Daniele Malitesta

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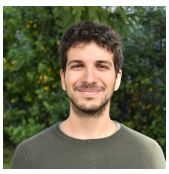
https://danielemalitesta.github.io/



Professional experience

March 2024 – Present
Postdoc Researcher, CentraleSupélec, Inria, Université Paris-Saclay (Gif-sur-Yvette, France)
Supervisor: Prof. Fragkiskos D. Malliaros
Research topics: Graph machine learning, generative models, fairness

Nov 2019 – Oct 2020
Research Assistant, Polytechnic University of Bari (Bari, Italy)
Supervisor: Prof. Tommaso Di Noia
Research topics: Recommendation, adversarial machine learning

Education

Nov 2020 – Oct 2023
Ph.D. in Computer Science Engineering, Polytechnic University of Bari (Bari, Italy)
Supervisor: Prof. Tommaso Di Noia
Research topics: Graph machine learning, recommendation, multimodal deep learning
Thesis title: *Graph Neural Networks for Recommendation leveraging Multimodal Information*

May 2023 – June 2023
Research Visitor, The University of Edinburgh (Edinburgh, United Kingdom)
Supervisor: Dr. Pasquale Minervini
Research topics: Knowledge graphs, recommendation

Sept 2017 – Sept 2019
M.Sc. in Computer Science Engineering, Polytechnic University of Bari (Bari, Italy)
Thesis supervisor: Prof. Tommaso Di Noia
Thesis title: *Novel Approaches to Image Compression via Deep Learning*

Sept 2014 – Sept 2017
B.Sc. in Computer Science and Automation Engineering, Polytechnic University of Bari (Bari, Italy)
Thesis supervisor: Prof. Luigi Alfredo Grieco
Thesis title: *Performance Evaluation of Data-Centric Networks based upon Semantic-Naming Algorithms*

Selected research publications

A **selection** of research publications since 2020. As the author lists may sometimes follow alphabetical order, corresponding authors (as indicated in the original publications) are explicitly reported in **boldface**. At this **link**, you can find the complete list of my pubblications.

Journal articles

• **D. Malitesta**, G. Cornacchia, C. Pomo, F. A. Merra, T. Di Noia, and E. Di Sciascio. 2024. Formalizing Multimedia Recommendation through Multimodal Deep Learning. ACM Trans. Recomm. Syst. Just Accepted (April 2024). https://doi.org/10.1145/3662738

Pre-prints

• M. Attimonelli, D. Danese, A. Di Fazio, D. Malitesta, C. Pomo, T. Di Noia. Ducho meets Elliot: Large-scale Benchmarks for Multimodal Recommendation. CoRR abs/2409.15857 (2024)

• **D. Malitesta**, A. C. M. Mancino, P. Minervini, T. Di Noia: Dot Product is All You Need: Bridging the Gap Between Item Recommendation and Link Prediction. CoRR abs/2409.07433 (2024)

• **D. Malitesta**, G. Medda, E. Purificato, L. Boratto, F. D. Malliaros, M. Marras, E. W. De Luca: How Fair is Your Diffusion Recommender Model?. CoRR abs/2409.04339 (2024)

Conference proceedings

• **D. Malitesta**, **C. Pomo**, V. W. Anelli, A. C. M. Mancino, T. Di Noia, and E. Di Sciascio. 2024. A Novel Evaluation Perspective on GNNs-based Recommender Systems through the Topology of the User-Item Graph. The 18th ACM Conference on Recommender Systems (to appear in proceedings of RecSys '24). https://doi.org/10.1145/3640457.3688070

• **D. Malitesta**, E. Rossi, C. Pomo, T. Di Noia, and F. D. Malliaros. 2024. Do We Really Need to Drop Items with Missing Modalities in Multimodal Recommendation? The 33rd ACM International Conference on Information and Knowledge Management (to appear in proceedings of CIKM '24). https://doi.org/10.1145/3627673.3679898

• **G. Panagopoulos**, D. Malitesta, F. D. Malliaros, J. Pang. (2024). Uplift Modeling Under Limited Supervision. In: Bifet, A., Davis, J., Krilavičius, T., Kull, M., Ntoutsi, E., Žliobaitė, I. (eds) Machine Learning and Knowledge Discovery in Databases. Research Track. ECML PKDD 2024. Lecture Notes in Computer Science(), vol 14946. Springer, Cham. https://doi.org/10.1007/978-3-031-70365-2_8

• **M. Attimonelli**, **D. Danese**, **D. Malitesta**, C. Pomo, G. Gassi, and T Di Noia. 2024. Ducho 2.0: Towards a More Up-to-Date Unified Framework for the Extraction of Multimodal Features in Recommendation. In Companion Proceedings of the ACM on Web Conference 2024 (WWW '24). Association for Computing Machinery, New York, NY, USA, 1075–1078. https://doi.org/10.1145/3589335.3651440

• **D. Malitesta**, **G. Cornacchia**, C. Pomo, and T. Di Noia. 2023. On Popularity Bias of Multimodal-aware Recommender Systems: A Modalities-driven Analysis. The 1st International Workshop on Deep Multimodal Learning for Information Retrieval at the 31st ACM International Conference on Multimedia (MMIR@MM '23). https://doi.org/10.1145/3606040.3617441

• **D. Malitesta**, **C. Pomo**, V. W. Anelli, T. Di Noia, and A. Ferrara. 2023. An Out-of-the-Box Application for Reproducible Graph Collaborative Filtering extending the Elliot Framework. The 31st ACM Conference on User Modeling, Adaptation and Personalization (UMAP '23). https://doi.org/10.1145/3563359.3597411

• **D. Malitesta**, **G. Gassi**, C. Pomo, and T. Di Noia. 2023. Ducho: A Unified Framework for the Extraction of Multimodal Features in Recommendation. The 31st ACM International Conference on Multimedia (MM '23). https://doi.org/10.1145/3581783.3613458

• V. W. Anelli, Y. Deldjoo, T. Di Noia, **D. Malitesta**, V. Paparella, and **C. Pomo**. 2023. Auditing Consumer- and Producer-Fairness in Graph Collaborative Filtering. The 45th European Conference in Information Retrieval (ECIR '23). https://doi.org/10.1007/978-3-031-28244-7_3

• V. W. Anelli, Y. Deldjoo, T. Di Noia, E. Di Sciascio, A. Ferrara, **D. Malitesta**, and **C. Pomo**. 2022. Reshaping Graph Recommendation with Edge Graph Collaborative Filtering and Customer Reviews. Workshop on Deep Learning for Search and Recommendation at the 31st ACM International Conference on Information and Knowledge Management (DL4SR@CIKM '22). https://ceur-ws.org/Vol-3317/Paper7.pdf

• Y. Deldjoo, T. Di Noia, **D. Malitesta**, and F. A. Merra. 2022. Leveraging Content-Style Item Representation for Visual Recommendation. The 44th European Conference in Information Retrieval (ECIR '22). https://doi.org/10.1007/978-3-030-99739-7_10

• V. W. Anelli, A. Bellogín, A. Ferrara, **D. Malitesta**, F. A. Merra, C. Pomo, F. M. Donini, and T. Di Noia. 2021. V-Elliot: Design, Evaluate and Tune Visual Recommender Systems. The 15th ACM Conference on Recommender Systems (RecSys '21). https://doi.org/10.1145/3460231.3478881

• V. W. Anelli, Y. Deldjoo, T. Di Noia, **D. Malitesta**, and **F. A. Merra**. 2021. A Study of Defensive Methods to Protect Visual Recommendation Against Adversarial Manipulation of Images. The 44th International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR '21). https://doi.org/10.1145/3404835.3462848

• **V. W. Anelli**, A. Bellogín, A. Ferrara, D. Malitesta, F. A. Merra, **C. Pomo**, F. M. Donini, and T. Di Noia. 2021. Elliot: A Comprehensive and Rigorous Framework for Reproducible Recommender Systems Evaluation. The 44th International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR '21). https://doi.org/10.1145/3404835.3463245

• Y. Deldjoo, T. Di Noia, **D. Malitesta**, and F. A. Merra. 2021. A Study on the Relative Importance of Convolutional Neural Networks in Visually-Aware Recommender Systems. The 4th Workshop on Computer Vision for Fashion, Art and Design at the IEEE / CVF Computer Vision and Pattern Recognition Conference (CVFAD@CVPR '21). https://doi.org/10.1109/CVPRW53098.2021.00445

Skills

Languages	Strong reading, writing and speaking competencies in English.
Coding	Python, Java, C++, C.
ML frameworks	TensorFlow, PyTorch, PyTorch Geometric.
Deployment	Docker, Kubernetes.
HPC	Slurm.
Misc.	Academic research, teaching, presentations at international conferences, peer reviewing of scientific papers.

Miscellaneous Experience

Awards

Sept 2023 — **Outstanding Reviewer**, the 17th ACM Conference on Recommender Systems (RecSys 2023).

Grants

2023 — **Grant Winner**, The Gary Marsden Travel Award, the 31st ACM Conference on User Modeling, Adaptation, and Personalization (UMAP 2023).

2022 — **Grant Winner**, CIKM 2022 NSF Award, the 31st ACM International Conference on Information & Knowledge Management (CIKM 2022).

Chairing activities

2023 - 2024 — **Publicity Co-chair**, the 32nd ACM Conference on User Modeling, Adaptation, and Personalization (UMAP 2024).

Nov 2023 — **Tutorial organizer**, Graph Neural Networks for Recommendation: Reproducibility, Graph Topology, and Node Representation, the 2nd Learning on Graphs Conference (LoG 2023). Panelists: Daniele Malitesta, Claudio Pomo, Tommaso Di Noia.

Mar 2024 — **First International Workshop on Graph-Based Approaches in Information Retrieval (IRonGraphs)**, co-located with the 46th European Conference on Information Retrieval (ECIR 2024). Organizers: Ludovico Boratto, Daniele Malitesta, Mirko Marras, Giacomo Medda, Cataldo Musto, Erasmo Purificato.

Nov 2024 — **Paris LoG Meetup**, co-located with the 3rd Learning on Graphs Conference (LoG 2024). Organizers: Michail Chatzianastis, Alexandre Duval, Jhony H. Giraldo, Nicolas Keriven, Johannes Lutzeyer, Daniele Malitesta, Fragkiskos D. Malliaros.

Miscellaneous Experience (continued)

Teaching activities

2020-2023 — **Teaching assistant**, Algorithms and Data Structures in Java, held in the B.Sc. in Computer Science and Automation Engineering at Polytechnic University of Bari (Bari, Italy).

Oct 2024 — **Main instructor**, Multimodal Deep Learning for Recommendation, held at the ACM RecSys Summer School (Bari, Italy).

Projects involvement

2020 - 2023 — *OK-INSAID*: Operational Knowledge from insights and analytics on industrial data. Programme: PON Ricerca e Innovazione 2014 – 2020 (Italian National Operational Programme on Research and Innovation). Contribution: project implementation, deliverables writing, project outcomes presentation.

2023 — *Tower-Check*: Monitoraggio real-time di tralicci con tecniche di IA a bordo di piattaforme satellitari SAR – [ENGLISH VERSION] Real-time monitoring of pylons using AI techniques onboard SAR satellite platforms. In collaboration with ASI (the Italian Space Agency). Contribution: proposal writing.

Invited talks

Feb 2024 — *IR Talks*, The Glasgow IR Group, The University of Glasgow. A Topology-aware Analysis of Graph Collaborative Filtering. (Online).

Conference peer-reviewing

2025 — AAAI, ICLR, ECIR.

2024 — ICML, ICLR, ECAI, SIGIR, GCLR@AAAI, LoG, CIKM, ACM MM, RecSys, ECIR, UMAP, KaRS@RecSys.

2023 — NeurIPS, TGL@NeurIPS, LoG, RecSys, KaRS@RecSys, LERI@RecSys, EvalRS@KDD, SIGIR, ISIR-eComm@The Web Conf.

2022 — LoG, KaRS@RecSys.

2021 — KaRS@RecSys.

Journal peer-reviewing

2024 — ACM CSUR, IEEE SPL.

2023 — UMUAI, IEEE TKDE, ACM TOIS.

Conference volunteering

Sept 2023 — **Student Voluteer**, the 17th ACM Conference on Recommender Systems (RecSys 2023).