Manuel Dileo

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Manuel Dileo received a master degree in computer science in 2022. He is currently a senior Ph.D. student at the Computer Science Department of the University of Milan, where he is also a tutor of machine learning courses. He has published works on machine learning for temporal networks, link prediction in online social networks, and temporal knowledge graphs.

RESEARCH INTERESTS

Graph Machine Learning, Network Science, Graph Neural Networks, Knowledge Graphs, Temporal Networks

RESEARCH EXPERIENCE

Ph.D Student, Connets Lab. University of Milan	October 2022 — Present Milan, Italy
Research activities on temporal graph learning.Group leader of the research lab. on graph machine learning.Supervision and co-advisor of bachelor and master thesis.	
Visiting Researcher School of Informatics, University of Edinburgh	June 2023 — August 2023 Edinburgh, UK
Research activities on temporal knowledge graphs.Research activities under the supervision of Dr. Pasquale Minervini.	
Research Fellow University of Milan	May 2022 — October 2022 Milan, Italy
Research activities on heterogeneous graph learning.Research activities on biomedical knowledge graphs with Anacleto Lab.	
TEACHING EXPERIENCE	
Network science TA University of Milan Teaching Assistant for the course "Network Science", Master degree in Data Science for Economics. 10 hours. A.Y.: 2024/2025.	September 2024 — Present Milan, Italy
Machine learning tutor University of Milan Tutor for the lab sessions of the course "Machine learning, artificial neural networks and Bachelor degree in Artificial Intelligence. 24 hours. A.Y.: 2023/2024 - 2024/2025.	October 2023 — Present Milan, Italy d deep learning",
Computer Programming tutor University of Milan Tutor for the lab sessions of the course "Computer Programming I", Bachelor degree in Computer Science. 24 hours. A.Y.: 2021/2022	October 2021 — September 2022 Milan, Italy
EDUCATION	
University of Milan , Milan, Italy Master of Science in Computer Science Grade: 110 / 110 cum laude Thesis Title: Link Prediction in Blockchain Online Social Networks with contextual info	October 2020 — April 2022 ormation
University of Milan , Milan, Italy Bachelor of Science in Computer Science Grade: 110 / 110 cum laude Thesis Title: Data-driven induction of fuzzy sets in forensics	October 2020 — April 2022

• LOG - Learning on Graph Conference 2024, PC Member

ACADEMIC ACTIVITIES

- MLH Mining and Learning Hypergraphs, workshop @ ECML PKDD 2024, PC Member
- ComplexTime temporal aspects in complex systems, workshop @ CCS 2024, organizer
- IRonGraph Graph-Based Approaches in Information Retrieval, workshop @ ECIR 2024, PC member
- TGL Temporal Graph Learning, workshop @ NeurIPS 2023, PC member
- LIMBO Learning and Mining for Blockchain workshop @ ECML PKDD 2023, Web Chair
- AIN4GO AI on Networks for Social Good, workshop @ GoodIt 2023, organizer
- Reviewer for several journal and conferences (manuel-dileo.github.io/review)

GRANTS AND PROJECTS

- Winner of the January 2023 INDACO call for free dedicated high-performance computing power and data storage with a research proposal on "Graph Neural Networks for Knowledge Graphs".
- Team member of the "My first SEED Grant" project "Generative AI for Humanities A Theatre Experiment".
- Team member of the PRIN 2022 project "AWESOME: Analysis framework for WEb3 SOcial Media" –
- CUP: I53D23003680006 for the University of Milan unit.

AWARDS

• Best poster award for the work titled "Graph machine learning for fast product development from formulation trials". Mining and Learning on Graphs (MLG) workshop, co-located with the European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML PKDD) 2024.

PUBLICATIONS

Journal paper

- Dileo, M., Zignani, M. (2024). Discrete-time Graph Neural Networks for transaction prediction in Web3 social platforms. Machine Learning. https://doi.org/10.1007/s10994-024-06579-y
- Ba, C. T., **Dileo**, **M.**, Galdeman, A., Zignani, M., Gaito, S. (2024). Analyzing User Migration in Blockchain Online Social Networks through Network Structure and Discussion Topics of Communities on Multilayer Networks. Distrib. Ledger Technol. https://doi.org/10.1145/3640020
- Dileo, M., Zignani, M., Gaito, S. (2023). Temporal graph learning for dynamic link prediction with text in online social networks. Machine Learning. https://doi.org/10.1007/s10994-023-06475-x

Conference paper (in proceedings)

- Dileo, M., Zignani, M. (2024). Network-wide shocking events through the lens of node representation shift. Accepted at Discovery Science.
- Dileo, M., Zignani, M. (2024). Link prediction heuristics for temporal graph benchmark. Accepted at ESANN.
- Dileo, M., Olmeda, R., Pindaro, M. Zignani, M. (2024). Graph Machine Learning for fast product development from formulation trials. Joint European Conference on Machine Learning and Knowledge Discovery in Databases (ECML PKDD). https://link.springer.com/chapter/10.1007/978-3-031-70378-2_19
- Dileo, M., Zignani, M. (2024). Can Graph Neural Networks learn node-level structural features? The Second Tiny Papers Track at ICLR 2024. https://openreview.net/forum?id=HRxVPPdyDh
- Ba, C. T., Galdeman, A., Dileo, M., Zignani, M., Gaito, S. (2023). User Migration Prediction in Blockchain Socioeconomic Networks Using Graph Neural Networks. Proceedings of the 2023 ACM Conference on Information Technology for Social Good, 333–341. https://doi.org/10.1145/3582515.3609552
- Ba, C. T., Galdeman, A., **Dileo**, **M.**, Quadri, C., Zignani, M., Gaito, S. (2022). Web3 Social Platforms: Modeling, Mining and Evolution. ItaDATA, 3340, 168–179.
- Dileo, M., Ba, C. T., Zignani, M., Gaito, S. (2022). Link Prediction with Text in Online Social Networks: The Role of Textual Content on High-Resolution Temporal Data. In P. Pascal D. Ienco (Eds.), Discovery Science (pp. 212–226). Springer Nature Switzerland.