Francesco Ferrini Ph.D. Candidate

(+39) 3489981820
francescoferrini1997[at]gmail[dot]com
Google Scholar

Education

University of Trento — Trento, Italy
Ph.D. in Artificial Intelligence and Machine Learning — 2022 - 2025 (expected)
- Research: Graph Neural Networks, Missing Data, Relational Learning

University of Trento — Trento, Italy
M.Sc. in Machine Learning — 2020 - 2022
- Thesis: Learning on multi-relational graphs

University of Verona — Italy
B.Sc. in Computer Science — 2016 - 2020
- Thesis: Robot planning in unknown scenario

Experiences

Artificial Intelligence Research Center, AIST — Tokyo, Japan
Research internship — 2025
- Topic: Learning on graphs with missing features / incomplete data

Aalborg University — Aalborg, Denmark
M.Sc. research internship — 2022
- Topic: Benchmarking and profiling of multi-relational GNN models

Publications

1. **Francesco Ferrini**, Veronica Lachi, Antonio Longa, Bruno Lepri, Xin Liu, Andrea Passerini, Manfred Jaeger. Beyond Sparse Benchmarks: Evaluating GNNs with Realistic Missing Features. *NeurIPS NPGML Workshop*, 2025.
2. **Francesco Ferrini***, Veronica Lachi*, Antonio Longa, Bruno Lepri, Andrea Passerini. GNNs Meet Sequence Models Along the Shortest-Path: an Expressive Method for Link Prediction. *NeurIPS NPGML Workshop*, 2025.
3. **Francesco Ferrini***, Veronica Lachi*, Antonio Longa, Bruno Lepri, Xin Liu, Andrea Passerini, Manfred Jaeger. Bridging Theory and Practice in Link Representation with Graph Neural Networks. *NeurIPS*, 2025.
4. **Francesco Ferrini**, Antonio Longa, Andrea Passerini, Manfred Jaeger. A Self-Explainable Heterogeneous GNN for Relational Deep Learning. *TMLR*, 2025.
5. Veronica Lachi, **Francesco Ferrini**, Antonio Longa, Bruno Lepri, Andrea Passerini. A simple and expressive graph neural network based method for structural link representation. *ICML Workshop*, 2024.
6. **Francesco Ferrini**, Antonio Longa, Bruno Lepri, Andrea Passerini. Meta-Path Learning for Multi-relational Graph Neural Networks. *LOG*, 2023.
7. **Francesco Ferrini**, Antonio Longa, Bruno Lepri, Andrea Passerini. Energy-efficient inference on the edge exploiting TinyML capabilities for UAVs. *MDPI, Drones*, 2021.

Technical Skills

Programming Languages: Python (advanced), scientific libraries (NumPy, Pandas, SciPy)

Deep Learning Frameworks: PyTorch (custom models, GNNs, sequence models), PyTorch Geometric, DGL

Profiling and Optimization: PyTorch Profiler, TensorBoard; performance and memory analysis of GNNs and sequence models

Benchmarking and Synthetic Datasets: Benchmark design for GNNs on real and synthetic data; generation and usage of synthetic datasets for controlled experiments

Machine Learning and AI: Graph Neural Networks, sequence models (GRU, LSTM, Transformer), missing data imputation, fairness and robustness

Activities

- **Conference Reviewer:** ICLR 2026, aaai 2025, ICML 2025, ICLR 2024, , LOG 2023, LOG 2024)
- **Program Committee**, LOG (2025) — Reviewing Chair for Learning On Graphs Conference 2025
- **Oxford Machine Learning Summer School**, Oxford, UK — Representation Learning and Generative AI (2024)
- **Oral at LOG Conference**, LOG (2023) — Oral presentation of **Meta-Path Learning for Multi-relational Graph Neural Networks**
- **Heterogeneous Graph Learning tutorial**, Alan Turing Institute (2023) — Hands on tutorial on heterogeneous graph learning
- **Organizer**, LOG Meetup Trento (2023) — Organized the 4-day Italian LOG event in Trento

Awards and Honors

- **Top Reviewer Award**, Learning on Graphs Conference 2024

Academic Services

Reviewer for: ICML, ICLR, AAAI, LOG