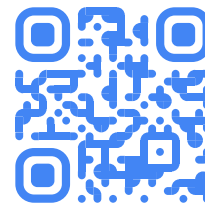


# Dingling Yao

## ELLIS PhD Student @ ISTA

Contact and Info: @yaodingling806@gmail.com ☎ +49 15223780313 📍 Austria

Websites: 🌐 ddcoan.github.io 📄 DDCoan 📄 dinglingyao 📄 Scholar



## Education

### ISTA PhD 📄 in Computer Science Nov 2023 – Now

Institute of Science and Technology Austria 📄 Klosterneuburg, Austria

Topic: Causal representation learning for science

Advisors: Prof. Francesco Locatello and Prof. Georg Martius

### MPI-IS PhD 📄 in Computer Science Apr 2022 – Oct 2023

Max Planck Institute for Intelligent Systems 📄 Tübingen, Germany

Topic: Causal representation learning for science

Advisors: Prof. Georg Martius and Prof. Francesco Locatello

### M.Sc. in Machine Learning Oct 2020 – Mar 2022

Univeristy of Tübingen 📄 Tübingen, Germany

Grade: German: *Sehr gut* - very good 📄

Relevant courses: Stochastic Machine Learning, Probabilistic Machine Learning, Deep Learning, Time Series and Dynamical Systems.

### B.Sc. in Computer Science Apr 2016 – Apr 2020

Univeristy of Tübingen 📄 Tübingen, Germany

Grade: German: *Sehr gut* - very good 📄

Relevant courses: Probabilistic Theory, Algorithm Design

## Research Experience

Experience in lecturing (University of Tübingen), fundamental research (Amazon) and applied research (BCAI).

### Amazon Web Services 📄 Oct 2022 – Mar 2023

Research Intern Tübingen, Germany

Topic: Object-centric representation learning for intrinsic robot exploration

### Bosch Center for Artificial Intelligence 📄 May 2020 - Jun 2021

Part time ML researcher Renningen, Germany

Topic: Probabilistic modeling for design of dynamic experiments

### Mathematics @ University of Tübingen 📄 Apr 2018 – Apr 2020

Teaching Assistant Tübingen, Germany

Lectured and mentored 200+ students. Various teaching tasks, including preparing lecture material and designing and correcting exams.

## Invited Talks

Dedicated to impactful international research communication, evidenced by worldwide invited talks.

### Multi-View CRL with Partial Observability 📄 Mar 2024

SIAM Conference on Uncertainty Quantification (UQ24) Trieste, Italy

### Retrospective Talk 📄 Feb 2024

Bellairs Workshop on Causality Barbados

### Oral Presentation 📄 Dec 2023

Causal Representation Learning workshop @ NeurIPS 2023 New Orleans, US

## Achievements

Outstanding academic contributions, as shown by publications at top-tier conferences and industrial fellowships.

### Top 5% paper May 2024

ICLR 2024 Vienna, Austria

• First-author paper [6] selected as top 5% paper @ ICLR 2024.

### Industrial Fellowship 2022-2023

Amazon-MPI Fellowship 📄 Germany

## Leadership

### S4 Workshop 📄 2023

Organizer IMPRS-IS

Co-organizes the Soft Skill (S4) Workshop Series at the International Max Planck Research School for Intelligent Systems.

### Speaker Series 📄 2025

Organizer ELLIS x UniReps

Co-organizes the upcoming ELLIS x UniReps Speaker Series on unifying representations.

## Projects

Hands-on experience on Python, PyTorch, JAX, SciKit-Learn from research and personal projects on GitHub 📄.

### CRL-Dynamical-Systems 📄 Nov 2024

Developed PyTorch 📄 implementation for NeurIPS24 paper [5], enabling provable identification of time-invariant physical parameters for downstream causal tasks.

### Multiview-CRL 📄 Mar 2024

Designed and implemented a PyTorch 📄 framework for ICLR24 paper [6] to identify latent variables in multimodal, multisensory data (e.g., image-text pairs).

## Referees

Prof. Francesco Locatello ISTA

@francesco.locatello@ist.ac.at

Prof. Georg Martius (ERC grantee) Tübingen

@georg.martius@uni-tuebingen.de

Prof. Alex Bronstein (ERC grantee) ISTA

@alexander.bronstein@ist.ac.at

- [1] J. Chen, **D. Yao**, A. Pervez, D. Alistarh, and F. Locatello. “Scalable Mechanistic Neural Networks”. In: *International Conference on Learning Representations (ICLR 2025)*. 2025. URL: <https://arxiv.org/abs/2410.06074>.
- [2] **D. Yao**, D. Rancati, R. Cadei, M. Fumero, and F. Locatello. “Unifying Causal Representation Learning with the Invariance Principle”. In: *International Conference on Learning Representations (ICLR 2025)*. 2025. URL: <https://arxiv.org/abs/2409.02772>.
- [3] **D. Yao**, F. Tronarp, and N. Bosch. “Propagating Model Uncertainty through Filtering-based Probabilistic Numerical ODE Solvers”. In: *International Conference on Probabilistic Numerics 2025 (ProbNum 2025, oral)*. 2025. URL: <https://www.arxiv.org/abs/2503.04684>.
- [4] D. Xu, **D. Yao**, S. Lachapelle, P. Taslakian, J. von Kügelgen, F. Locatello, and S. Magliacane. “A sparsity principle for partially observable causal representation learning”. In: *International Conference on Machine Learning (ICML 2024)*. 2024. URL: <https://openreview.net/pdf?id=MKGrRVODWR>.
- [5] **D. Yao**, C. Muller, and F. Locatello. “Marrying Causal Representation Learning with Dynamical Systems for Science”. In: *Advances in Neural Information Processing Systems (NeurIPS 2024)*. 2024. URL: <https://arxiv.org/abs/2405.13888>.
- [6] **D. Yao**, D. Xu, S. Lachapelle, S. Magliacane, P. Taslakian, G. Martius, J. von Kügelgen, and F. Locatello. “Multi-view causal representation learning with partial observability”. In: *International Conference on Learning Representations (ICLR 2024, spotlight, top 5%)*. 2024. URL: <https://openreview.net/forum?id=OGtnhKQJms>.
- [7] H. S. A. Yu, **D. Yao**, C. Zimmer, M. Toussaint, and D. Nguyen-Tuong. “Active learning in Gaussian process state space model”. In: *Machine Learning and Knowledge Discovery in Databases. Research Track: European Conference, ECML PKDD 2021, Bilbao, Spain, September 13–17, 2021, Proceedings, Part III* 21. Springer. 2021, pp. 346–361. URL: <https://arxiv.org/abs/2108.00819>.