Beyond Algorithms: Reclaiming the Interdisciplinary Roots of Recommender Systems (BEYOND 2025)

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Abstract

This workshop challenges the machine learning-centric focus of modern recommender systems research by reconnecting the field with its interdisciplinary origins and exploring the non-algorithmic dimensions that are crucial to effective recommendation. It fosters a space for reflective, critical, and creative discussions on recommender systems that embrace human values, user experiences, and societal impact. The workshop emphasizes methodological diversity and invites contributions from psychology, human-computer interaction, ethics, design, and other disciplines.

Keywords

recommender systems, interdisciplinary, personalized systems, non-algorithmic dimensions

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1 Introduction

Recommender Systems (RSs) emerged in the 1990s as information filtering tools, with "Tapestry" being one of the earliest examples of collaborative filtering [3]. Since then, the field has undergone a rapid transformation, marked by an explosion of applications, algorithmic techniques, and available data. The increasing demand for personalization, spurred by the growth of the web and mobile ecosystems, has further advanced technical innovation in RSs.

Viewed through the lens of the ACM Conference on Recommender Systems (RecSys)[1], this transformation is clearly visible. While early editions of the conference showcased a rich diversity of user-centric and interdisciplinary contributions, recent years have seen a sharp tilt towards Machine Learning (ML) and deep learning technologies. Although these advancements are crucial to the success of RSs, they represent only one part of the broader RSs landscape.

To design and develop systems that are not only accurate but also meaningful, transparent, and beneficial to users, RSs research must embrace its interdisciplinary foundations. Contributions from fields such as Human Computer Interaction (HCI) [4], human decision-making [2], psychology [5], user-centered design and evaluation [9], and ethics [6] are essential for building RSs that align with human needs and societal goals. However, these perspectives have increasingly been marginalized in favor of performance optimization on benchmark datasets.

This workshop aims to examine and challenge the current ML dominance in RSs research by reconnecting the field with its interdisciplinary origins. While algorithmic advancements have produced remarkable technical progress, the field has gradually narrowed its methodological diversity, potentially overlooking crucial psychological, design, and human-centered dimensions that were foundational to early RSs research.

The workshop is highly relevant to the RecSys community as it addresses a fundamental tension within the field: as ML techniques have become increasingly sophisticated, publication patterns have shifted to favor technical optimization approaches, potentially at the expense of other valuable perspectives. This workshop complements—rather than duplicates—the main conference by creating a dedicated space to examine this methodological imbalance and explore how non-ML approaches can enhance recommendation.

Following a series of workshops on "Perspectives on Recommender Systems Evaluation (PERSPECTIVES)" [1, 8, 10, 11], and a workshop focused on introspective reflection [7] regarding the increasing body of research produced in the broader RecSys community, this workshop will revisit the origins of our field to explore how interdisciplinary foundations can inform its future. By tracing back to the early motivations behind RSs and their connections to human behavior, design, and societal values, BEYOND 2025 continues this trajectory of critical and reflective engagement, encouraging the community to widen its focus beyond technical performance toward broader understandings of recommendation.

2 Workshop Topics

Topics of interest include, but are not limited to, the following topics, which help reconnect modern algorithmic approaches with the psychological, design, and human-centered dimensions that characterized early research in this field, creating a more holistic and interdisciplinary approach to RSs:

- Critical reflections on the dominance of ML in RS research
- Interdisciplinary approaches to RS (e.g., psychology, HCI, design, sociology, cognitive science, computational social science)

[1] https://dl.acm.org/conference/recsys/proceedings

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- Human-centered recommendation methodologies
- Human-centered evaluation methodologies
- User experience, trust, and transparency in RSs
- Case studies of RSs failures or unintended consequences in real-world applications
- Design methodologies such as participatory, speculative, or value-sensitive design
- Qualitative and mixed-method research in RSs development, evaluation, and understanding recommendation needs
- Application of psychological theories to RSs (e.g., decision-making, motivation, affect, personality, autonomy)
- Cognitive science perspectives on information filtering and discovery
- Ethical tensions, value conflicts, and societal implications of RSs
- RSs in sensitive or high-stakes contexts (e.g., education, healthcare, mental health)
- Historical or critical analyses of the evolution of RSs research
- Cultural and sociological dimensions of recommendation
- User agency, control, and feedback in interactions with RSs
- Long-term impacts of recommendations on user agency and preference development
- Reframing recommender goals: supporting well-being, reflection, or empowerment
- Alternative theoretical frameworks for conceptualizing the recommendation problem

3 Workshop Format

This half-day workshop includes a keynote and short presentations of accepted position papers, case studies, and research papers each followed by brief clarifying questions. Furthermore, we aim to perform a panel featuring representatives from different disciplinary perspectives (industry practitioners, academic researchers, and representatives from adjacent fields) and breakout sessions, where participants will be divided into thematic groups exploring specific questions.

We solicit position papers and case study papers of up to six and ten pages, respectively (not including references), and will submit the conference proceedings to ceur-ws.org for publication. Submissions will undergo single-anonymized peer review by three Program Committee (PC) members and will be selected based on quality, novelty, clarity, and relevance; aiming to foster discussions. Accepted papers will be invited to present their work during the workshop.

For the PC, we have invited researchers who have been working in fields related to the workshop's topic (naturally, this includes researchers and practitioners from a diverse set of fields and who are diverse in terms of gender, country, and seniority level).

4 Contribution to the RecSys Community

BEYOND 2025 addresses a critical need within the RecSys community by creating a space for questions that expand beyond algorithmic performance and technical benchmarks. While the field has seen remarkable progress in modeling and predictive accuracy, this workshop responds to a growing call for spaces that examine how RSs affect people, society, practices, and institutions in nuanced and often unquantifiable ways.

Rather than revisiting general critiques of disciplinary imbalance, BEYOND 2025 focuses on building capacity for interdisciplinary thinking and methodological experimentation. It invites researchers to explore new questions, adopt unfamiliar lenses, and engage in conversations that might not fit easily within the traditional tracks of the main conference. In doing so, the workshop supports intellectual risk-taking and cross-pollination, both of which are essential for the long-term vitality and relevance of the field.

In addition, the workshop contributes to community development by encouraging dialogue among participants at different career stages and from diverse research traditions. It facilitates collaborations that may not otherwise emerge within more technically focused venues and highlights work that brings attention to context, values, and human meaning in recommendation. Through these efforts, BEYOND 2025 enhances the RSs ecosystem by complementing its technical foundations with a deeper engagement with the social and experiential dimensions of recommendation.

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