

Erasmus Purificato, M.Sc.

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Work Experience

- from Sep 2024  **Scientific Project Officer - Trustworthy Algorithmic Systems**
Joint Research Center, European Commission, Italy
- Feb 2020 – Jul 2024  **Research Assistant**
Otto von Guericke University Magdeburg, Germany
- Jul 2021 – Jul 2024  **Adjunct Professor - Software Engineering**
Guglielmo Marconi University, Rome, Italy
- Feb 2020 – Jun 2024  **Research Fellow**
Leibniz Institute for Educational Media | Georg Eckert Institute, Brunswick, Germany
- Jan 2019 – Dec 2019  **Technical Leader - Machine Learning Innovation Team**
Blue Reply, Turin, Italy
- Sep 2018 – Jun 2019  **Serie A Football Match Analyst**
KlipDraw, Remote
- Sep 2017 – Dec 2018  **IT Consultant**
Blue Reply, Turin, Italy

Education

- May 2020 – ongoing  **Ph.D. in Computer Science**, Otto von Guericke University Magdeburg
Thesis: *Fairness Analysis of Graph Neural Networks for Behavioral User Modeling*
- Feb 2018 – Dec 2019  **2nd level M.Sc. in Artificial Intelligence**, University of Turin
Thesis: *Development of a Visual Search System for an E-Commerce Portal*
- Nov 2014 – May 2017  **M.Sc. in Computer Engineering**, University of Naples Federico II
Thesis: *Multimedia and Geographic Data Integration for Cultural Heritage Information Retrieval*
- Sep 2011 – Nov 2014  **B.Sc. in Computer Engineering**, University of Naples Federico II
Thesis: *Design of a Programmable Delay Line in CMOS Technology*

Skills









- Languages  Italian (*Mother tongue*) ●●●●●
English (*Professional knowledge*) ●●●●●
German (*Basic knowledge*) ●●●●●
- Hard Skills  User Modeling / User Profiling ●●●●●
Algorithmic Fairness ●●●●●
Human-Centered AI / Responsible AI ●●●●●
Recommender Systems ●●●●●
Deep Learning ●●●●●
- Soft Skills  Teamwork ●●●●●
Learning attitude ●●●●●
Critical thinking ●●●●●
Problem-solving ●●●●●
Communication ●●●●●
- Coding  Python, Java, HTML/CSS, Matlab, LaTeX

Instruction and Speaking Activities





- since Apr 2020  **Teaching Assistant**, Otto von Guericke University Magdeburg
- Human-Centred Artificial Intelligence (*Master*)
 - Human-Centred Approaches and Technologies (*Master*)
 - Knowledge Engineering and Digital Humanities (*Master*)
 - Introduction to Digital Humanities (*Bachelor*)
- Jul 2024  **Tutorial Speaker**, UMAP 2024 Conference, Cagliari, Italy
Title: *Paradigm Shifts in User Modeling: A Journey from Historical Foundations to Emerging Trends*
- Oct 2023  **Tutorial Speaker**, CIKM 2023 Conference, Birmingham, United Kingdom
Title: *Leveraging Graph Neural Networks for User Profiling: Recent Advances and Open Challenges*
- Jun 2023  **Tutorial Speaker**, UMAP 2023 Conference, Limassol, Cyprus
Title: *Tutorial on User Profiling with Graph Neural Networks and Related Beyond-Accuracy Perspectives*
- Feb 2023  **Invited Talk Speaker**, DEFIRST Reading Group, Online
Talk: *Graph Neural Networks Build Fair User Models? Assessing Disparate Impact and Mistreatment in Behavioural User Profiling*
- Oct 2019  **Knowledge Sharing Program Trainer**, Reply, Turin, Italy
Labcamp: *Decrypting Machine Learning Models with LIME*
- Feb 2019  **Knowledge Sharing Program Trainer**, Reply, Turin, Italy
Labcamp: *Churn Prediction with Machine Learning*

Research Publications


Journal Articles





-  **E. Purificato**, L. Boratto, and E. W. De Luca, "Toward a Responsible Fairness Analysis: From Binary to Multiclass and Multigroup Assessment in Graph Neural Network-Based User Modeling Tasks," *Minds and Machines*, vol. 34, no. 3, p. 33, Jul. 2024, ISSN: 1572-8641.  DOI: 10.1007/s11023-024-09685-x.
-  **E. Purificato**, F. Lorenzo, F. Fallucchi, and E. W. D. Luca, "The Use of Responsible Artificial Intelligence Techniques in the Context of Loan Approval Processes," *International Journal of Human-Computer Interaction*, pp. 1543–1562, Apr. 2023, ISSN: 1044-7318.  DOI: 10.1080/10447318.2022.2081284.
-  F. Fallucchi, R. Di Stabile, **E. Purificato**, R. Giuliano, and E. W. De Luca, "Enriching videos with automatic place recognition in google maps," *Multimedia Tools and Applications*, vol. 81, no. 16, pp. 23 105–23 121, Jul. 2022, ISSN: 1573-7721.  DOI: 10.1007/s11042-021-11253-9.
-  **E. Purificato**, S. Wehnert, and E. W. De Luca, "Dynamic Privacy-Preserving Recommendations on Academic Graph Data," *Computers*, vol. 10, no. 9, p. 107, Sep. 2021, ISSN: 2073-431X.  DOI: 10.3390/computers10090107.

Conference Proceedings

-  L. Boratto, D. Malitesta, M. Marras, G. Medda, C. Musto, and **E. Purificato**, "First International Workshop on Graph-Based Approaches in Information Retrieval (IRonGraphs 2024)," in *Advances in Information Retrieval*, Cham: Springer Nature Switzerland, 2024, pp. 415–421, ISBN: 978-3-031-56069-9.  DOI: 10.1007/978-3-031-56069-9_56.
-  **E. Purificato**, L. Boratto, and E. W. De Luca, "Paradigm Shifts in User Modeling: A Journey from Historical Foundations to Emerging Trends," in *Adjunct Proceedings of the 32nd ACM Conference on User Modeling, Adaptation and Personalization*, ser. UMAP Adjunct '24, New York, NY, USA: Association for Computing Machinery, 2024, pp. 13–16, ISBN: 9798400704666.  DOI: 10.1145/3631700.3653062.

- ✍ M. Abdelrazek, **E. Purificato**, L. Boratto, and E. W. De Luca, “FairUP: A Framework for Fairness Analysis of Graph Neural Network-Based User Profiling Models,” in *Proceedings of the 46th International ACM SIGIR Conference on Research and Development in Information Retrieval*, ser. SIGIR ’23, New York, NY, USA: Association for Computing Machinery, 2023, pp. 3165–3169, ISBN: 978-1-4503-9408-6. [DOI: 10.1145/3539618.3591814](#).
- ✍ E. W. De Luca, **E. Purificato**, L. Boratto, S. Marrone, and C. Sansone, “First Workshop on User Perspectives in Human-Centred Artificial Intelligence (HCAI4U),” in *Proceedings of the 15th Biannual Conference of the Italian SIGCHI Chapter*, ser. CHIItaly ’23, New York, NY, USA: Association for Computing Machinery, 2023, pp. 1–3, ISBN: 9798400708060. [DOI: 10.1145/3605390.3610829](#).
- ✍ **E. Purificato**, L. Boratto, and E. W. De Luca, “Leveraging Graph Neural Networks for User Profiling: Recent Advances and Open Challenges,” in *Proceedings of the 32nd ACM International Conference on Information and Knowledge Management*, ser. CIKM ’23, New York, NY, USA: Association for Computing Machinery, 2023, pp. 5216–5219, ISBN: 9798400701245. [DOI: 10.1145/3583780.3615292](#).
- ✍ **E. Purificato**, L. Boratto, and E. W. De Luca, “Recent advances in fairness analysis of user profiling approaches in e-commerce with graph neural networks,” in *Proceedings of the Discussion Papers - 22nd International Conference of the Italian Association for Artificial Intelligence (AIxIA 2023 DP)*, CEUR, 2023, pp. 47–56. [URL: https://ceur-ws.org/Vol-3537/paper6.pdf](https://ceur-ws.org/Vol-3537/paper6.pdf).
- ✍ **E. Purificato**, L. Boratto, and E. W. De Luca, “Tutorial on User Profiling with Graph Neural Networks and Related Beyond-Accuracy Perspectives,” in *Proceedings of the 31st ACM Conference on User Modeling, Adaptation and Personalization*, ser. UMAP ’23, New York, NY, USA: Association for Computing Machinery, 2023, pp. 309–312, ISBN: 978-1-4503-9932-6. [DOI: 10.1145/3565472.3595616](#).
- ✍ **E. Purificato** and E. W. De Luca, “What Are We Missing in Algorithmic Fairness? Discussing Open Challenges for Fairness Analysis in User Profiling with Graph Neural Networks,” in *Advances in Bias and Fairness in Information Retrieval*, ser. Communications in Computer and Information Science, Cham: Springer Nature Switzerland, 2023, pp. 169–175, ISBN: 978-3-031-37249-0. [DOI: 10.1007/978-3-031-37249-0_14](#).
- ✍ **E. Purificato**, S. Shahania, M. Thiel, and E. W. De Luca, “FACADE: Fake Articles Classification and Decision Explanation,” in *Advances in Information Retrieval*, Cham: Springer Nature Switzerland, 2023, pp. 294–299, ISBN: 978-3-031-28241-6. [DOI: 10.1007/978-3-031-28241-6_29](#).
- ✍ **E. Purificato**, S. Wehnert, and E. W. D. Luca, “Usability Studies in Times of Pandemic: Different Solutions for the Remote Usability Tests of Research Digital Tools,” in *HCI International 2023 Posters*, Cham: Springer Nature Switzerland, 2023, pp. 666–673, ISBN: 978-3-031-35989-7. [DOI: 10.1007/978-3-031-35989-7_85](#).
- ✍ S. Wehnert, **E. Purificato**, and E. W. De Luca, “A Usability Study of a Research Institute Website with Eye-Tracking Devices,” in *HCI International 2023 Posters*, Cham: Springer Nature Switzerland, 2023, pp. 702–711, ISBN: 978-3-031-35989-7. [DOI: 10.1007/978-3-031-35989-7_90](#).
- ✍ **E. Purificato**, “Beyond-Accuracy Perspectives on Graph Neural Network-Based Models for Behavioural User Profiling,” in *Proceedings of the 30th ACM Conference on User Modeling, Adaptation and Personalization*, ser. UMAP ’22, New York, NY, USA: Association for Computing Machinery, 2022, pp. 311–315, ISBN: 978-1-4503-9207-5. [DOI: 10.1145/3503252.3534361](#).
- ✍ **E. Purificato**, L. Boratto, and E. W. De Luca, “Do Graph Neural Networks Build Fair User Models? Assessing Disparate Impact and Mistreatment in Behavioural User Profiling,” in *Proceedings of the 31st ACM International Conference on Information & Knowledge Management*, ser. CIKM ’22, New York, NY, USA: Association for Computing Machinery, 2022, pp. 4399–4403, ISBN: 978-1-4503-9236-5. [DOI: 10.1145/3511808.3557584](#).
- ✍ **E. Purificato**, C. Musto, P. Lops, and E. W. De Luca, “First Workshop on Adaptive and Personalized Explainable User Interfaces (APEX-UI 2022),” in *27th International Conference on Intelligent User*

Interfaces, ser. IUI '22 Companion, New York, NY, USA: Association for Computing Machinery, Mar. 2022, pp. 1–3, ISBN: 978-1-4503-9145-0.  DOI: 10.1145/3490100.3511168.







-  **E. Purificato**, S. Shahania, and E. W. D. Luca, “Tell Me Why It’s Fake: Developing an Explainable User Interface for a Fake News Detection System,” in *Proceedings of the 3rd Italian Workshop on Explainable Artificial Intelligence co-located with 21th International Conference of the Italian Association for Artificial Intelligence (AIXIA 2022)*, vol. 3277, Udine, Italy: CEUR Workshop Proceedings, Nov. 2022, pp. 51–63.
-  **E. Purificato**, B. A. Manikandan, P. V. Karanam, M. V. Pattadkal, and E. W. D. Luca, “Evaluating Explainable Interfaces for a Knowledge Graph-Based Recommender System,” in *Proceedings of the 8th Joint Workshop on Interfaces and Human Decision Making for Recommender Systems co-located with 15th ACM Conference on Recommender Systems (RecSys 2021)*, vol. 2948, Amsterdam, the Netherlands: CEUR Workshop Proceedings, Sep. 2021, pp. 73–88.
-  **E. Purificato** and A. M. Rinaldi, “A Multimodal Approach for Cultural Heritage Information Retrieval,” in *Computational Science and Its Applications – ICCSA 2018*, Cham: Springer International Publishing, 2018, pp. 214–230, ISBN: 978-3-319-95162-1.  DOI: 10.1007/978-3-319-95162-1_15.

Research Community Activities




Organizing Committees

- 2024  **Proceedings Chair**, UMAP 2024 Conference
- 2024  **Web Chair**, RecSys 2024 Conference

Chairing



- Nov 2024  **XAI.it 2024**: 6th Italian Workshop on Explainable Artificial Intelligence
Co-located with *AIXIA 2024*, Bozen-Bolzano, Italy
- Mar 2024  **IRonGraphs 2024**: 1st International Workshop on Graph-Based Approaches in IR
Co-located with *ECIR 2024*, Glasgow, Scotland
- Nov 2023  **XAI.it 2023**: 5th Italian Workshop on Explainable Artificial Intelligence
Co-located with *AIXIA 2023*, Rome, Italy
- Sep 2023  **HCAI4U 2023**: 1st Workshop on User Perspectives in Human-Centred Artificial Intelligence
Co-located with *CHIItaly 2023*, Turin, Italy
- Nov 2022  **ISACT 2022**: International School on Situation Awareness in Cognitive Technologies
Co-located with *ICHMS 2022*, Orlando, Florida, United States
- Mar 2022  **APEx-UI 2022**: 1st Workshop on Adaptive and Personalized Explainable User Interfaces
Co-located with *IUI 2022*, Virtually Hosted, Helsinki, Finland

Program Committees - Reviewing Activities






- 2024  **Conferences**: CIKM, SIGIR, RecSys, UMAP, ECIR, ECML/PKDD, IUI, MEDES
Journals: IJHCS, IJHCI, KBS, SIVP, TOIS
Workshops: RecSoGood @RecSys, BIAS @SIGIR, ExUM @UMAP
- 2023  **Conferences**: SIGIR, RecSys, UMAP, FAccT, ECML/PKDD, HCAI-EP
Journals: TOIS, TIST, TORS, NPL, Frontiers in AI
Workshops: BIAS @ECIR, ExUM @UMAP, BehavRec @RecSys, KaRS @RecSys
- 2022  **Conferences**: RecSys, UMAP, HyperText
Workshops: BIAS @ECIR, ExUM @UMAP, XAI.it @AIXIA

Achievements

Awards

- Jul 2024  **Award for Excellence in Reviewing**
SIGIR 2024 Conference
- Jul 2024  **Outstanding Reviewer Award**
UMAP 2024 Conference

Certifications

- Nov 2022  **Football Data Intelligence**
SICS & Soccerment
- Dec 2020  **Recommender Systems Specialization**
Coursera
- Dec 2018  **Football Performance and Data Analysis**
Elite Football Center
- Apr 2018  **Master in Data Analysis in Team Sports**
360MSS
- Mar 2017  **Football Match Analysis**
Elite Football Center