Erasmo Purificato

Researcher

- May 11, 1991
- Magdeburg, Germany
- https://erasmopurif.com/
- erasmopurif@gmail.com
- erasmo.purificato@ovgu.de
- erasmopurificato11
- @erasmopurif11

About Me

I'm a technology enthusiast and a great football passionate. My life is marked by Muhammad Ali's quote "*Impossible is nothing*".

Hard Skills

- User Profiling - HCI ● ● ● ● ○
- Machine Learning ● ● ● ● ○
- AI Ethics - Fairness ● ● ● ● ○
- Explainable AI ● ● ● ○ ○
- Recommender Systems ● ● ● ○ ○
- Deep Learning ● ● ● ● ○
- Information Retrieval ● ● ● ○ ○
- Computer Vision ● ● ● ● ○

Soft Skills

- Teamwork ● ● ● ● ●
- Learning attitude ● ● ● ● ●
- Critical thinking ● ● ● ● ○
- Problem-solving ● ● ● ● ○
- Leadership ● ● ● ● ○
- Communication ● ● ● ○ ○
- Time management ● ● ● ● ○

Work Experience

Jul 2021 – currently

Adjunct Professor   University of Rome Guglielmo Marconi
Principal Lecturer of the course "Software Engineering and Quality" for the Master of Science in Computer Engineering (LM-32).

**Feb 2020 – currently**

Research Assistant   Otto von Guericke University Magdeburg
Research and teaching in the "Digital Transformation and Digital Humanities" group in the fields of: HCI, Recommender Systems, Artificial Intelligence, Machine Learning, NLP and Usability.

Feb 2020 – currently

Research Fellow   Georg Eckert Institute Brunswick
Member of the department "Digital Information and Research Infrastructures", involved in the development of a systematic User Monitoring service and in the building of a mobile Usability Lab.

Sep 2018 – Jun 2019

Serie A Football Match Analyst   KlipDraw
Analysis of the best tactical plays and goals of the Italian Serie A matches, using KlipDraw Animate professional software.

Sep 2017 – Dec 2019

IT Consultant   Blue Reply
Positions held:

- **AI Expert**
  Project management, design and implementation of machine learning and deep learning systems with open source frameworks and libraries (e.g. PyTorch, Keras, Tensorflow, scikit-learn, pySpark, LIME, SHAP, Flask).

- **Technical Leader of the Machine Learning Innovation Team**
  Solution design and implementation of machine learning and deep learning use cases (churn analysis, predictive maintenance, fraud detection), both with IBM (Watson Studio, Watson Machine Learning) and open source tools (e.g. Python scripts, KNIME, Apache Spark) mainly in banking and financial areas.

- **Product Specialist**
  Project management and implementation of cognitive information retrieval systems with IBM tools (Watson Content Analytics, Watson Enterprise Search).

Education

May 2020 – currently

PhD in Computer Science   Otto von Guericke University Magdeburg
Title of the doctoral project: "*Beyond-Accuracy Perspectives on Graph Neural Network-Based Models for Behavioural User Profiling*".

Feb 2018 – Dec 2019

2nd level Master's degree in Artificial Intelligence   University of Turin
In-depth studies on different sectors of Artificial Intelligence: Machine Learning, Deep Learning, Image Processing, Natural Language Processing, Business Intelligence, Big Data Analytics, AI Ethics.

Master Thesis (110/110)
Development of a Visual Search system for an e-commerce portal.

Nov 2014 – May 2017

Master's degree   University of Naples "Federico II"
Computer Engineering
Specialization Area: Information Technology management.

Master Thesis (110/110 cum Laude)
Multimedia and geographic data integration for cultural heritage information retrieval.

Sep 2011 – Nov 2014

Bachelor's Degree   University of Naples "Federico II"
Computer Engineering
Focus: Artificial Intelligence theory and Software engineering.

Bachelor Thesis (109/110)
Design of a programmable delay line in CMOS technology.

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Languages

🇮🇹 Italian ● ● ● ● ●
🇬🇧 English ● ● ● ● ○
🇩🇪 German ● ● ○ ○ ○

Programming

⟨⟩ Python

LaTeX LaTex

☕ Java

🖥 HTML/CSS

📊 Matlab

⟨/⟩ C/C++

⟨/⟩ JavaScript
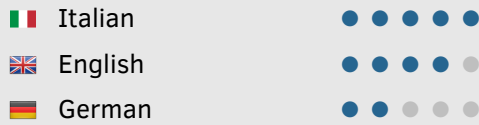
Certifications

Nov 2022 — **Football Data Intelligence**
SICS & Soccerment

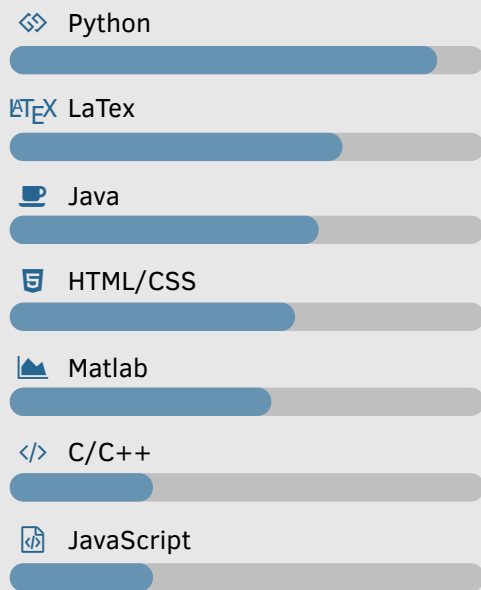Dec 2020 — **Recommender Systems Specialization**
Coursera

Dec 2018 — **Football Performance & Data Analysis**
Elite Football Center

Apr 2018 — **Master in Data Analysis in Team Sports**
360MSS

Mar 2017 — **Football Match Analyst**
Elite Football Center

Teaching and Invited Talks

Apr 2020 – currently — **Teaching staff member** · Otto von Guericke University Magdeburg
Responsible for the exercise course, consisting in carrying out usability studies by employing eye tracking devices to learn how to evaluate the usability and UX of websites and interactive systems. Teaching assistant holding theory lectures on "*User Experience and Usability*" and "*Responsible AI*" for the following courses:

- **Human-Centred Artificial Intelligence** (*Master*)
- **Knowledge Engineering and Digital Humanities** (*Master*)
- **Introduction to Digital Humanities** (*Bachelor*)

Mar 2019 — **Invited seminar speaker** · University of Brescia
Seminar "*Churn Prediction with Machine Learning*" about the importance of customer churn prediction in companies and how to tackle it with machine learning methods, performed for the Master students in Computer Engineering.

Feb 2019 – Oct 2019 — **Knowledge Sharing program** · Reply
Participation in events for knowledge sharing with other colleagues from all Reply companies.

- **Decrypting Machine Learning models with LIME Labcamp**
(Turin, 17th October 2019)
Speaker for a seminar about explainability techniques and the importance of trusting a Machine Learning model.

- **Churn Prediction with Machine Learning Labcamp**
(Turin, 13th February 2019)
Speaker for a seminar about the importance of customer churn prediction in a Telco company.

Jun 2017 — **Invited seminar speaker** · University of Naples "Federico II"
Seminar about "*Multimodal Information Retrieval with Apache Solr*" performed during the course of Information Retrieval Systems, held by professor Antonio Maria Rinaldi, for the Master's degree in Computer Engineering.

Selected Publications

Jul 2023 — **FairUP: A Framework for Fairness Analysis of Graph Neural Network-Based User Profiling Models**
M. Abdelrazek, E. Purificato, L. Boratto, E.W. De Luca
Proceedings of the 46th International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR'23)

Jun 2023 — **Tutorial on User Profiling with Graph Neural Networks and Related Beyond-Accuracy Perspectives**
E. Purificato, L. Boratto, E.W. De Luca
Proceedings of the 31st ACM Conference on User Modeling, Adaptation and Personalization (UMAP'23)

Oct 2023 — **Do Graph Neural Networks Build Fair User Models? Assessing Disparate Impact and Mistreatment in Behavioural User Profiling**
E. Purificato, L. Boratto, E.W. De Luca
Proceedings of the 31st ACM International Conference on Information & Knowledge Management (CIKM'22)

Jun 2022 — **The Use of Responsible Artificial Intelligence Techniques in the Context of Loan Approval Processes**
E. Purificato, F. Lorenzo, F. Fallucchi, E.W. De Luca
International Journal of Human-Computer Interaction (IJHCI)