

## First Call for Papers

# EDM 2023: the 16th International Conference on Educational Data Mining

Bangalore, India, July 11-14, 2023

<https://educationaldatamining.org/edm2023/>

### Important Note

Compared to previous years, EDM 2023 will have an earlier submission deadline on **Jan 20, 2023** (with Jan 13, 2023 as abstract submission deadline)

## Theme: Educational data mining for amplifying human potential

Educational Data Mining is a leading international forum for high-quality research that mines datasets to answer educational research questions, including exploring how people learn and how they teach. These data may originate from a variety of learning contexts, including learning and information management systems, interactive learning environments, intelligent tutoring systems, educational games, and data-rich learning activities. Educational data mining considers a wide variety of types of data, including but not limited to log files, student-produced artifacts, discourse, learning content and context, sensor data, and multi-resource and multimodal streams. The overarching goal of the Educational Data Mining research community is to support learners and teachers more effectively, by developing data-driven understandings of the learning and teaching processes in a wide variety of contexts and for diverse learners.

The 16th iteration of the conference, EDM 2023, will take place in the Indian Institute of Science Campus, Bengaluru, India, during July 11-14, 2023.

The theme of this year's conference is "**Educational data mining for amplifying human potential**". Not all students receive the education necessary to help them express their full potential be it due to a lack of resources or access to high quality teaching. The lack of high-quality educational material and teaching aids and methodologies and non-availability of objective feedback on how they can become even better teachers, deprive our teachers from achieving their full potential. The administrators and policy makers lack tools for

making optimal decisions such as optimal class sizes and composition and course sequencing. These in turn handicap the nations, particularly the economically emergent ones, who recognize the centrality of education for their growth. Thus, EDM-2023 particularly welcomes papers focusing on concepts, principles, and techniques mined from educational data for enhancing the potential of all the stakeholders in the education system. Papers describing applications and case studies are especially welcome.

## Topics of Interest

Topics of interest to the conference include but are not limited to:

- Models and new techniques for mining educational data.
  - Closing the loop between EDM research and learning sciences
  - Informing data mining research with educational and/or motivational theories
  - Actionable advice rooted in educational data mining research, experiments, and outcomes
- Domain Knowledge Modeling
  - Deriving representations of domain knowledge from data
  - Algorithms for discovering relationships, associations, and prerequisite structures between learning resources with different formats, including programming practices, essays, and videos
  - Algorithms to improve existing domain models
  - Novel methods to collect domain knowledge models, including crowd-sourcing and expert tagging
- Educational Recommenders, Instructional Sequencing, and Personalized Learning
  - Learning resource recommendation algorithms, remedial recommendations, and learner choice in selecting the next activity
  - Goal-oriented instructional sequencing
  - Personalized course recommendations
  - Peer recommendation for collaborative learning
  - Offline and online evaluation methods for educational recommender systems and sequencing algorithms
- Learner Cognitive and Behavior Modeling and its association with performance
  - Modeling and detecting students' affective and cognitive states (e.g., engagement, confusion) with multimodal data
  - Temporal patterns in student behavior including gaming the system, procrastination, and sequence modeling
  - Data mining to understand how learners interact with various pedagogical environments such as educational games and exploratory learning environments

- Multimodal analytics
- Learner Knowledge and Performance Modeling
  - Automatically assessing student knowledge
  - Learner knowledge gain and forgetting models in domains with complex concept structures
  - Modeling real-world problem-solving in open-ended domains
  - Causal inference of students' learning
  - Predicting students' future performance
- Social and Collaborative Learning
  - Modeling student and group verbal and non-verbal interactions for collaborative and/or competitive problem-solving
  - Social network analysis of student and teacher interactions
  - Data mining to understand how learners interact in formal and informal educational contexts
  - Peer-assessment modeling
  - Social learner modeling
- Reproducibility
  - Replicating previous studies with larger sample sizes, in different domains, and/or in more diverse contexts
  - Facilitating accessible benchmarking systems and publishing educational datasets that are useful for the community
  - EDM in life and the practical influence of EDM on learning and teaching
- Equity, Privacy, Transparency, and Fairness
  - Ethical considerations in EDM
  - Legal and social policies to govern EDM
  - Developing privacy-protecting EDM algorithms and detecting learner privacy violations in existing methods
  - Developing and applying fairer learning algorithms, and detecting and correcting instances of algorithmic unfairness in existing methods
  - Developing, improving, and evaluating explainable EDM algorithms

## Submission Types

For all tracks, **the references section at the end of the paper does not count towards the listed page limits.**

- **Full Papers** — 10 pages. Should describe original, substantive, mature, and unpublished work.
- **Short Papers** — 6 pages. Should describe original, unpublished work. This includes early stage, less developed works in progress.

- **JEDM Journal Track Papers** — Papers submitted to the Journal of Educational Data Mining track (and accepted before 2023-05-31) will be published in the June issue of JEDM and presented during the JEDM track of the conference. Papers accepted later will be automatically considered for the next iteration of the conference.
- **Industry Papers** — 6 pages. Should describe innovative use and deployment of EDM techniques in schools, formal and informal learning settings, ed-tech products, etc.
- **Posters** — 2-4 pages. Should describe original unpublished work in progress or last-minute results.
- **Demos** — 2-4 pages. Description of the proposed demonstration at the conference of the EDM tools and systems, or educational systems that use EDM techniques.
- **Doctoral Consortium** — 2-4 pages. Should describe the graduate/postgraduate student's research topic, proposed contributions, results so far, and aspects of the research on which advice is sought.
- **Workshop proposals** — 2-4 pages. Should describe the organizers' plan both to conduct the workshop (e.g., format, rough schedule, proposed list of speakers) and to stimulate growth in the workshop's area of focus.
- **Tutorial proposals** — 2-4 pages. Should motivate and describe succinctly the field or tool that will be presented, and a plan for attendees to learn it in a hands-on way.

All paper submissions must be submitted for double-blind reviewing. All papers must haven't been submitted for publication at other venues.

All accepted papers will be published in the open-access proceedings of the conference, except for the Journal track as stated above. Papers submitted to workshops will be published separately in the workshop proceedings.

Links to existing source code are encouraged, however to keep the double-blind reviewing, we suggest using a service such as Anonymous GitHub (<https://anonymous.4open.science>).

## Submission

All papers - except the papers submitted to the JEDM Journal Track, see below - should be formatted according to the EDM template:

- Word:  
[https://educationaldatamining.org/edm2020/wp-content/uploads/sites/4/2019/09/edm\\_word\\_template2020.doc](https://educationaldatamining.org/edm2020/wp-content/uploads/sites/4/2019/09/edm_word_template2020.doc)
- LaTeX:  
[https://educationaldatamining.org/edm2020/wp-content/uploads/sites/4/2019/09/edm\\_submission2020.zip](https://educationaldatamining.org/edm2020/wp-content/uploads/sites/4/2019/09/edm_submission2020.zip)

Submission link will be made available soon.

## Special Instructions

### Workshop and Tutorial proposals

Workshop and Tutorial proposals should use the EDM proceedings template (LaTeX or Word) and include at least the following elements:

- Title.
- Length of workshop/tutorial: full or half-day.
- Proposed format of the workshop/tutorial (e.g., approximate timeline) and type of activities (e.g., paper presentations, discussions, demos, etc.).
- Description of the workshop/tutorial content and themes.
- Names, short biographies, and contact information of workshop/tutorial chair(s). For tutorials, this biography must include detailed information about the qualifications of the proposer to conduct the tutorial on the proposed topic. For workshops, include a list of organizing/program committee members, who should be from multiple universities.

Submission link will be made available soon.

### JEDM Journal Track Papers

JEDM track papers should be formatted according to the JEDM guidelines and should be submitted to the journal directly at:

<https://jedm.educationaldatamining.org/index.php/JEDM/about/submissions>.

Select the option “**EDM 2023 Journal Track**” in the corresponding Section box when filling the form to submit your paper.

## Important Dates

All dates refer to 23:59 (11:59 pm) [anywhere on Earth](#). All dates refer to the year 2023. **All deadlines are firm. No extension will be granted.**

Please note: Compared to previous years, EDM 2023 will have an earlier submission deadline on **Jan 20, 2023** (with Jan 13, 2023 as abstract submission deadline)

JEDM track papers	<b>Three cut-off dates:</b> September 30, 2022 November 30, 2022 January 30, 2023
Workshop and Tutorial proposals	December 5, 2022
Acceptance notifications for workshops and tutorials	January 9, 2023
Abstracts for full and short papers	January 13, 2023
Full papers and short papers, Industry papers, Posters and demos, Doctoral consortium papers	January 20, 2023
Acceptance notifications for full and short papers, posters, demos, and doctoral consortium papers	April 10, 2023
Camera-ready copy due	May 1, 2023

Due dates and acceptance notifications for workshop papers	Set by workshop organizers
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## Organizing Team

### General Chairs:

- Rakesh Agrawal (Data Insights Laboratories, USA)
- Y Narahari (Indian Institute of Science, Bangalore, India)
- Mykola Pechenizkiy (Eindhoven University of Technology, Netherlands)

### Program Chairs:

- Mingyu Feng (WestEd, USA)
- Tanja Käser (EPFL, Switzerland)
- Partha Talukdar (Google Research and Indian Institute of Science, Bangalore, India)

### Diversity and Inclusion Chairs:

- Anna Rafferty (University of Carleton, USA)
- Olga Santos (Universidad Nacional de Educación a Distancia, Spain)
- Jie Tang (Tsinghua University, China)

### Industry Track Chairs:

- Giora Alexandron (Weizmann Institute of Science, Israel)
- Ramasuri Narayanam (Adobe Labs, India)
- KP Thai (Age of Learning, Inc., USA)

### Poster Track Chairs:

- Jina Kang (University of Illinois, USA)
- Roberto Martinez Maldonado (Monash University, Australia)
- Mirka Saarela (University of Jyväskylä, Finland)

### Demo Track Chairs:

- Dmitry Ignatov (Russia)
- Yu Lu (Beijing Normal University, China)
- Shima Salehi (Stanford University, USA)

## **Doctoral Consortium Chairs:**

- Pitor Artiemjew (Uniwersytet Warmiński-Mazurski, Poland)
- Min Chi (North Carolina State University, USA)
- Swaprava Nath (IIT-Bombay, India)

## **JEDM Track Chairs:**

- Agathe Merceron (University of Applied Sciences, Germany)
- Andrew Olney (University of Memphis, USA)
- Maria Mercedes (Didith) T. Rodrigo (Ateneo de Manila University, Philippines)

## **Workshop Chairs:**

- Tanja Mitrovic (University of Canterbury, New Zealand)
- Sherry Sahebi (SUNY Albany, USA)
- Adish Singla (MPI-SWS, Saarbrücken, Germany)

## **Awards Chairs:**

- Masaru Kitsuregawa (University of Tokyo, Japan)
- Cristobal Romero (University of Cordoba, Spain)
- Marianne Winslett (University of Illinois, USA)

## **Publicity Chairs:**

- Jaimie Park (USA)
- Rohith Vallam (IBM Research, India)
- Jill-Jênn Vie (Inria, France)

## **Web Chairs:**

- Paul Salvador Inventado (California State University Fullerton, USA)
- Tejus Srinivas (Surfzone, India)

## **Proceedings Chairs:**

- Qiang Ma (Kyoto University, Japan)
- Mirko Marras (University of Cagliari, Italy)

## **Sponsorship Chairs:**

- Steve Ritter (Carnegie Learning, USA)
- Shourya Roy (Flipkart, India)

## **Local Arrangements Chairs:**

- Viraj Kumar (Indian Institute of Science, India)
- Dinkar Seetharam (PES Institute of Technology, India)

**Looking forward to seeing you at EDM 2023 in Bangalore!**