Andreea Iana

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Research Interests

News Recommender Systems, Multilingual & Multimodal Representation Learning, Algorithmic Bias, Responsible AI, Cross-lingual Transfer, Retrieval-Augmented Generation, Few-Shot Learning

Education

Ph.D. Computer Science   *Mannheim, Germany*
University of Mannheim   Aug 2020 – Nov 2025

- Thesis: "Multifaceted Neural News Recommendation: Core Components, Bias Mitigation, and Multilinguality"
- Supervisors: Prof. Heiko Paulheim ☒ (University of Mannheim), Prof. Goran Glavaš ☒ (University of Würzburg)

M.Sc. Business Informatics (with honors)   *Mannheim, Germany*
University of Mannheim, 1.2* (ECTS grade A)   Sep 2017 – Apr 2020

- Thesis: "GraphConfRec: A Graph Neural Network Approach to Generating Conference Recommendations"
- Supervisor: Prof. Heiko Paulheim ☒ (University of Mannheim)

B.Sc. Liberal Arts and Sciences (summa cum laude)   *Maastricht, Netherlands*
Maastricht University, 8.6** (top 1% of class)   Sep 2013 – July 2017

- Thesis: "Building a Course Recommender System based on Competences"
- Supervisor: Prof. Jerry Spanakis ☒ (Maastricht University)

* On a scale of 1.0 to 5.0 with 1.0 being the best possible grade; ** On a scale of 1.0 to 10.0 with 10.0 being the best possible grade.

Professional Experience

Research Associate   *Mannheim, Germany*
University of Mannheim   Aug 2020 – present

My research activity focuses on analyzing and mitigating algorithmic bias in news recommendation, on developing novel personalized neural models for multilingual and few-shot recommendation, on constructing resources for improving cross-lingual transfer in content-based recommendation, and on designing new benchmarks and methods for retrieval-augmented generation for tasks such as questions answering.

Visiting Researcher   *Würzburg, Germany*
University of Würzburg   Dec 2023 – Feb 2024

Host: Prof. Goran Glavaš ☒

My project aimed at developing a multilingual, multi-parallel dataset covering diverse languages for evaluating and developing multilingual and cross-lingual news recommender systems.

Student Research Assistant   *Mannheim, Germany*
University of Mannheim   Nov 2018 – Apr 2020

Working on investigating the impact of A-box materialization on RDF2vec knowledge graph embeddings, and improving entity matching in knowledge graphs.

Teaching & Supervision Experience

School of Business Informatics and Mathematics, University of Mannheim *Mannheim, Germany*

- Teaching Assistant for the course of *"Data Mining"* for the master degree in Business Informatics or Data Science. Period: Sep 2024 - Jan 2025; Feb 2025 - Aug 2025.
- Teaching Assistant for the course of *"Data Mining II"* for the master degree in Business Informatics or Data Science. Period: Feb 2024 - Aug 2025.
- Teaching Assistant for the course of *"Data Mining I"* for the master degree in Business Informatics or Data Science. Period: Sep 2023 - Jan 2024.
- Co-supervisor of 2 bachelor's and master's thesis in Business Informatics or Data Science.
- Co-supervisor of 4 team projects for the master degree in Business Informatics or Data Science.

Grant Awards

- **Open Science Grant** for SpatialBenchRAG (A Multimodal, Multilingual Benchmark for KG-grounded RAG over Diverse Geographies), **PI** (6.5K EUR).

Projects

SpatialBenchRAG *University of Mannheim, Germany*
Principal Investigator Nov 2025 – Apr 2026

- The Open Science project is funded by the Open Science Office.
- The goal is to develop a multimodal, multilingual benchmark for evaluating retrieval-augmented generation systems grounded in spatial knowledge graphs across tasks such as spatial and visual question answering or multi-hop reasoning.

ReNewRS: Responsible News Recommender Systems *University of Mannheim, Germany*
Researcher Aug 2020 – Nov 2022

- ReNewRS is funded by the German Baden-Württemberg Stiftung (BW-Stiftung).
- The project aimed at investigating the influence of algorithmic news selection on shaping public opinion. Primarily, I have played a pivotal role in developing domain-specific datasets for examining the occurrence of algorithmic biases in news recommenders, in empirically quantifying such biases, and in designing novel models for mitigating their effects.

Service & Activities

Editorial Activities

- *Organizer* of the 13th International Workshop on News Recommendation and Analytics (INRA), RecSys 2025.
- *Program Committee* of the Research Track at the International Semantic Web Conference (ISWC) 2024.
- *Program Committee* of the Resources Track at the Extended Semantic Web Conference (ESWC) 2024.
- *Program Committee* of the 5th International Workshop on Computational Methods for Online Discourse Analysis (BeyondFacts) at WWW 2025.
- *Program Committee* of the 4th International Workshop on Computational Methods for Online Discourse Analysis (BeyondFacts) at WWW 2024.
- *Program Committee* of the Second Workshop on Natural Language Processing for Political Sciences (PoliticalNLP) at LREC-COLING 2024.
- *Program Committee* of the 3rd International Workshop on Knowledge Graphs for Online Discourse Analysis (BeyondFacts) at WWW 2023.
- *Program Committee* of the Deep Learning for Knowledge Graphs Workshop (DL4KG) at ISWC 2023.

- *Program Committee* of the Research Track at the Extended Semantic Web Conference (ESWC) 2022.
- *Program Committee* of the Deep Learning for Knowledge Graphs Workshop (DL4KG) at ISWC 2022.
- *Program Committee* of the First Workshop on Natural Language Processing for Political sciences (PoliticalNLP) at LREC 2022.
- *Reviewer* for Journal of Web Semantics - Elsevier, Information Systems Journal - Wiley-Blackwell.
- *Reviewer* for ACL Rolling Review (ACL, EMNLP), SIGIR 2025 (Resource & Reproducibility Papers), RecSys 2025 (Late Breaking Results).

Open Source
- Creator and maintainer of `NewsRecLib` ⬀ (out-of-the-box framework for comparative evaluation of neural news recommenders)

Selected Publications

Please refer to the following websites for the complete publication lists: https://andreeaiana.github.io/publications/ ⬀ and https://scholar.google.com/citations?user=D8DbFZoAAAAJ ⬀

- Martin Böckling, Heiko Paulheim, **Andreea Iana**. 2025. Walk&Retrieve: Simple Yet Effective Zero-shot Retrieval-Augmented Generation via Knowledge Graph Walks ⬀. In *Proceedings of the Workshop Information Retrievals Role in RAG Systems (IR-RAG 2025) co-located with the 48th International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR 2025)*.

- **Andreea Iana**, Fabian David Schmidt, Goran Glava, Heiko Paulheim. 2025. News Without Borders: Domain Adaptation of Multilingual Sentence Embeddings for Cross-lingual News Recommendation ⬀. In *Advances in Information Retrieval: 47th European Conference on Information Retrieval. ECIR 2025*, pages 119137. Cham: Springer Nature Switzerland.

- **Andreea Iana**, Goran Glava, Heiko Paulheim. 2024. Train Once, Use Flexibly: A Modular Framework for Multi-Aspect Neural News Recommendation ⬀. In *Findings of the Association for Computational Linguistics: EMNLP 2024*, pages 95559571, Miami, Florida, USA. Association for Computational Linguistics.

- **Andreea Iana**, Goran Glava, Heiko Paulheim. 2024. MIND Your Language: A Multilingual Dataset for Cross-lingual News Recommendation ⬀. In *Proceedings of the 47th International ACM SIGIR Conference on Research and Development in Information Retrieval*, SIGIR 24, page 553563, New York, NY, USA. Association for Computing Machinery

- **Andreea Iana**, Goran Glava, and Heiko Paulheim. 2023. NewsRecLib: A PyTorch-Lightning Library for Neural News Recommendation ⬀. In *Proceedings of the 2023 Conference on Empirical Methods in Natural Language Processing: System Demonstrations*, pages 296310, Singapore. Association for Computational Linguistics.

- **Andreea Iana**, Goran Glava, Heiko Paulheim. 2023. Simplifying Content-Based Neural News Recommendation: On User Modeling and Training Objectives ⬀. In *Proceedings of the 46th International ACM SIGIR Conference on Research and Development in Information Retrieval*, SIGIR 23, page 23842388, New York, NY, USA. Association for Computing Machinery

- Katharina Ludwig, Alexander Grote, **Andreea Iana**, Mehwish Alam, Heiko Paulheim, Harald Sack, Christof Weinhardt, Philipp Müller. 2023. Divided by the Algorithm? The (Limited) Effects of Content- and Sentiment-Based News Recommendation on Affective, Ideological, and Perceived Polarization ⬀. *Social Science Computer Review*, *41(6)*, 2188-2210.

- Anna Breit, Laura Waltersdorfer, Fajar J. Ekaputra, Marta Sabou, Andreas Ekelhart, **Andreea Iana**, Heiko Paulheim, Jan Portisch, Artem Revenko, Annette Ten Teije, Frank Van Harmelen. 2023. Combining Machine Learning and Semantic Web: A Systematic Mapping Study ⬀. *ACM Computing Surveys*, 55(14s), 1-41.

- Mehwish Alam, **Andreea Iana**, Alexander Grote, Katharina Ludwig, Philipp Müller, Heiko Paulheim. 2022. Towards Analyzing the Bias of News Recommender Systems Using Sentiment and Stance Detection ⬀. In *Companion Proceedings of the Web Conference 2022*, WWW 22, page 448457, New York, NY, USA. Association for Computing Machinery. **Runner up for the Best Paper.**

- **Andreea Iana**, Mehwish Alam, Heiko Paulheim. 2024. A Survey on Knowledge-aware News Recommender Systems ⬀. *Semantic Web*, 15(1):2182.

Skills

Programming: excellent proficiency in Python, Linux CLI; good familiarity with Git, HPC with Slurm

ML Frameworks: advanced proficiency in PyTorch(-Lightning), Hydra, WandB, HuggingFace Transformers

Languages: Romanian (native), English (native-level, C2 level), German (intermediate proficiency, B1 level)