12th International Workshop on News Recommendation and Analytics (INRA'24)

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ABSTRACT

Personalization has changed how we engage with news. While information has become better accessible, users struggle to find information in the vast amount of news and news commentary published on a daily basis. The INRA workshop provides a forum to researchers, practitioners, and interested parties to discuss recent trends concerning news personalization. This edition of INRA highlights a variety of topics including generative AI, fake news, and multi-modality. Generative AI facilitates creating content at a rapid pace. That includes misleading information that can further erode the trust in media organizations. Texts and still images have dominated the era of printed news. Now, news organizations publish their information also in the form of podcasts and videos.

CCS CONCEPTS

• **Information systems** → **Personalization**; **Recommender systems**; *Summarization*; *Clustering and classification*; **Content ranking**; **Data stream mining**; *Document filtering*; *Information extraction*; *Document collection models*; *Content analysis and feature selection*; *Document topic models*; • **Computing methodologies** → **Information extraction**.

KEYWORDS

news, news personalization, news analysis

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1 INTRODUCTION

Recommender systems are an essential part of today's digital news ecosystem. In an era where the volume of news is overwhelming, personalized and context-aware recommendations have become a necessity for users worldwide [1]. Initially, News Recommender Systems (NRS) focused primarily on delivering accurate recommendations. However, the impact of these systems on modern society raises additional concerns that cannot be addressed by accuracy alone [16]. The field of news recommendation faces several hurdles, including ensuring trustworthiness, preventing the spread of fake news, avoiding the creation of filter bubbles, and dealing with the short life-cycle of news [21]. Moreover, the quest for personalized content must navigate the complexities of privacy regulations, the scarcity of detailed user profiles, and the high expectations for fairness, bias mitigation, diversity, and ethical considerations [12]. Consequently, research on news recommender systems tackles multiple challenges, each essential for fostering healthy news consumption and understanding its impact on our daily lives [20]. Additionally, research on NRS evolves alongside technological advancements, continually reshaping how news is written and consumed. The advent of Large Language Models (LLMs) and other generative AI technologies, which have revolutionised the news industry by enabling the automated creation of both text and visual news content, exemplifies the ongoing evolution in NRS research [22]. Innovation brought by LLMs also poses significant challenges to traditional business models, necessitating a reevaluation of how news is produced and distributed.

Altogether, these challenges highlight the urgent need for further research and development in the domain of news recommendations. In our modern society, where access to reliable information is crucial for informed decision-making and democratic processes, addressing these challenges appears essential. The INRA workshop thus aims to bring together experts to explore innovative solutions, share best practices, and reflect on new strategies to ensure that NRS provide personalized recommendations while ensuring ethical standards.

2 WORKSHOP MOTIVATION

ACM RecSys has been a venue to publish research in the scope of news personalization. Examples of highly cited work include [5, 6, 10, 11, 18]. Nevertheless, the task of recommending news has not been solved satisfactorily. While the technological aspects have been addressed, many research questions concerning the increasing automation, effects on societies, and user experience remain unanswered. How can users continue trusting in media in a time when AI allows everyone to create texts instantly? How will users in the future engage with news? Will they switch to more multi-media channels or focus on texts? How can publishers assure a diverse news diet including important information that is hard to digest? How will social media affect the spread of news? Answering many of these questions has to involve actors from different research disciplines. While RecSys can give a stage to mature results, a workshop is a better venue to foster interdisciplinary discussions that can spark future research into elemental aspects of the news eco-system and how advances in Artificial Intelligence might affect it. Further, a workshop allows all actors in the news domain to exchange ideas in a more targeted discussion. We plan to features several interactive elements that not only allow attendees to engage in discussions but incentivizes them to contribute to concrete outcomes in the form of discussion points or ideas for future research.

3 CALL FOR PARTICIPATION

News personalization and analytics concerns a variety of aspects. The Call for Participation emphasized some essential topics. These topics include but are not limited to:

- News analytics and recommendation,
- Social media and news,
- Automated news generation, summarization, and opinion mining,
- Multi-modality in the news domain,
- Self-supervised learning for news recommendation,
- Fake news, misinformation, and filter bubbles,
- LLMs and AI-generated content in news,
- User profiling and privacy,
- Fairness/bias in recommender systems,
- Algorithmic advances in news analytics,
- Machine learning for news,
- Transparency and explainability of news personalization,
- Legal aspects of news personalization,
- Trustworthiness in the news ecosystems.

As listed above, in addition to the well-known technical aspects of news recommender systems, the workshop covers interdisciplinary topics such as algorithmic news curation, user-generated content recommendation, emotion and cognition in news reception, design of multi-modal, and conversational news recommender systems. The selection of topics extend the scope beyond optimizing the accuracy of NRS. Researchers from other disciplines, such as journalism, law, or multimedia, are invited to contribute.

4 WORKSHOP OUTLINE

INRA will be a half-day workshop. Table 1 presents a tentative schedule. Note that the schedule may be subject to change as necessary.

Table 1: Tentative Workshop Schedule

Time	Activity
09:00 – 10:30	Welcome and Keynote Presentation
10:30 – 10:45	Break
10:45 – 12:00	Presentation of Research
12:00 – 12:30	Lunch Break
12:30 – 13:30	Interactive Group Work & Discussion

Ideally, we would like to have the workshop completely onsite. However, considering a high degree of uncertainty about attendees ability to travel, we will try to accommodate the option to participate remotely. Remote participation might not cover the full workshop but selected periods. Given the technical prerequisites and speakers' consent, we will record the workshop parts excluded from remote participation. Consequently, we expect to have a **hybrid** workshop setting with onsite focus and a degree of remote participation.

The first session features one or more invited talks. Subsequently, researchers will have the opportunity to present their findings, which underwent a peer review process.

To encourage active discussion and exchange of ideas between participants, an interactive group work is planned after the lunch break. It will focus on key questions related to the workshop topic, which will be defined in advance based on the subjects covered in the scientific contributions or during the keynote speech. Participants will be randomly divided into groups of approximately equal size. Each group will represent a news recommendation stakeholder (*e.g.* user, politician, journalist, or data scientist) and will have to think about associated needs, interests, and challenges in line with the discussed question or issue. Once the group discussions have been completed, the main outcomes from each group will be summarized and discussed with all the participants. This will help to identify potential insights and areas of research, and open up new prospects for news-related research that best meets the different needs of news actors.

5 ORGANIZERS

Benjamin Kille. Benjamin works as associate professor at the Norwegian University of Science and Technology. He is part of the Norwegian Open AI Lab and the Norwegian Center of Artificial Intelligence Innovation. Benjamin has organized multiple data-driven competitions including NewsREEL at CLEF and NewsImages at MediaEval. His research focuses on personalization, artificial intelligence, and natural language processing.

Andreas Lommatzsch. Andreas works as a senior researcher and director of the Competence Center "Artificial Intelligence and Machine Learning" at the Distributed Artificial Intelligence Lab (DAI-Labor) at the TU Berlin. His research focuses on distributed knowledge management and machine learning algorithms. His primary interests lie in the areas of Large Language Models, recommendations based on data-streams and context-aware meta-recommender algorithms. He co-organizes the NewsImages challenge focusing the analysis of multi-media news content.

Célina Treuillier. Célina works as a PhD student in the BIRD team of the Lorraine Research Laboratory in Computer Science and its Application (LORIA), at the University of Lorraine. Her research focuses on User Modeling and Recommender Systems. Specifically, her research encompasses the modeling of online polarization phenomenon and the definition of a news recommendation framework, allowing to provide personalized, diverse and fair recommendations.

Vandana Yadav. Vandana works as a PhD student in Norwegian Research Center for AI Innovation (NorwAI) at the Department of Computer Science at NTNU. Her research work focuses on content summarization using machine learning and language models. Particularly, her research emphasizes on news summarization techniques that can be incorporated into generative conversational systems, and personalized with respect to users and contexts for both English and Scandinavian (low-resource) languages.

Özlem Özgöbek. Özlem works as an associate professor at the Department of Computer Science at NTNU. She also works as the program manager for the Norwegian Research Center for AI Innovation (NorwAI). Her research focuses on recommender systems, privacy issues in recommender systems and disinformation detection for online news. She is actively involved in organizing INRA workshop series since 2014. She is also involved in many other organizational works such as Women in RecSys and 2025 IEEE Symposium Series on Computational Intelligence.

6 PREVIOUS WORKSHOPS

INRA has been held in conjunction with a set of conferences, which includes RecSys (five times), UMAP (twice), SIGIR, CIKM, WI (Web Intelligence), and ECML/PKDD. Table 2 shows past editions of INRA, the associated conference, and a reference to the workshop summary.

Table 2: Previous Workshops (2013–2023).

Year	*Conference*	*Reference*
INRA 2023	RecSys	[8]
INRA 2022	SIGIR	[14]
INRA 2021	RecSys	[15]
INRA 2020	ECML/PKDD	[9]
INRA 2019	RecSys	[13]
INRA 2018	CIKM	[4]
INRA 2017	Web Intelligence	[17]
INRA 2016	UMAP	[3]
INRA 2015	RecSys	[7]
NRA 2014	UMAP	[2]
NRS 2013	RecSys	[19]

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