

Report on the 16th ACM International Conference on Web Search and Data Mining (WSDM 2023)

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Abstract

The 16th ACM International Conference on Web Search and Data Mining (WSDM 2023) was held in Singapore. It was held as in-person conference that also featured rich virtual elements. This brief report provides an overview of WSDM 2023 with organization and program details and statistics from Conference Chairs and Program Committee Chairs, as well as a message from the WSDM Steering Committee Chair.

Date: 27 February–3 March 2023.

Website: <https://www.wsdm-conference.org/2023>.

1 Introduction

WSDM (pronounced "wisdom") is one of the premier conferences on web-inspired research involving search and data mining. WSDM publishes original, high-quality papers related to search and data mining on the Web and the Social Web, with an emphasis on practical yet principled novel models of search and data mining, algorithm design and analysis, economic implications, and in-depth experimental analysis of accuracy and performance.

After the previous two years of virtual conferences, the 2023 edition was an in-person conference, and we were excited to meet many colleagues face-to-face again. Meanwhile, we still supported rich virtual elements via Whova and Zoom to accommodate attendees that might have faced travel restrictions or financial inadequacies as many parts of the world were in the process of opening up as the organizational effort was underway.

The full conference took place over 5 days, featuring a rich and wide-ranging program. The first day saw the presentation of 10 tutorials, as well as the Industry Day. The middle 3-day



Figure 1. Geographic Distribution of Submissions and Acceptances

technical program followed the tradition of WSDM of primarily single-track presentations. Each main day was opened with a keynote talk by a renowned speaker:

- Ya-Qin Zhang (Tsinghua University) on “Towards Autonomous Driving”
- Maarten de Rijke (University of Amsterdam) on “Beyond-Accuracy Goals, Again”
- Rosie Jones (Spotify) on “Learning to Understand Audio and Multimodal Content”

The final day featured workshops, doctoral consortium, Smart City Day, WSDM Cup Day. In addition, we featured the the first-ever ideation challenge held at WSDM.

2 Program

Overall, 123 papers were accepted out of 690 submissions, at the acceptance rate of 17.8%. Compared to the previous two years, WSDM 2022 with 788 submissions and acceptance rate of 20.5% and WSDM 2021 with 603 submissions and 18.6% acceptance rate, WSDM 2023 maintained comparable numbers of submissions and acceptance rates. We looked at the distribution of submitted as well as accepted papers by the country domain of the corresponding authors, as shown in Figure 1. The top five leading countries in terms of number of submissions were China, United States, Australia, South Korea and India. The top five leading countries in terms of number of accepted papers were China, United States, Australia, India and Singapore.

To illustrate the dominant subject areas, Figure 2 shows a word cloud of the title words of accepted papers. Some of the major keywords include *recommendation*, *retrieval*, *ranking*, which reflect the traditional areas of interest of the SIGIR community, including the WSDM conference.

Out of the 123 research papers, 52 were presented across 9 oral sessions as follows: 1) Social Issues in Data Mining; 2) Recommender Systems I; 3) Graph Neural Networks; 4) Best of WSDM 2023; 5) Recommender Systems II; 6) Learning; 7) Graph Mining; 8) Recommendation and Learning; 9) Language Models and Text Mining.

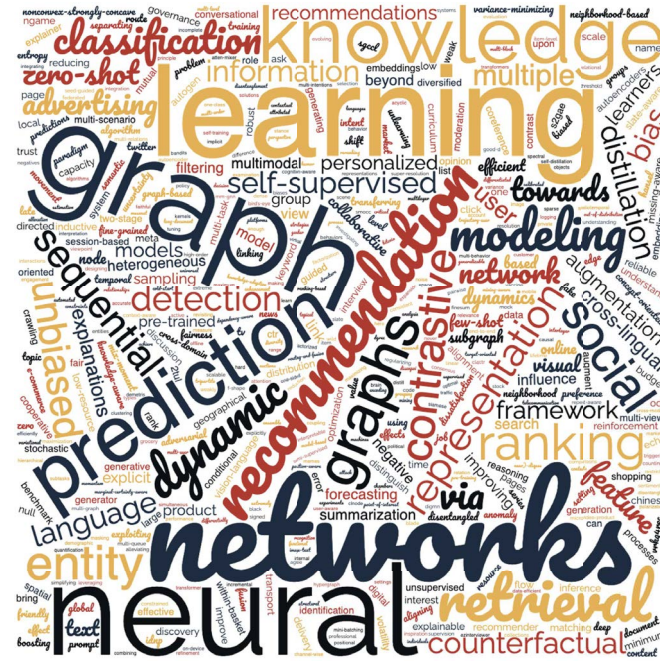


Figure 2. Word Cloud from Titles of Accepted Papers

In particular, the “Best of WSDM 2023” featured in-person presentations by the best paper candidates [Pougué-Biyong et al., 2023; Zhang et al., 2023; Cai et al., 2023; Xuan et al., 2023] as well as the video presentation by the Test of Time Award [Backstrom and Leskovec, 2011].

The other 71 research papers were presented as posters during the poster reception. There were also two half-day demo sessions that ran parallel to the oral sessions.

Some tutorials on Day 1 were on topics relevant to retrieval, including trustworthy algorithmic ranking systems, proactive conversational agents, and AutoML for deep recommender systems.

The WSDM Cup featured a number of competitions on IR topics. Baidu sponsored challenges on unbiased learning to rank and pre-training for Web search. In turn, University of Waterloo held competitions on multilingual information retrieval along two tracks, namely known languages and surprise languages. The last challenge held by Toloka was on visual question answering. The finalists presented their winning solutions on Day 5 of the conference during the WSDM Cup Day.

Further details of the papers and other interesting works can be found in the proceedings¹ [Chua et al., 2023]. The talks (including the keynotes) can be found on ACM’s YouTube channel².

3 Hybrid Mode

The conference was run in a two-way hybrid mode, allowing both remote presentations and virtual attendance. The major events such as keynote talks, oral sessions, workshops, tutorials were live-streamed in real time via Zoom. We also accommodated remote presentations, 46% of the oral presentations and 39% of the posters respectively.

¹<https://www.wsdm-conference.org/2023/program/acm-proceedings>

²<https://www.youtube.com/playlist?list=PLn0nrSd4xjjaL3eKbJfrBuwm97ynTQzLJ>

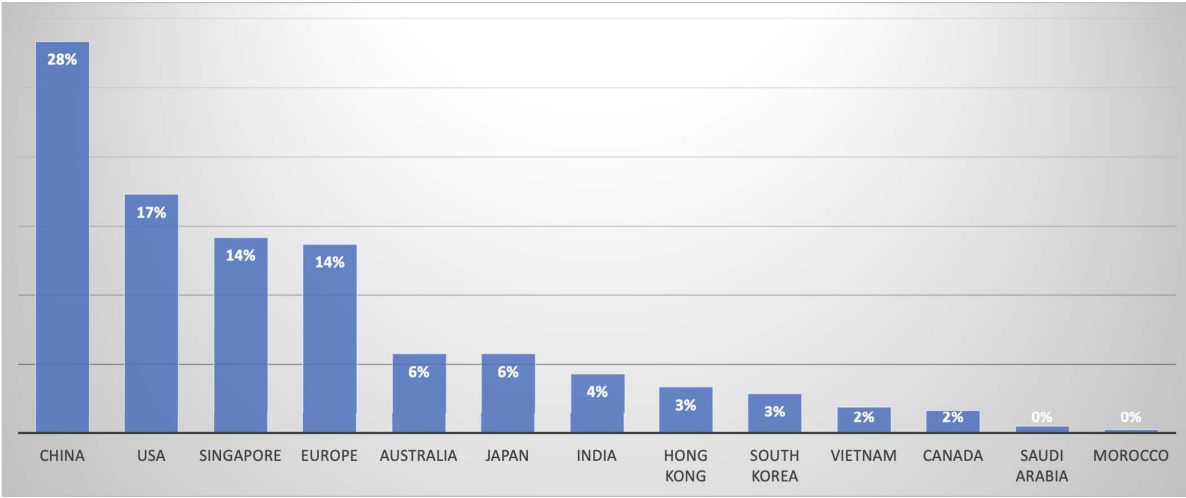


Figure 3. Geographic Distribution of Attendees

Considering all participants, including authors, registrants, sponsor representatives, volunteers, as well as complimentary registrations provided to invited speakers, panellists, and key committee members, the conference involved altogether 471 attendees, out of which 344 (73%) were present in person and 127 (27%) virtually. Figure 3 shows the geographic distribution of attendees.

The overall fraction of students was about 40% of attendees. These include 9 student presenters supported by the SIGIR Student Travel Grant Program, 10 US-based student registrants supported by NSF Student Travel Awards. Moreover, there were 14 students from economically developing countries (Vietnam, India, Brazil, Morocco) attending virtually, supported by SIG-WEB Fair Access Student Participation Awards.

4 Call for Bids for Future Conferences

The WSDM conference series retained a robust participation through the virtual conferences of 2021 and 2022, and it has been wonderful to see the high levels of in-person participation and engagement in the 2023 conference in Singapore. For 2024, the conference will be back in the Americas, in our first Latin American location: Mérida, Mexico. We are currently taking bids for WSDM 2025 in Europe, and WSDM 2026 in the Americas. See the Call for Bids³ for details, or feel free to get in touch with the Steering Committee at wsdm-sc@googlegroups.com.

Acknowledgments

We are immensely grateful to the many researchers and volunteers who have shaped the conference. In particular, we thank the authors and presenters, as well as those who helped us craft a compelling program including the Program Committee, Senior Program Committee, Best Paper Award Committee, and Test of Time Award Committee.

³<https://www.wsdm-conference.org/calls.php>

We also acknowledge the role of ACM and the four SIGs, namely SIGIR, SIGKDD, SIGMOD, and SIGWEB that sponsor the WSDM conference series, as well as the WSDM Steering Committee that provides guidance at all stages of the conference organization.

We are also grateful to the sponsors for their support: Huawei, Amazon Science, TikTok, Baidu, Etsy, and Google. We thank SIGIR, the National Science Foundation, and SIGWEB for their support for student participation. We also acknowledge Singapore Management University for institutional and organizational support, as well as Singapore Tourism Board for their support.

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