IRENE CANNISTRACI, PHD

Postdoctoral Researcher. ETH Zürich

🚳 Italian

- Q Zürich, Switzerland
- irene.cannistraci.dev

EDUCATION

Ph.D. in Computer Science,

Sapienza University of Rome Thesis: Improving Neural Networks Efficiency via Representation Similarities Advisor: Prof. Emanuele Rodolà 🖸 Grade: With Honors

♥ @ire_cannistraci

M.Sc. in Computer Science Sapienza University of Rome Grade: 110/110 cum laude

B.Sc. in Computer Science Sapienza University of Rome

EXPERIENCE

Postdoctoral Researcher

ETH Zürich, Department of Computer Science

Feb 2025 - now Zürich. Switzerland

Working on representation learning, multimodal machine learning, and healthcare in the MDS Lab, led by prof. Julia Vogt 🖸

International Research Visit

Institute of AI for Health, Helmholtz Munich

Feb 2024 - July 2024 Munich, Germany

Working at the intersection of representation learning, geometric deep learning, and topological machine learning in the AIDOS Lab, led by prof. Bastian Rieck

Teaching Assistant

LUISS Guido Carli University

Sept 2023 - May 2024 Rome, Italy

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

Feb 2023 - Jun 2023 Rome. Italv

Lectured and mentored 80+ students for the Deep Learning and Applied AI C MSc course.

Software Developer Engineer NTT Data

Jun 2017 - Feb 2019 Rome, Italv

24 Jun 2021

Virtual

Developing multiple software for several international customers such as Enel and Telecom.

SELECTED INVITED TALKS

From Bricks to Bridges: Product of Invariances to Enhance Latent Space Communication 29 Feb 2024 Helmholtz AI, Helmholtz Munich Munich, Germany

Hosted by Prof. Stefan Bauer. Slides here 🗹

Unifying Representations by Infusing Invariances in the Latent Space 22 Jul 2023 Tübingen Al center Tübingen, Germany

Communicating between latent spaces with limited semantic correspondence 31 Mar 2022 Trento Al Journal Club Trento, Italy Slides here

Panelist for the Women in Data Science Event WiDS Rome Event

AWARDS

WIML Travel Grant C Dec 2024 Travel Grant for attending NeurIPS

ELISE Mobility Program for PhDs 🖸 Mar 2024

Travel Grant of €5,000 for junior researchers in the ELISE/ELLIS network

G-Research Grant for PhD Students Feb 2024

Research grant of **£2,000** for PhD students and postdocs in quantitative fields

Helmholtz Visiting Researcher Grant 🕑 Feb 2024

Three months fully-funded research stay at the Helmholtz Munich (Apr-Jun)

WIML Travel Grant 🖸 Dec 2023

Travel Grant for attending NeurIPS

Kickstarting Research Funding 🖸 Nov 2022

Research grant of **€1,000** for young researchers and Ph.D. students

Women in Technology Scholarship Mar 2022

Grant of **US\$8,000** for women of any age and nationality, pursuing an IT degree

PROFESSIONAL ACTIVITIES

- **Co-Organizer** ELLISxUniReps Speaker Series 🖸
- Co-Leader CSNOW (ETH)
 - **Co-Organizer** UniReps@NeurIPS2024
- **Reviewer F** ICML, ICLR, NeurIPS, Re-Align@ICLR2023, NeurReps, UniReps, New in ML, WiML @NeurIPS2023, ACM TKDD 2021
- Volunteering WiML@NeurIPS2023.NeurIPS2024

TECHNICAL SKILLS

Representation Learning	Multimodal
Deep Learning Comput	er Vision
Foundation Models Transformers	
NLP Git Python F	PyTorch

Rome. Italv

in irene-cannistraci

Sep 2018 - Oct 2020 Rome, Italy

Sep 2013 - Mar 2017

Rome. Italv

Nov 2020 - Jan 2025

O icannistraci

🞓 Scholar

PUBLICATIONS

Peer reviewed

- [1] D. Avola, I. Cannistraci, M. Cascio, L. Cinque, A. Fagioli, G. L. Foresti, E. Rodolà, and L. Solito. "MV-MS-FETE: Multi-view multi-scale feature extractor and transformer encoder for stenosis recognition in echocardiograms". In: *Computer Methods and Programs in Biomedicine* 245 (2024), p. 108037.
- [2] I. Cannistraci, L. Moschella, M. Fumero, V. Maiorca, and E. Rodolà. "From Bricks to Bridges: Product of Invariances to Enhance Latent Space Communication". In: The Twelfth International Conference on Learning Representations (ICLR 2024, spotlight, top 5%). 2024. URL: https://openreview.net/forum?id=vngVydDWft.
- [3] M. Prata, G. Masi, L. Berti, V. Arrigoni, A. Coletta, I. Cannistraci, S. Vyetrenko, P. Velardi, and N. Bartolini. "Lob-based deep learning models for stock price trend prediction: a benchmark study". In: Artificial Intelligence Review 57.5 (2024), pp. 1–45.
- [4] D. Avola, I. Cannistraci, M. Cascio, L. Cinque, A. Diko, D. Distante, G. L. Foresti, A. Mecca, and I. Scagnetto. "Real-Time GAN-Based Model for Underwater Image Enhancement". In: *International Conference on Image Analysis and Processing ICIAP 2023*. Springer. 2023, pp. 412–423.
- [5] I. Cannistraci, L. Moschella, V. Maiorca, M. Fumero, A. Norelli, and E. Rodolà. "Bootstrapping Parallel Anchors for Relative Representations". In: *The First Tiny Papers Track at ICLR 2023*, *Tiny Papers* @ ICLR 2023, Kigali, Rwanda, May 5, 2023. Ed. by K. Maughan, R. Liu, and T. F. Burns. OpenReview.net, 2023. URL: https://openreview.net/pdf?id=VBuUL2IWlq.
- [6] D. Crisostomi, I. Cannistraci, L. Moschella, P. Barbiero, M. Ciccone, P. Liò, and E. Rodolà. "From Charts to Atlas: Merging Latent Spaces into One". In: NeurIPS 2023 Workshop on Symmetry and Geometry in Neural Representations (NeurReps @ NeurIPS 2023) (2023). URL: https://arxiv.org/abs/2311.06547.
- [7] D. Avola, I. Cannistraci, M. Cascio, L. Cinque, A. Diko, A. Fagioli, G. L. Foresti, R. Lanzino, M. Mancini, A. Mecca, and D. Pannone. "A Novel GAN-Based Anomaly Detection and Localization Method for Aerial Video Surveillance at Low Altitude". In: *Remote Sensing* 14.16 (2022), p. 4110.

Under Revision

[8] I. Cannistraci, E. Rodolà, and B. Rieck. "Detecting and Approximating Redundant Computational Blocks in Neural Networks". In: *arXiv preprint arXiv:2410.04941* (2024).

Preprints

- [9] I. Cannistraci, M. Fumero, L. Moschella, V. Maiorca, and E. Rodolà. "Infusing invariances in neural representations". In: Extended Abstract, TAG-ML workshop @ ICML 2023 (2023). URL: https://openreview.net/pdf?id=mCm4iiNoNc.
- [10] M. Maranghi, A. Anagnostopoulos, I. Cannistraci, I. Chatzigiannakis, F. Croce, G. Di Teodoro, M. Gentile, G. Grani, M. Lenzerini, S. Leonardi, et al. "Al-based Data Preparation and Data Analytics in Healthcare: The Case of Diabetes". In: *arXiv preprint arXiv:2206.06182* (2022).

REFEREES

Prof. Emanuele Rodolà ERC grantee

- Sapienza University of Rome
- 🚱 Homepage 🗹

Prof. Bastian Rieck ERC grantee

- University of Fribourg
- 🚱 Homepage 🗹

Prof. Julia Vogt ERC grantee

- ETH Zürich
- 🚱 Homepage 🗹