

Francesco Di Salvo

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Research interests

Robust Machine Learning: To design robust, explainable, and generalizable algorithms capable of overcoming challenges posed by distribution shifts, out-of-distribution data, label noise, and inherent uncertainties.

Academic experience and education

Ph.D. in Machine Learning @ University of Bamberg <i>working on robust machine learning and generative models. Advisor: Christian Ledig.</i>	04/2023 - ongoing Bamberg, DE
M.Sc. in Data Science and Engineering @ Polytechnic University of Turin (109/110) <i>with relevant courses: Mathematics in ML, Deep Learning, Statistical Methods in Data Science.</i>	09/2020 - 10/2022 Turin, IT
Research Intern (Thesis) @ Radboud University Medical Center <i>working on Bayesian Uncertainty on 3D medical images. Advisors: Marco Caballo, Filippo Molinari.</i>	03/2022 - 08/2022 Nijmegen, NL
B.Sc. in Computer Engineering @ University of Palermo (with Honors) <i>with relevant courses: C, Java, Software Engineering, Calculus, Linear Algebra.</i>	09/2017 - 07/2020 Palermo, IT

Experience

Research Intern @ NATO STO CMRE <i>working on Anomaly Detection on underwater acoustic data. Advisor: Alessandra Tesei.</i>	10/2022 - 03/2023 La Spezia, IT
Deep Learning Engineer Intern @ AIKO Space <i>working on Monocular Visual Odometry. Improved rotation error by 26%.</i>	10/2021 - 01/2022 Turin, IT

Selected papers, more on [Google Scholar](#)

- Embedding-Based Federated Data Sharing via Differentially Private Conditional VAEs, **Under review**.
- An Embedding is Worth a Thousand Noisy Labels, **TMLR'25**.
- Privacy-preserving datasets by capturing feature distributions with Conditional VAEs, **BMVC'24**.
- MedMNIST-C: Comprehensive benchmark with simulated realistic image corruptions, **MICCAI-W'24**.
- Self-supervised ViT are Scalable Generative Models for Domain Generalization, **MICCAI'24** (2nd author).

Awards and participation

Won the Best Paper Award Runner Up, ADSMI-MICCAI.	Marrakech, 10/2024
Attended the Mediterranean Machine Learning Summer School, hosted by Google and Google DeepMind.	Milan, 09/2024

Talks

<i>Privacy-aware and robust medical image analysis, Imperial College London (BioMedIA).</i>	London, 10/2024
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Academic activity

- **Teaching assistant** for Mathematics in Machine Learning (2023-2025) and Robust Machine Learning (2023-2025).
- **Thesis supervisor:** 4× Master's, 1× Bachelor's.

Volunteering

Lead The Future. Member of an Italian network of talents in STEM.	since 09/2023
Omdena x Symbaiosys. Volunteer Machine Learning Engineer for a forest restoration project (forecasting).	04/2021 - 06/2021
Vivere Ingegneria. Calculus tutor for engineering students and mentor for high school students.	09/2018 - 07/2020

Programming and software skills ([GitHub](#))

Python (PyTorch, Pandas, NumPy, ScikitLearn, SciPy, Matplotlib), \LaTeX , Git, Bash, Linux.

Languages

Italian (Native), English (Fluent).