

IRENE CANNISTRACI

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Postdoctoral Researcher at ETH Zurich working on representation learning, multimodal ML, efficiency and foundation models.
ELLIS Member, co-organizer of the UniReps workshop and the ELLISxUniReps speaker series.

EDUCATION

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| PH.D. IN COMPUTER SCIENCE, WITH HONORS Sapienza University of Rome, Computer Science Department | Nov 2020 – Jan 2025 |
| Thesis: Improving Neural Networks Efficiency via Representation Similarities | |
| Advisor: Prof. Emanuele Rodolà | |
| M.SC. IN COMPUTER SCIENCE, 110/110 CUM LAUDE Sapienza University of Rome, Computer Science Department | Sep 2018 – Oct 2020 |
| Thesis: Time-Aware Sequential Deep Methods and Their Applications in Healthcare | |
| Advisor: Prof. Paola Velardi | |
| B.SC. IN COMPUTER SCIENCE Sapienza University of Rome, CS Dept. | Sep 2013 – Mar 2017 |

EXPERIENCE

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| LECTURER ETH Zurich, Computer Science Department – Zurich, Switzerland | Feb 2026 – Present |
| Lecturer for the Spring Semester Master's course Machine Learning for Health Care , co-taught with Prof. G. Rätsch and Prof. V. Boeva. | |
| POSTDOCTORAL RESEARCHER ETH Zurich, Institute of Machine Learning – Zurich, Switzerland | Feb 2025 – Present |
| Working on representation learning, multimodal ML, foundation models and efficiency in the MDS Lab, led by Prof. Julia Vogt. | |
| INTERNATIONAL RESEARCH VISIT Institute of AI for Health, Helmholtz Munich – Munich, Germany | Feb 2024 – Jul 2024 |
| Working on representation learning and geometric deep learning in the AIDOS Lab, led by Prof. Bastian Rieck. | |
| TEACHING ASSISTANT LUISS Guido Carli University – Rome, Italy | Sep 2023 – May 2024 |
| Lectured and mentored 40+ students for the Data Science in Action MSc course, and designed and implemented the course lab sessions. | |
| TEACHING ASSISTANT Sapienza University of Rome – Rome, Italy | Feb 2023 – Jun 2023 |
| Lectured and mentored 80+ students for the Deep Learning and Applied AI MSc course. | |
| SOFTWARE DEVELOPER ENGINEER NTT Data – Rome, Italy | Jun 2017 – Feb 2019 |
| Developing multiple software for several international customers such as Enel and Telecom. | |

PROFESSIONAL ACTIVITIES

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| PANEL MODERATOR: <i>The Role of Peer Review in Today's Research</i> | Dec 2025 |
| Invited panelists: Sara Hooker (ex Cohere, now Adaption), Ahmad Beirami (ex Google DeepMind) and Meenakshi Khosla (UC San Diego). | |
| CO-ORGANIZER | 2024 – Present |
| <ul style="list-style-type: none">UniReps Workshop at NeurIPS 2024 & 2025 – Workshop websiteELLISxUniReps Online Monthly Speaker Series – Speaker series website | |
| CO-LEADER OF CSNOW: Computer Science Network of Women at ETH Zurich, D-INFK – Organization website | 2025 – Present |
| REVIEWER for top ML Conferences, Journals and Workshops: ICML, ICLR, NeurIPS, NeurReps, Re-Align, WiML and others | 2021 – Present |
| VOLUNTEER for Women in Machine Learning (WiML) Workshop at NeurIPS Conference | 2023, 2024, 2025 |

SELECTED INVITED TALKS

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| <i>From Bricks to Bridges: Product of Invariances to Enhance Latent Space Communication</i> | Feb 2024 |
| Helmholtz AI, Helmholtz Munich, Germany. Hosted by Prof. Stefan Bauer. Slides | |
| <i>Unifying Representations by Infusing Invariances in the Latent Space</i> | Jul 2023 |
| University of Tübingen, Germany. Hosted by Dr. Riccardo Marin. | |
| <i>Communicating between Latent Spaces with Limited Semantic Correspondence</i> | Mar 2022 |
| Trento AI Journal Club, Trento, Italy. Slides | |

HONORS & AWARDS

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| Dec 2025 ELLIS Member – Member of the European Laboratory for Learning and Intelligent Systems (ELLIS) |
| Mar 2024 ELLIS Mobility Program for PhDs – Travel Grant of €5,000 for junior researchers in the ELLIS network |
| Feb 2024 G-Research Grant for PhD Students – Research grant of £2,000 to early career researchers |
| Feb 2024 Helmholtz Visiting Researcher Grant – Three months fully-funded research stay at Helmholtz Munich |
| Dec 2023, 2024, 2025 WiML Travel Grant – Travel grant of ~\$1,500 USD each for attending NeurIPS (3 consecutive years) |
| May 2024 ICLR 2024 Spotlight – Paper accepted as Spotlight (top 5%) at ICLR 2024 |
| Nov 2022 Kickstarting Research Funding – Research grant of €1,000 for young researchers |
| Mar 2022 Women in Technology Scholarship – Grant of US\$8,000 by Zonta International |

REFEREES

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| Prof. Julia Vogt (ERC Grantee) – ETH Zurich – mds.inf.ethz.ch |
| Prof. Emanuele Rodolà (ERC Grantee) – Sapienza University of Rome – gladia.di.uniroma1.it |
| Prof. Bastian Rieck (ERC Grantee) – University of Fribourg – bastian.rieck.me |

PUBLICATIONS

UNDER REVIEW

- [1] S. Laguna, J. Gonçalves, M. Vandenhirtz, A. Ryser, J. E. Vogt*, **I. Cannistraci***. "Rethinking Machine Unlearning: Models Designed to Forget via Key Deletion". *Under Review*, 2026. *Equal senior authorship.
- [2] **I. Cannistraci**, S. Antonelli, E. Palumbo, T. M. Sutter, E. Rodolà, B. Rieck, J. E. Vogt. "TOAST: Transformer Optimization using Adaptive and Simple Transformations". *Under Review*, 2025. [arXiv](#) [↗](#)

PEER REVIEWED

- [1] D. Chopard, J. Gonçalves, **I. Cannistraci**, T. M. Sutter, J. E. Vogt. "You Only Train Once: Differentiable Subset Selection for Omics Data". *TMLR*, 2026. [Link](#) [↗](#)
- [2] S. Laguna, A. Agostini, A. Ryser, S. Ruiperez-Campillo, **I. Cannistraci**, M. Vandenhirtz, S. Mandt, N. Deperrois, F. Nooralahzadeh, M. Krauthammer, et al. "Structure is Supervision: Multiview Masked Autoencoders for Radiology". *TMLR*, 2026. [Link](#) [↗](#)
- [3] S. Ruiperez-Campillo, M. Vandenhirtz, S. Böhi, S. Laguna, **I. Cannistraci**, A. Agostini, E. Ozkan, T. M. Sutter, J. E. Vogt. "From Leads to Latents: Attention-Driven Masked Autoencoder for ECG Times Series". *ICLR 2026 Workshop on Geometry-grounded Representation Learning and Generative Modeling*. [Link](#) [↗](#)
- [4] S. Böhi, **I. Cannistraci**, S. Muñoz Gonzalez, M. Vandenhirtz, S. Laguna, S. Ruiperez-Campillo, M. Krähemann, A. Agostini, E. Ozkan, T. M. Sutter, J. E. Vogt. "Beyond Independent Frames: Latent Attention Masked Autoencoders for Multi-View Echocardiography". *ICLR 2026 Workshop on Foundation Models for Science*. [Link](#) [↗](#)
- [5] **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%)*. [Link](#) [↗](#)
- [6] M. Prata, G. Masi, L. Berti, V. Arrigoni, A. Coletta, **I. Cannistraci**, S. Vyetenko, P. Velardi, N. Bartolini. "Lob-based deep learning models for stock price trend prediction: a benchmark study". *Artificial Intelligence Review*, 2024. [Link](#) [↗](#)
- [7] D. Avola, **I. Cannistraci**, M. Cascio, L. Cinque, A. Fagioli, G. L. Foresti, E. Rodolà, L. Solito. "MV-MS-FETE: Multi-view multi-scale feature extractor and transformer encoder for stenosis recognition in echocardiograms". *Computer Methods and Programs in Biomedicine*, 2024. [Link](#) [↗](#)
- [8] 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*. [Link](#) [↗](#)
- [9] D. Avola, **I. Cannistraci**, M. Cascio, L. Cinque, A. Diko, D. Distante, G. L. Foresti, A. Mecca, I. Scagnetto. "Real-Time GAN-Based Model for Underwater Image Enhancement". *ICIAP 2023*. [Link](#) [↗](#)
- [10] **I. Cannistraci**, L. Moschella, V. Maiorca, M. Fumero, A. Norelli, E. Rodolà. "Bootstrapping Parallel Anchors for Relative Representations". *ICLR 2023, Tiny Papers*. [Link](#) [↗](#)
- [11] **I. Cannistraci**, M. Fumero, L. Moschella, V. Maiorca, E. Rodolà. "Infusing invariances in neural representations". *ICML 2023, TAG-ML Workshop*. [Link](#) [↗](#)
- [12] D. Avola, **I. Cannistraci**, M. Cascio, L. Cinque, A. Diko, A. Fagioli, G. L. Foresti, R. Lanzino, M. Mancini, A. Mecca, D. Pannone. "A Novel GAN-Based Anomaly Detection and Localization Method for Aerial Video Surveillance at Low Altitude". *Remote Sensing*, 2022. [Link](#) [↗](#)