of Tübingen), Wieland Brendel (University of Tübingen), Florian Tramer, Nicholas Carlini
27. **A Causal Analysis of Harm**
    Sander Beckers (University of Tübingen), Hana Chockler, Joseph Y. Halpern
28. **VoxGRAF: Fast 3D-Aware Image Synthesis with Sparse Voxel Grids**
    Katja Schwarz (University of Tübingen/Max Planck Institute for Intelligent Systems), Axel Sauer (University of Tübingen/Max Planck Institute for Intelligent Systems), Michael Niemeyer (University of Tübingen/Max Planck Institute for Intelligent Systems), Yiyi Liao, Andreas Geiger (University of Tübingen/Max Planck Institute for Intelligent Systems)
29. **MonoSDF: Exploring Monocular Geometric Cues for Neural Implicit Surface Reconstruction**
    Zehao Yu (University of Tübingen), Songyou Peng (Max Planck Institute for Intelligent Systems), Michael Niemeyer (University of Tübingen/Max Planck Institute for Intelligent Systems), Torsten Sattler, Andreas Geiger (University of Tübingen/Max Planck Institute for Intelligent Systems)
30. **Provably Robust Detection of Out-of-distribution Data (almost) for free**
    Alexander Meinke, Julian Bitterwolf, Matthias Hein (all University of Tübingen)
31. **Diffusion Visual Counterfactual Explanations**
    Maximilian Augustin, Valentyn Boreiko, Francesco Croce, Matthias Hein (all University of Tübingen)
32. **SAMURAI: Shape And Material from Unconstrained Real-world Arbitrary Image collections**
    Mark Boss (University of Tübingen), Andreas Engelhardt (University of Tübingen), Abhishek Kar, Yuanzhen Li, Deqing Sun, Jonathan T. Barron, Hendrik P. A. Lensch (University of Tübingen), Varun Jampani
33. **Interpolation and Regularization for Causal Learning**
    Leena Chennuru Vankadara (University of Tübingen), Luca Rendsburg (University of Tübingen), Ulrike von Luxburg (University of Tübingen), Debarghya Ghoshdastidar
34. **Learning Structure from the Ground up---Hierarchical Representation Learning by Chunking**
    Shuchen Wu (Max Planck Institute for Biological Cybernetics), Noemi Elteto, Ishita Dasgupta, Eric Schulz (Max Planck Institute for Biological Cybernetics)

35. **Modeling Human Exploration Through Resource-Rational Reinforcement Learning**
    Marcel Binz, Eric Schulz (all Max Planck Institute for Biological Cybernetics)
36. **Learning Interacting Dynamical Systems with Latent Gaussian Process ODEs**
    Çağatay Yıldız (University of Tübingen), Melih Kandemir, Barbara Rakitsch (Bosch Center for Artificial Intelligence)
37. **Agreement-on-the-Line: Predicting the Performance of Neural Networks under Distribution Shift**
    Christina Baek, Yiding Jiang, Aditi Raghunathan, Zico Kolter (Bosch Center for Artificial Intelligence)
38. **Test-Time Adaptation via Conjugate Pseudo-labels**
    Sachin Goyal, Mingjie Sun, Aditi Raghunathan, Zico Kolter (Bosch Center for Artificial Intelligence)
39. **Structural Kernel Search via Bayesian Optimization and Symbolical Optimal Transport**
    Matthias Bitzer, Mona Meister, Christoph Zimmer (all Bosch Center for Artificial Intelligence)
40. **Trading off Image Quality for Robustness is not Necessary with Regularized Deterministic Autoencoders**
    Amrutha Saseendran (Bosch Center for Artificial Intelligence), Kathrin Skubch (Bosch Center for Artificial Intelligence), Stefan Falkner (Bosch Center for Artificial Intelligence), Margret Keuper
41. **Learning Options via Compression**
    Yiding Jiang, Evan Zheran Liu, Benjamin Eysenbach, J Zico Kolter (Bosch Center for Artificial Intelligence), Chelsea Finn
42. **Ordered Subgraph Aggregation Networks**
    Chendi Qian, Gaurav Rattan, Floris Geerts, Christopher Morris, Mathias Niepert (University of Stuttgart)
43. **PDEBench: An Extensive Benchmark for Scientific Machine Learning**
    Makoto Takamoto, Timothy Praditia (University of Stuttgart), Raphael Leiteritz (University of Stuttgart), Dan MacKinlay, Francesco Alesiani, Dirk Pflüger (University of Stuttgart), Mathias Niepert (University of Stuttgart)
44. **Pseudo-Riemannian Graph Convolutional Networks**
    Bo Xiong (University of Stuttgart), Shichao Zhu, Nico Potyka, Shirui Pan, Chuan Zhou, Steffen Staab (University of Stuttgart)
45. **Hyperbolic Embedding Inference for Structured Multi-Label Prediction**
    Bo Xiong (University of Stuttgart), Michael Cochez, Mojtaba Nayyeri (University of Stuttgart), Steffen Staab (University of Stuttgart)
46. **Towards Improving Calibration in Object Detection Under Domain Shift**
    Muhammad Akhtar Munir, Muhammad Haris Khan, M. Saquib Sarfraz (Karlsruhe Institute of Technology/Mercedes-Benz Innovation), Mohsen Ali