

Marco Postiglione

PHD STUDENT · INFORMATION AND COMMUNICATION TECHNOLOGIES FOR HEALTH

University of Naples Federico II, Naples, Italy

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Education

University of Naples Federico II

Naples, Italy

PHD IN INFORMATION AND COMMUNICATION TECHNOLOGIES FOR HEALTH

Nov 2020 - Feb 2023 (expected)

- Advisor: Prof. Vincenzo Moscato

University of Naples Federico II

Naples, Italy

MS IN COMPUTER ENGINEERING, WITH HONORS

Sept 2017 - Jan 2020

- Thesis title: "CASTLE: Cluster-Aided Space Transformation for Local Explanations"
- Advisor: Prof. Antonio Picariello

University of Naples Federico II

Naples, Italy

BS IN COMPUTER ENGINEERING, WITH HONORS

Sept 2014 - Sept 2017

- Thesis title: "Big Data in Industry 4.0"
- Advisor: Prof. Antonio Pescapè

Professional Experience

Jun 2022 - ongoing **Machine Learning Research Consultant**, Courtscribes, Inc.

Sep 2022 - Feb 2023 **Research Intern**, Department of Biostatistics & Health Informatics, King's College, London

Jun 2021 - Oct 2021 **Data Science Consultant**, Almaviva Digitaltec

Mar 2020 - Jun 2020 **Graduate Research Fellow**, CINI Consorzio Interuniversitario Nazionale per l'Informatica

Publications

2023

[C12] Cirillo, M., Moscato, V., Postiglione, M. (2023). PicusLab @ BC8 SympTEMIST track: Disambiguating Entity Linking Candidates with Question Answering. BioCreative VIII @ AMIA 2023.

[J11] Bartolini, I., Moscato, V., Postiglione, M., Sperli, G., Vignali, A. (2023). Data augmentation via context similarity: An application to biomedical Named Entity Recognition. Information Systems, 119, ISSN 0306-4379, <https://doi.org/10.1016/j.is.2023.102291>.

[C11] Bosco, A., Capuozzo, S., Celano, B., Gravina, M., Marrone, S., Maurelli, M. P., Moscato, V., Pontillo, G., Postiglione, M., Rinaldi, A. M., Rinaldi, L., Russo, C., Sperli, G., Tommasino, C., Cringoli, G., Sansone, C., AI in healthcare: Activities of the University of Naples Federico II node of the CINI-AIIS Lab, Ital-IA 2023. <https://ceur-ws.org/Vol-3486/127.pdf>

[C10] Riccio, G., Romano, A., Korsun, A., Cirillo, M., Postiglione, M., La Gatta, V., Ferraro, A., Galli, A., Moscato, V., Healthcare Data Summarization via Medical Entity Recognition and Generative AI. The 2nd Italian Conference on Big Data and Data Science (ITADATA)

[C9] Postiglione, M., Esposito, G., Izzo, R., La Gatta, V., Moscato, V., Piccolo, R. (2023). Harnessing multi-modality and expert knowledge for adverse events prediction in clinical notes. 1st International Workshop on Multi-Modal Medical Imaging Processing (M3IP) @ ICIAP.

[C8] Moscato, V., Postiglione, M., Secondulfo, G., Sperli, G., Vignali, A. (2023). Learning How To Augment Data: An Application To Biomedical NER. 6th International Workshop on Knowledge Discovery from Healthcare Data (KDH) @ IJKAI. <https://ceur-ws.org/Vol-3479/paper6.pdf>

[J10] Moscato, V., Postiglione, M., & Sperli, G. (2023). Few-shot Named Entity Recognition: definition, taxonomy and research directions. ACM Transactions on Intelligent Systems and Technology. <https://doi.org/10.1145/3609483>

- [J9] Ferraro, A., Galli, A., La Gatta, V., Postiglione, M. (2023). Benchmarking Open Source and Paid Services for Speech to Text: An Analysis of Quality and Input Variety. *Frontiers in Big Data*, 6. 10.3389/fdata.2023.1210559
- [J8] Moscato, V., Napolano, G., Postiglione, M., & Sperli, G. (2023). Multi-task learning for few-shot biomedical relation extraction. *Artificial Intelligence Review*, 1-21. <https://doi.org/10.1007/s10462-023-10484-6>
- [J7] La Gatta, V., Moscato, V., Postiglione, M. & Sperli, G. (2023). COVID-19 Sentiment Analysis Based on Tweets. *IEEE Intelligent Systems*, 38, 51-55. <https://doi.org/10.1109/MIS.2023.3239180>
- [C7] Ferraro, A., Galli, A., La Gatta, V., Moscato, V., Postiglione, M., Sperli, G., Amato, F. (2023). HEMR: Hypergraph Embeddings for Music Recommendation. 31st Symposium on Advanced Database Systems. <https://ceur-ws.org/Vol-3478/paper46.pdf>
- [C6] Ferraro, A., Galli, A., La Gatta, V., Moscato, V., Postiglione, M., Sperli, G., Moscato, F. (2023). Unsupervised Anomaly Detection in Predictive Maintenance using Sound Data. 31st Symposium on Advanced Database Systems. <https://ceur-ws.org/Vol-3478/paper53.pdf>
- [J6] Moscato, V., Postiglione, M., Sansone, C., & Sperli, G. (2023). TaughtNet: Learning Multi-Task Biomedical Named Entity Recognition From Single-Task Teachers. *IEEE Journal of Biomedical and Health Informatics*, 27, 2512-2523. <https://doi.org/10.1109/JBHI.2023.3244044>

2022

- [J5] D'Auria, D., Moscato, V., Postiglione, M., Romito, G., & Sperli, G. (2022). Improving graph embeddings via entity linking: A case study on Italian clinical notes. *Intell. Syst. Appl.*, 17, 200161. <https://doi.org/10.1016/j.iswa.2022.200161>
- [J4] La Gatta, V., Moscato, V., Pennone, M., Postiglione, M., & Sperli, G. (2022). Music Recommendation via Hypergraph Embedding. *IEEE transactions on neural networks and learning systems*, PP. <https://doi.org/10.1109/TNNLS.2022.3146968>
- [C5] Moscato, V., Postiglione, M., & Sperli, G. (2022). Biomedical Spanish Language Models for entity recognition and linking at BioASQ DisTEMIST. Conference and Labs of the Evaluation Forum. <https://ceur-ws.org/Vol-3180/paper-22.pdf>
- [C4] Bartolini, I., Moscato, V., Postiglione, M., Sperli, G., & Vignali, A. (2022). COSINER: Context Similarity data augmentation for Named Entity Recognition. *Similarity Search and Applications*. https://doi.org/10.1007/978-3-031-17849-8_2
- [C3] Ferraro, A., Galli, A., Gatta, V.L., & Postiglione, M. (2022). A Deep Learning pipeline for Network Anomaly Detection based on Autoencoders. 2022 IEEE International Conference on Metrology for Extended Reality, Artificial Intelligence and Neural Engineering (MetroXRINE), 260-264. <https://doi.org/10.1109/MetroXRINE54828.2022.9967598>

2021

- [J3] La Gatta, V., Moscato, V., Postiglione, M., & Sperli, G. (2021). CASTLE: Cluster-aided space transformation for local explanations. *Expert Syst. Appl.*, 179, 115045. <https://doi.org/10.1016/j.eswa.2021.115045>
- [J2] La Gatta, V., Moscato, V., Postiglione, M., & Sperli, G. (2021). PASTLE: Pivot-aided space transformation for local explanations. *Pattern Recognition Letters*, 149, 67-74. <https://doi.org/10.1016/j.patrec.2021.05.018>
- [C2] Postiglione, M. (2021). Towards an Italian Healthcare Knowledge Graph. *Similarity Search and Applications*. https://doi.org/10.1007/978-3-030-89657-7_29
- [C1] Cinque, M., Moscato, V., Postiglione, M., Riccio, M. P. (2021). Diagnosing severity levels of Autism Spectrum Disorder with Machine Learning. *Data-centric AI Workshop @ NeurIPS*. https://datacentricai.org/neurips21/papers/69_CameraReady__DataCentricAI___Autism.pdf

2020

- [J1] La Gatta, V., Moscato, V., Postiglione, M., & Sperli, G. (2020). An Epidemiological Neural Network Exploiting Dynamic Graph Structured Data Applied to the COVID-19 Outbreak. *IEEE Transactions on Big Data*, 7, 45-55. <https://doi.org/10.1109/TBDATA.2020.3032755>

Awards, Fellowships, & Grants

2022 **Winning definition for *Data-Centric AI***, Data-Centric AI Community
Challenge 1st place, DisTEMIST @ BioASQ 2022 (track 1)

\$ 500

Invited Talks

2022. An overview of few-shot Named Entity Recognition. Guest Lecture. STAT E-100 Introduction to Quantitative Methods for the Social Sciences and Humanities (Prof. Hidefusa Okabe), Harvard University.

Teaching Experience

- 2022-2023 **Big Data Engineering**, Teaching Assistant (University of Naples Federico II, Prof. V. Moscato)
Information Systems, Teaching Assistant (University of Naples Federico II, Prof. V. Moscato)
Elements of Physics I, Tutor (University of Naples Federico II, Prof. D. Montemurro)
Elements of Physics II, Tutor (University of Naples Federico II, Prof. E. Piedipalumbo)
- 2021-2022 **Machine Learning & Big Data for Health**, Teaching Assistant (University of Naples Federico II, Prof. V. Moscato)
Information Systems, Teaching Assistant (University of Naples Federico II, Prof. V. Moscato)
Elements of Physics I, Tutor (University of Naples Federico II, Prof. D. Montemurro)
Electronic calculators I, Tutor (University of Naples Federico II, Prof. F. Amato)
- 2020-2021 **Big Data Engineering**, Teaching Assistant (University of Naples Federico II, Prof. V. Moscato)
- 2019-2020 **Elements of Physics I**, Tutor (University of Naples Federico II, Prof. A. Andreone)
Elements of Informatics, Tutor (University of Naples Federico II, Prof. F. Isgrò)
- 2018-2019 **Elements of Physics I**, Tutor (University of Naples Federico II, Prof. A. Andreone)
Elements of Informatics, Tutor (University of Naples Federico II, Prof. A. Picariello)

Mentoring

I've supervised approximately 30 BS and MS students in Computer Engineering at the University of Naples Federico II.

Peer Review

CONFERENCES

Thirty-Eighth AAAI Conference on Artificial Intelligence (2023)
Thirty-Seventh AAAI Conference on Artificial Intelligence (2022)
2023 IEEE Vehicle Power and Propulsion

JOURNALS

Expert Systems with Applications
IEEE Transactions on Neural Networks and Learning Systems
Journal of Biomedical and Health Informatics
IET Software
Heliyon
Connection Science