# IRENE CANNISTRACI, PHD

Postdoctoral Researcher @ ETH Zurich, Associated with the ETH AI Center

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## OVERVIEW

I work on making foundation models more efficient and reusable: training-free compression of transformers, representation alignment across models and modalities, and machine unlearning. Author of 20+ papers, including NeurIPS, ICLR (Spotlight, top 5%) and TMLR. PhD with honors. ELLIS Member.

## EXPERIENCE

**Postdoctoral Researcher – ETH Zurich** Feb 2025 – Present
Associated with ETH AI Center – Prof. J. Vogt

- **Efficient foundation models**: training-free compression of vision (TMLR 2026) and tabular transformers (Best Paper Award, ICML 2026 SD4H Workshop).
- **Machine unlearning** for vision transformers (NeurIPS 2026).
- **Multimodal learning** for clinical data (TMLR 2025, ICLR 2026 workshops).
- Supervise ETH MSc and PhD students; co-lead the Network of Women in CS.

**Lecturer – ETH Zurich** Feb 2026 – May 2026
Zurich, MSc Course (150+ students)
Co-designed and delivered lectures for the "Machine Learning for Health Care" MSc course on interpretability, fairness, and LLMs models.

**Visiting Researcher – Helmholtz AI** Feb 2024 – Jul 2024
Munich, AIDOS Lab – Host: Prof. B. Rieck
Worked on representation learning and geometric deep learning on a fully funded visiting grant, resulting in a paper at the ICML Workshop on Methods and Opportunities at Small Scale.

**Software Engineer – NTT Data** Jun 2017 – Feb 2019
Rome, enterprise software for international clients
Built and delivered software for clients including Mercedes-Benz: Java backend services, web frontends and REST APIs.

## EDUCATION

**PhD in Computer Science, with Honors** Nov 2020 – Jan 2025
Sapienza University of Rome
Advisor: Prof. E. Rodolà
Thesis: Improving Neural Networks Efficiency via Representation Similarities

**MSc and BSc in Computer Science** 2020 & 2017
Sapienza University of Rome – 110/110 cum laude
MSc thesis: Time-Aware Sequential Deep Methods and Their Applications in Healthcare.

## SELECTED INVITED TALKS

Invited for 10+ talks at universities and labs, including:

*From Bricks to Bridges: Product of Invariances to Enhance Latent Space Communication* Feb 2024
Helmholtz AI, Munich. Host: Prof. Stefan Bauer.

*Unifying Representations by Infusing Invariances in the Latent Space* Jul 2023
University of Tübingen. Host: Dr. Riccardo Marin.

## SELECTED PUBLICATIONS

Full list on Google Scholar

S. Laguna, J. Gonçalves, M. Vandenhirtz, A. Ryser, J. E. Vogt*, **I. Cannistraci***. "Models Designed to Forget: Machine Unlearning via Key Deletion". NeurIPS 2026. *Equal senior authorship.

**I. Cannistraci**, J. E. Vogt. "Block Redundancy in Tabular Foundation Models for Clinical Applications". ICML 2026, SD4H Workshop **(Best Paper Award)**.

**I. Cannistraci**, S. Antonelli, E. Palumbo, T. M. Sutter, E. Rodolà, B. Rieck, J. E. Vogt. "TOAST: Transformer Optimization using Adaptive and Simple Transformations". TMLR 2026.

S. Laguna, A. Agostini, A. Ryser, S. Ruiperez-Campillo, **I. Cannistraci**, M. Vandenhirtz, et al. "Structure is Supervision: Multiview Masked Autoencoders for Radiology". TMLR 2025.

**I. Cannistraci**, L. Moschella, M. Fumero, V. Maiorca, E. Rodolà. "From Bricks to Bridges: Product of Invariances to Enhance Latent Space Communication". ICLR 2024 **(Spotlight, top 5%)**.

D. Crisostomi, **I. Cannistraci**, L. Moschella, P. Barbiero, M. Ciccone, P. Liò, E. Rodolà. "From Charts to Atlas: Merging Latent Spaces into One". NeurIPS 2023, NeurReps Workshop.

**I. Cannistraci**, L. Moschella, V. Maiorca, M. Fumero, A. Norelli, E. Rodolà. "Bootstrapping Parallel Anchors for Relative Representations". ICLR 2023, Tiny Papers.

## HONORS & AWARDS

- Best Paper Award – ICML SD4H Workshop 2026
- ELLIS Member 2025
- ICLR Spotlight – Top 5% 2024
- ELLIS Mobility Grant – travel grant 2024
- G-Research Grant – research grant 2024
- Helmholtz Visiting Grant – fully funded stay 2024
- Zonta International Women in Tech Scholarship 2022

## PROFESSIONAL ACTIVITIES

- **Area Chair**: NeurIPS 2026
- **Workshop Organizer**: UniReps @ NeurIPS 2024–25
- **Reading Group Organizer**: ELLIS x UniReps
- **Co-Leader**: Network of Women in CS at ETH Zurich
- **Reviewer**: Top ML conferences (ICML, ICLR, NeurIPS)
- **Volunteer**: WiML at NeurIPS 2023–25

## LANGUAGES

**English** (fluent – preferred) **Italian** (native) **German** (basic)

## REFERENCES

**Prof. Julia Vogt** (ETH Zurich)
**Prof. Emanuele Rodolà** (Sapienza)
**Prof. Bastian Rieck** (University of Fribourg)