



LAK24 Conference Proceedings

Learning Analytics in the Age of Artificial Intelligence

The Fourteenth International Conference on Learning Analytics & Knowledge



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Kyoto, Japan

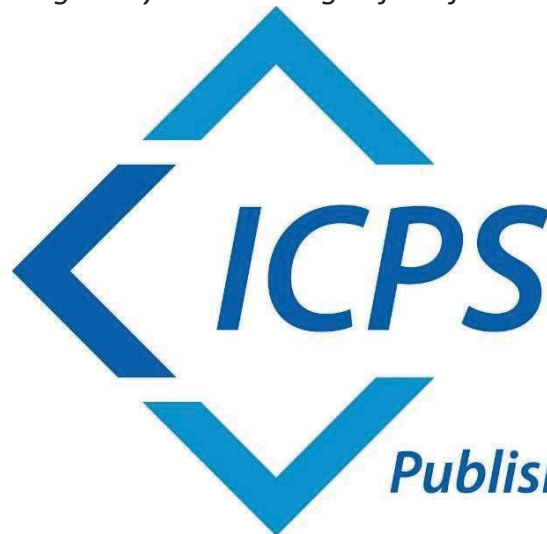
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Learning Analytics in the Age of Artificial Intelligence



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LAK24 Program Chairs' Welcome

We are very pleased to welcome you to the Fourteenth International Conference on Learning Analytics and Knowledge (LAK24), organized by the Society for Learning Analytics Research (SoLAR). With the aim of widening participation of the Learning Analytics (LA) community, this year's conference is held between March 20th and 22th.

The theme for the 14th annual LAK conference is *Learning Analytics in the Age of Artificial Intelligence*. Artificial intelligence has been relevant for learning analytics since the early days of the field. This has mostly been manifested by building upon the algorithms of machine learning to analyze data about learners and learning environments. The conversations about artificial intelligence in education used to be mostly contained within specialized communities of practitioners and researchers. Since late 2022, this rapidly changed. Discourse in mainstream media and among the general public has been dominated by the coverage of the developments in generative artificial intelligence. The notable examples are technologies such as ChatGPT and DALL-E that harness the power of deep learning algorithms to generate impressively human-like text and images based on relatively simple human prompts. These technologies have given some glimpses about the emerging age of artificial intelligence and the profound impact it will have on research and practice in education.

Three excellent keynotes address various aspects of artificial intelligence in education and its relationship to learning analytics. Mutlu Cukurova is a Professor of Learning and Artificial Intelligence at University College London (UCL). Mutlu's keynote delves into the interplay of AI and LA looking at the potentials, pitfalls and the future of education. Dr. Kristen DiCerbo, Chief Learning Officer at Khan Academy, brings a practitioner perspective and gives insights into implementing AI in a learning environment at scale. Her keynote focuses on using AI to enhance human intelligence, informing us on how to use dialogic interaction to better understand students' thought processes and helping educators better understand what learners know and can do. Professor Stephen J.H. Yang is the Vice President for R&D and Chair Professor of Computer Science and Information Engineering at National Central University, Taiwan. Stephen's keynote explores the potential of generative AI and LLMs in learning analytics, highlighting the challenges that need to be addressed and the opportunities they bring to enhance educational outcomes. There will also be a panel highlighting efforts on the practical implementation of learning analytics at scale in Japanese schools. The panel, *Connecting Research, Practice and Policies for Large-scale Learning Analytics*, comprises researchers, policy makers, educational technology companies and teachers and students from a K12 school in Kyoto. The conference features other panels that are focused on the conference theme (learning analytics in the age of AI) and strengthening collaboration links across different stakeholder groups in learning analytics.

This year's conference theme encouraged researchers and practitioners to consider the implications for learning analytics and the role the field can play in the age of artificial intelligence. We received a very large number of high-quality submissions this year breaking all previous records, and we are extremely grateful for all those who have contributed to our LAK24. The research track had 316 submissions (205 full paper submissions and 111 short paper submissions). This represents an increase of about 41% in the total number of submissions compared to last year. Maintaining the high quality of the conference, the program committee for the research track consisted of 287 researchers from the field of learning analytics, educational data mining, learning sciences, educational technology, and related disciplines. Of these, 47 are senior members, all recognized leaders in the field and highly involved in service to the learning analytics community. Overall, from the 316 research submissions, the program committee worked very hard to select 95 papers (66 full research papers and 29 short research papers) that are included in these proceedings of the Learning Analytics and Knowledge Conference. The overall acceptance rate for the conference was 30%, while the acceptance rates for the full and short research tracks were 32.7% and 26.1%, respectively.

The rigorous selection process for LAK includes an initial phase of review of at least two program committee members. Authors are then given a short time to provide an optional rebuttal to the remarks



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and comments raised in the initial review in which they can answer specific questions raised by reviewers (if any) or provide clarifications and justifications. Each submission is then carefully reviewed by one of the senior program committee members who provides a summary meta-review and final recommendation to the program chairs, based on both original reviews and any rebuttal submitted by authors. We are most grateful for all the hard work by the program committee and their insightful and constructive comments and reviews. These proceedings could not have been possible without their generous help and support.

We would also like to emphasize our ongoing gratitude for the efforts made by all involved in our community. The past few years have been difficult due to the ongoing impact of COVID. We very much understand the complexity of work and life pressures impacting on our time commitments, and priorities. The high level of support and commitment shown by our colleagues to ensure that the presented and published papers have received high quality reviews and feedback is highly valued and appreciated. These are difficult times for us all and we want to thank you for the important efforts you have devoted that have allowed this conference to continue as a premier scientific event fostering the scholarly exchange of ideas of the highest caliber.

We hope that LAK24 participants and other readers of these proceedings will find value in the many varied contributions to the field of LA contained within. The prominence of artificial intelligence has also opened profound debates about implications on education from the need to develop relevant literacies to work with artificial intelligence, to challenging the established notions of assessment in education. We hope that this conference encourages researchers to consider implications for learning analytics and the role the field can play in the age of artificial intelligence.

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