EDM16

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Proceedings of the 9th International Conference on Educational Data Mining

T. Barnes, M. Chi, and M. Feng (Eds)

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International Conference on Educational Data Mining (EDM) 2016
Proceedings of the 9th International Conference on Educational Data Mining
Tiffany Barnes, Min Chi, Mingyu Feng (eds)
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Preface

The 9th International Conference on Educational Data Mining (EDM 2016) is held under the auspices of the International Educational Data Mining Society at the Sheraton Raleigh Hotel, in downtown Raleigh, North Carolina, in the USA. The conference, held June 29 - July 2, 2016, follows the eight previous editions (Madrid 2015, London 2014, Memphis 2013, Chania 2012, Eindhoven 2011, Pittsburgh 2010, Cordoba 2009 and Montreal 2008).

The EDM conference is the leading international forum for high-quality research that leverages educational data, learning analytics, and machine learning to answer research questions that shed light on the learning processes. Educational data may come from traces that students leave when they interact with learning management systems, interactive learning environments, intelligent tutoring systems, educational games or when they participate in other data-rich learning contexts. The types of data range from raw log files to data captured by eye-tracking devices or other kind of sensors. The methods used by EDM researchers include analytics, data science, data mining, machine learning, as well as social network analysis, graph mining, recommender systems, and model building.

This years conference features three invited talks by: Rakesh Agrawal, President and Founder of Data Insights Laboratories; Marcia C. Linn, Professor of the University of California at Berkeley; and Judy Kay, Professor of the University of Sydney. Judy Kay's invited paper entitled "Enabling people to harness and control EDM for lifelong, life-wide learning" is also presented in the proceedings. Together with the Journal of Educational Data Mining (JEDM), the EDM 2016 conference supports a JEDM Track that provides researchers a venue to deliver more substantial mature work than is possible in a conference proceedings and to present their work to a live audience. The papers submitted to this track followed the JEDM peer review process; three papers have been accepted to the track and will be presented at the conference. The abstracts of the invited talks and accepted JEDM Track papers can be found in the proceedings. The main conference invited contributions to the Research Track and Industry Track. We received 161 submissions (109 full, 45 short, and 7 industry). We accepted 16 exemplary full papers (15% acceptance rate), 14 full papers (27.5% acceptance rate) and 51 short papers for oral presentation (52% acceptance rate) and an additional 40 for poster presentation. Of the industry papers, 3 were selected for oral presentations and 2 for posters.

This year's best paper and best student paper awards were generously sponsored by the Prof. Ram Kumar Memorial Foundation. The best paper was awarded to the paper entitled "How Deep is Knowledge Tracing?" while the best student paper was awarded to the paper entitled "Calibrated Self-Assessment."

The EDM conference traditionally provides opportunities for young researchers, and particularly for PhD students, to present their research ideas and receive feedback from the peers and more senior researchers. This year, the Doctoral Consortium features 6 such presentations. In addition to the main program, the conference also includes 3 workshops: WS1: Computer-Supported Peer Review in Education (CSPRED-2016), WS2: Writing Analytics, Data Mining, and Writing Studies; WS3: Educational Data Analysis using LearnSphere, and 2 tutorials: T1: SAS Tools for Educational Data Mining, and T2: Massively Scalable EDM with Spark. This year we expand our electronic presence with Whova a social app for conference attendees that provided services for personal scheduling, social linking and personalized recommendations of papers.

We thank the sponsors of EDM 2016 for their generous support: Civitas Learning, Blackboard, MARi, SAS, Cengage Learning and the Prof. Ram Kumar Memorial Foundation. We thank North Carolina State University for their in-kind support, and the Sheraton Downtown Raleigh for their excellent conference services. We also thank the program committee members and reviewers, who with their enthusiastic contributions gave us invaluable support in putting this conference together. Last but not least we thank the organizing team: David Lindrum – Sponsorship Chair; Paul Inventado – Proceedings Chair & Webmaster; Collin Lynch – Posters Chair; Ed Gehringer – Student Volunteer Chair; Sidney D'Mello – DC Chair; Erica Snow and Jonathan Rowe – Workshop & Tutorials Chairs; and Piotr Mitros – Industry Track Chair.

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Awards

EDM 2016 thanks the Prof. Ram Kumar Memorial Foundation for generously sponsoring the 2016 best paper and best student paper awards.

Best papers and exemplary paper selection

A total of 16 exemplary papers were selected by the program chairs as those that represent the best work submitted to EDM 2016. Candidates for exemplary papers were selected among those accepted as full papers using the following criteria: 1) the average ratings of all reviewers and 2) at least one reviewer indicated the paper should be considered for best paper. Program Chairs and the General Chair then performed meta-reviews for all of these papers to make the final exemplary paper selections.

Finally, the Best Paper Committee was formed to review the top papers in the conference to select best paper nominations. We used random selection to divide both the 16 exemplary papers and the 10 committee members into two groups. All members in the same Best Paper Sub-committee received the same 8 exemplary papers together with their reviews. Sub-committee members were asked to rank the three best papers from the 8 papers, and to provide a 1-2 sentence justification for each of the top 3 they chose. Based on these rankings, four Best Paper nominees were selected.

Best Paper Committee:

Koedinger, Kenneth	Pavlik Jr., Philip I.	Aleven, Vincent	Baker, Ryan	Galyardt, April
Goldin, Ilya	Heffernan, Neil	Ritter, Steven	Olney, Andrew	Pechenizkiy, Mykola

Award winners

Best paper	How Deep is Knowledge Tracing? *Mohammad Khajah, Robert Lindsey and Michael Mozer*
Best student paper	Calibrated Self-Assessment *Igor Labutov and Christoph Studer*
Best paper nominees	LIVELINET: A Multimodal Deep Recurrent Neural Network to Predict Liveliness in Educational Videos *Arjun Sharma, Arijit Biswas, Ankit Gandhi, Sonal Patil and Om Deshmukh*
	How to Model Implicit Knowledge? Similarity Learning Methods to Assess Perceptions of Visual Representations *Martina Rau, Blake Mason and Robert Nowak*
	Measuring Gameplay Affordances of User-Generated Content in an Educational Game *Andrew Hicks, Zhongxiu Liu and Tiffany Barnes*

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