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NEWS RELEASE

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ASSOCIATION FOR COMPUTING MACHINERY'S 2019 RECSYS CONFERENCE SHOWCASES LATEST RESEARCH AND ADVANCES IN RECOMMENDER SYSTEMS

RecSys 2019 Workshops Examine Challenges and Opportunities in Healthcare, Fashion, News, Among Other Industries

New York, NY, August 29, 2019 – The latest research and advancements in recommender systems—those useful but somewhat mysterious software systems that suggest what books, songs, and products consumers might like—will be presented at [RecSys 2019](#), the most important annual conference for this growing area of computing.

The conference, hosted by the Association for Computing Machinery's Special Interest Group on Computer-Human Interaction (ACM SIGCHI), takes place in Copenhagen, Denmark, from September 16-20, 2019. RecSys 2019 brings together academia-based research groups and many of the world's leading e-commerce and media companies.

A “recommender” system is a particular form of information filtering that leverages past behaviors and user similarities to generate a list of items personally tailored to an end-user's preferences. For consumers, future purchase recommendations can be based on shopping patterns and other data, while in an industry such as healthcare, recommendations on treatment plans can be made based on previous outcomes.

“Recommender systems are perhaps the most commonly used computing technology by consumers, even if they don't realize the technology behind the suggestions,” said conference General Co-Chair Toine Bogers, Aalborg University Copenhagen, Denmark. “The Recommender Systems conference is the premier international forum for the advancement of this industry - providing opportunities for the sharing of new research and the discussion of new systems and techniques in the field.”

In addition to the main technical track, RecSys 2019 will feature keynote and invited talks, tutorials covering state-of-the-art in this domain, a workshop program, an industrial track and a doctoral

symposium. As a pre-program to the conference, the [ACM Summer School on Recommender Systems](#) will take place in Gothenburg, Sweden, the week before the conference.

“Recommender systems wield the potential for tremendous economic and societal impact,” added General Co-chair Alan Said, University of Gothenburg, Sweden. “These systems encompass a range of computing technologies, from AI and algorithms, to knowledge-based reasoning and deep learning.”

This year’s RecSys, will be the largest to date, with 850 registrations. Now in its 13th year, RecSys long has been characterized by strong industry participation. In 2018, for example, industry practitioners represented the majority of the 820 attendees who attended the conference.

Aside from the technology itself, RecSys 2019 will include presentations and research that addresses the conscientious use of these technologies. A “[Responsible Recommendation](#)” panel will examine what it means to build, deploy, and study recommender systems in a socially responsible manner, which is crucial to ensure that the systems promote human welfare. The panel will cover many topics, including fairness, accountability, transparency, privacy, and social impact, and will offer a variety of perspectives from industry, academia, and the public sector.

RECSYS 2019 HIGHLIGHTS

KEYNOTE ADDRESSES

“Rude Awakenings from Behaviourist Dreams. Methodological Integrity and the GDPR”

Mireille Hildebrandt, Vrije Universiteit Brussels, Belgium

Recommendations are meant to increase sales or ad revenue, since this is the first priority of those who pay for them. As recommender systems match their recommendations with inferred preferences, it should not come as a surprise if the algorithm optimizes for lucrative preferences and thus co-produces the preferences they mine. This talk will explain how the GDPR will help to break through this vicious circle, by constraining how people may be targeted.

“Whose Data Traces, Whose Voices? Inequality in Online Participation and Why it Matters for Recommendation Systems Research”

Eszter Hargittai, University of Zurich, Switzerland

This talk will discuss online participation from a digital-inequality perspective, highlighting how differences in online behavior vary by socio-demographic characteristics and the user’s Internet prowess. It will explore whose traces are most likely to show up on various systems and what this means for potential biases in what researchers draw from analyzing digital trace data. Hargittai states that as research relies on data traces about people’s online behavior, it is important to take a step back and ask: who uses the systems where these traces appear? The presentation breaks down the various steps necessary for engagement—the pipeline of online participation—and shows that different factors explain different parts of the pipeline with skills mattering at all stages.

RESEARCH PAPERS (Partial List)

For a complete list of papers visit [here](#).

“User-Centered Evaluation of Strategies for Recommending Sequences of Points of Interest to Groups”

Daniel Herzog, Wolfgang Wörndl, Technical University of Munich

Most recommender systems (RSs) predict the preferences of individual users; however, in certain

scenarios, recommendations need to be made for a group of users. Tourism is a popular domain for group recommendations because people often travel in groups and look for point of interest (POI) sequences for their visits during a trip. In this study, the authors present different strategies that can be used to recommend POI sequences for groups. In addition, they introduce novel approaches, including a strategy called Split Group, which allows groups to split into smaller groups during a trip.

“Recommending What Video to Watch Next: A Multitask Ranking System”

Zhe Zhao, Google Brain; Lichan Hong, Google Brain; Li Wei, Google; Jilin Chen, Google; Aniruddh Nath, Google; Shawn Andrews, Google; Aditee Kumthekar, Maheswaran Sathiamoorthy, Google; Xinyang Yi, Google; Ed Chi, Google

In this paper, the authors introduce a large scale multi-objective ranking system for recommending what video to watch next on an industrial video sharing platform. Their system faces many real-world challenges, including the presence of multiple competing ranking objectives, as well as implicit selection biases in user feedback. To tackle these challenges, they explored a variety of soft-parameter sharing techniques such as Multi-gate Mixture-of-Experts so as to efficiently optimize for multiple ranking objectives. They demonstrated that their proposed techniques can lead to substantial improvements on recommendation quality on one of the world’s largest video sharing platforms.

“Uplift-based Evaluation and Optimization of Recommenders”

Masahiro Sato, Janmajay Singh, Sho Takemori, Takashi Sonoda, Qian Zhang, Tomoko Ohkuma, Fuji Xerox

Recommender systems aim to increase user actions such as clicks and purchases. Typical evaluations of recommenders regard the purchase of a recommended item as a success. However, the item may have been purchased even without the recommendation. An uplift is defined as an increase in user actions caused by recommendations. Situations with and without a recommendation cannot both be observed for a specific user-item pair at a given time instance, making uplift-based evaluation and optimization challenging. This paper proposes new evaluation metrics and optimization methods for the uplift in a recommender system.

WORKSHOPS (Partial List)

For a full list of RecSys 2019 workshops visit [here](#).

[Recommender Systems in Fashion](#)

While online fashion retailers have significantly increased in popularity over the last decade, customers still face several hurdles with current online shopping solutions. This new workshop aims to bring together researchers and practitioners in the fashion, recommendations and machine learning domains to discuss open problems in the area of fashion e-commerce and retail.

[Health Recommender Systems](#)

Recommendations are becoming ever more important in health settings with the aim being to assist people live healthier lives, but they come with a number of challenges, including privacy issues and multiple and diverse stakeholders in health systems. The Health Recommender Systems Workshop will deepen the discussions started at the three prior workshops and will work towards further development of the research topics in Health Recommender Systems.

[News Recommendation and Analytics](#)

This workshop primarily addresses news recommender systems and analytics with a focus on three main categories: News recommendation, news analytics and ethical aspects of news recommendation. The news domain is characterized by a constant flow of unstructured, fragmentary and unreliable news stories from numerous sources and different perspectives, posing challenges unlike those in music,

movies and books. The spread of increasing concerns about disinformation coupled with privacy violations necessitates improving news recommender systems.

ADDITIONAL HIGHLIGHTS

Women's Breakfast

Since 2014, RecSys has offered a platform where all conference attendees who identify as female can celebrate and connect with other women in the RecSys community. The event provides an opportunity for female attendees to share the challenges and successes of women working within the community and to exchange experiences with one another.

Doctoral Symposium

The Doctoral Symposium provides an opportunity for doctoral students working in recommender systems research to receive critical feedback about their work and further develop their research under the guidance of distinguished and established researchers in recommender systems.

RecSys Challenge 2019

The RecSys Challenge 2019 presents a real-world task in the travel metasearch domain. Users that are planning a business or leisure trip can use trivago's website to compare accommodations and prices from various booking sites. The goal of this challenge is to develop a session-based and context-aware recommender system using various input data to provide a list of accommodations that will match the needs of the user. In the challenge, participants will be tasked with predicting which accommodations (items) have been clicked in the search result during the last part of a user session in an offline evaluation setup.

About SIGCHI

[SIGCHI, the ACM Special Interest Group on Computer-Human Interaction](#), is the premier international society for professionals, academics and students who are interested in human-technology and human-computer interaction (HCI). SIGCHI serves as a forum for ideas on how people communicate and interact with computer systems. This interdisciplinary group of computer scientists, software engineers, psychologists, interaction designers, graphic designers, sociologists, and anthropologists is committed to designing useful, usable technology which has the potential to transform individual lives.

About ACM

[ACM, the Association for Computing Machinery](#), is the world's largest educational and scientific computing society, uniting computing educators, researchers and professionals to inspire dialogue, share resources and address the field's challenges. ACM strengthens the computing profession's collective voice through strong leadership, promotion of the highest standards, and recognition of technical excellence. ACM supports the professional growth of its members by providing opportunities for life-long learning, career development, and professional networking.