Marta Moscati

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SUMMARY

Graduate researcher in Recommender Systems with a background in Particle Physics.
I love discussing science, understanding data, and putting the gained knowledge into practice.

WORK EXPERIENCE

Graduate Researcher | JKU | *Linz, Austria*   2021 – Present
Research on Recommender Systems, Multimodal Learning, User Modeling.

- **Developed** recommender systems beyond collaborative filtering, including SiBraR, a multimodal recommender system that uses multimodal representation learning for accurate recommendations, especially in cold-start scenarios. Published findings at esteemed conferences (RecSys, UMAP).
- **Curated** a dataset for multimodal recommendation, published at esteemed conference (CIKM). The dataset is kept up-to-date with advancements in NLP, MIR, and CV.
- **Led** the projects of several MSc and BSc students in AI.
- **Co-organized** a challenge and a workshop hosted at esteemed conferences (WSDM, MM).
- **Awarded** *Outstanding Reviewer Award* at RecSys'24, UMAP'24, UMAP'25.

Research Intern | Deezer | *Paris, France*   Jun. - Nov. 2024
Research on User Modeling, e.g., exploiting large-scale real-world streaming data.

- **Analyzed** data from user surveys in combination with large-scale music streaming data by means of statistical methods. Published findings at esteemed conference (UMAP).
- **Prototyped** recommender systems based on psychological models of human memory.

Teacher | German Section of the European School | *Karlsruhe, Germany*   2020 - 2021
Teaching mathematics, physics, and computer science to high-school pupils

- **Designed** teaching units following the Montessori education and developed the required material.

Postdoc and Graduate Researcher | KIT | *Karlsruhe, Germany*   2016 – 2019
Research on topics of Particle Physics.

- **Analyzed** large-scale data from particle physics experiments by means of statistical methods.
- **Developed** models to extend the Standard Model of Particle Physics and improve agreement with experimental data.

EDUCATION

PhD | Computer Science | *JKU Linz, Austria*   Ongoing
Research Topics: Recommender Systems, Multimodal Learning, User Modeling
Tools: PyTorch, SciPy, scikit-learn, Git/GitHub, PySpark, BigQuery

PhD | Physics | *KIT Karlsruhe, Germany*   Oct. 2019
Research Topics: Particle Physics, Semileptonic meson decays, Group theory, Physics beyond the Standard Model
Tools: SciPy, scikit-learn, Git/GitHub, Wolfram Mathematica
Thesis title: *Lepton flavour non-universality. From effective field theory to extended gauge models*
Grade: Magna cum Laude

EDUCATION (CONTINUED)

MSc | Physics | *Università degli Studi di Napoli Federico II, Italy*   Jul. 2016
Quantum Field Theory, Statistical Physics, Computational Physics, Functional Analysis
Thesis title: *Investigation of a non minimal $SU(3)_c \times SU(3)_L \times U(1)_x$ extension of the Standard Model*
Grade: 110/110 e lode

BSc | Physics | *Università degli Studi di Napoli Federico II, Italy*   Dec. 2013
Calculus, Linear Algebra, Statistics, Computer Programming
Grade: 110/110 e lode

AWARDS AND INVITED TALKS

Humans and Recommender Systems, Towards a Mutual Understanding | Invited Talk at *ETH Zürich*
Emotion-Based Music Recommendation | Invited Poster at *Austrian Computer Science Days'25*
Outstanding Reviewer | *ACM RecSys'24, ACM UMAP'24, UMAP'25*
Best Talk of the *Intensity Frontier* session | *IFAE'19*
PhD scholarship | *Karlsruhe School of Elementary Particle and Astroparticle Physics*
Iris Fischlmayr scholarship | *JKU Linz*
Erasmus Traineeship and Erasmus+ Scholarships | *Università degli Studi di Napoli Federico II, Italy*

SELECTED PUBLICATIONS

Full list available on Google scholar.

[1]   Marta Moscati, Darius Afchar, Markus Schedl, and Bruno Sguerra. "Familiarizing with Music: Discovery Patterns for Different Music Discovery Needs". In: *Proc. of ACM UMAP*. New York, NY, USA, 2025.

[2]   Marta Moscati. "Multimodal Representation Learning for high-quality Recommendations in Cold-start and Beyond-Accuracy". In: *Proc. of ACM RecSys, Doctoral Consortium*. Bari, Italy, 2024.

[3]   Christian Ganhör*, Marta Moscati*, Anna Hausberger, Shah Nawaz, and Markus Schedl. "A Multimodal Single-Branch Embedding Network for Recommendation in Cold-Start and Missing Modality Scenarios". In: *Proc. of ACM RecSys*. Bari, Italy, 2024, ***Equal contributions**.

[4]   Marta Moscati, Hannah Strauß, Peer-Ole Jacobsen, Andreas Peintner, Eva Zangerle, Marcel Zentner, and Markus Schedl. "Emotion-Based Music Recommendation from Quality Annotations and Large-Scale User-Generated Tags". In: *Proc. of ACM UMAP*. Cagliari, Italy, 2024.

[5]   Marta Moscati, Christian Wallmann, Markus Reiter-Haas, Dominik Kowald, Elisabeth Lex, and Markus Schedl. "Integrating the ACT-R Framework with Collaborative Filtering for Explainable Sequential Music Recommendation". In: *Proc. of ACM RecSys*. Singapore, 2023.

[6]   Marta Moscati, Emilia Parada-Cabaleiro, Yashar Deldjoo, Eva Zangerle, and Markus Schedl. "Music4All-Onion – A Large-Scale Multi-Faceted Content-Centric Music Recommendation Dataset". In: *Proc. of CIKM*. 2022.

[7]   Marta Moscati. "New Physics in $b \to c\tau\nu$: Impact of Polarisation Observables and $B_c \to \tau\nu$". In: *Proc. of FPCP*. Victoria, BC, Canada, 2019.

[8]   **Alphabetically:** Monika Blanke, Andreas Crivellin, Teppei Kitahara, Marta Moscati, Ulrich Nierste, and Ivan Nišandžić. "Addendum to "Impact of polarization observables and $B_c \to \tau\nu$ on new physics explanations of the $b \to c\tau\nu$ anomaly"". In: *Phys. Rev. D* 100.10 (2019), p. 035035.

[9]   **Alphabetically:** Monika Blanke, Andreas Crivellin, Stefan de Boer, Teppei Kitahara, Marta Moscati, Ulrich Nierste, and Ivan Nišandžić. "Impact of polarization observables and $B_c \to \tau\nu$ on new physics explanations of the $b \to c\tau\nu$ anomaly". In: *Phys. Rev. D* 99.7 (2019), p. 075006.

[10]   **Alphabetically:** Sébastien Descotes-Genon, Marta Moscati, and Giulia Ricciardi. "Nonminimal 331 model for lepton flavor universality violation in $b{\to}s\ell\ell$ decays". In: *Phys. Rev. D* 98.11 (2018), p. 115030.