

EMANUELE PALUMBO

PhD Student in Machine Learning @ ETH Zurich | [epalu.github.io](https://github.com/epalu)

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SUMMARY

PhD Candidate in Machine Learning at ETH Zurich with a strong passion for research on complex and diverse problems in the field. My interests span generative models, multimodal learning, representation learning, Bayesian methods. I am also driven by the potential of machine learning technology to achieve a concrete positive societal impact, particularly through applications in the healthcare sector.

EDUCATION

ETH Zurich 2022 – present
PhD Candidate, Institute for Machine Learning, Dept. of Computer Science Zurich, Switzerland

- Doctoral Fellow of the ETH AI Center
- Member of the Medical Data Science Group led by Prof. Julia Vogt
- Main research areas: Generative Models, Multimodal Learning, Representation Learning, AI for Health

ETH Zurich 2018 – 2021
M. Sc. Data Science Zurich, Switzerland

- GPA: 5.49/6
- Master Thesis: *Structured Mixture-of-experts Multimodal Variational Autoencoders*

Università Politecnica delle Marche 2015 – 2018
B. Sc. Computer and Automation Engineering Ancona, Italy

- Final Grade : 110/110 *cum laude*
- Bachelor Thesis: *A MILP model for the maximum connected quasi-clique problem*

PUBLICATIONS [†]

- Deep Generative Clustering with Multimodal Diffusion Variational Autoencoders ([↗](#))
Palumbo, E., Manduchi, L., Laguna, S., Chopard, D., and Vogt, J. E.
International Conference on Learning Representations, 2024
- Effective Bayesian Heteroscedastic Regression with Deep Neural Networks ([↗](#))
Immer, A.* , **Palumbo, E.***, Marx A., and Vogt, J. E.
Advances in Neural Information Processing Systems, 2023
- MMVAE+: Enhancing the Generative Quality of Multimodal VAEs without Compromises ([↗](#))
Palumbo, E., Daunhawer, I., and Vogt J. E.
International Conference on Learning Representations, 2023
- Identifiability Results for Multimodal Contrastive Learning ([↗](#))
Daunhawer, I., Bizeul, A., **Palumbo, E.**, Marx, A., and Vogt, J. E.
International Conference on Learning Representations, 2023
- 3DIdentBox: A Toolbox for Identifiability Benchmarking. ([↗](#))
Bizeul, A., Daunhawer, I., **Palumbo, E.**, Schölkopf, B., Marx, A., and Vogt, J. E.
CleaR (Datasets Track) 2023.

- On the Limitations of Multimodal VAEs ([↗](#))
Daunhawer I., Sutter T. M., Chin-Cheong, K., **Palumbo, E.**, and Vogt, J. E.
International Conference on Learning Representations, 2022
- Therapeutic stays of Belarusian children in Italy: evaluation of their mental status, psychological consequences and physical health status. ([↗](#))
Ferrara, P., Pianese, G., Franceschini, G., **Palumbo, E.**, Ianni, A., Ghilardi, G..
Minerva Pediatrics, 2021

* Equal contribution

† Preprints and Workshop Publications are listed on Google Scholar ([↗](#))

AWARDS AND ACHIEVEMENTS

- Dec. 2023 **Organizer and Program Chair**
Deep Generative Models for Health workshop @ NeurIPS 2023 ([↗](#))
- Oct. 2023 **Top Reviewer**
NeurIPS 2023 ([↗](#))
- May 2023 **Organizer and Program Chair**
Time Series Representation Learning for Health workshop @ ICLR 2023 ([↗](#))
- May 2022 **ETH AI Center Doctoral Fellowship**
Recipient of the highly competitive ETH AI Center Doctoral Fellowship ([↗](#))
Supervised by Prof. Julia Vogt, with the co-supervision of Prof. Andrea Burden

RECENT TALKS

- 12/03/2024 **Invited talk at IBM Research Zurich, AI for Scientific Discovery**
Generative Models for Representation Learning with Multiple Heterogeneous Modalities

TECHNICAL SKILLS

Programming Languages	Proficient with Python . Experienced in Bash . Familiar with R , Matlab , C++ .
Deep Learning	Proficient with PyTorch , TensorFlow , HuggingFace .
Machine Learning	Proficient with NumPy , Pandas , Scikit-learn , Matplotlib . Familiar with OpenCV , SciPy , NLTK .
Other	Proficient with Unix , Vim , T_EX , Git . Familiar with SQL and Docker .

REVIEWING EXPERIENCE

I reviewed for NeurIPS, ICML, and ICLR conferences, and was recognized as a Top Reviewer for NeurIPS 2023.

LANGUAGES

Italian	Native	Spanish	Intermediate working proficiency
English	Full professional proficiency	German	Basic proficiency