

# **Joint Proceedings of the EDM 2019 Workshops**

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This volume put together a series of papers presented at three workshops hosted at the 12<sup>th</sup> International Conference on Educational Data Mining (EDM) in 2019. The editors of the volume would like to acknowledge the essential work of each of the workshops organizers and program committee members who contributed to reviewing and selecting the papers published in this proceedings.

### **Learning Analytics Building Bridges Between the Education and the Computing Communities (LABBEC)**

This workshop aimed to foster the dissemination of Educational Data Mining (EDM) and Learning Analytics (LA) research to the education community. It brought together researchers and practitioners to share their perspective on how this research has impacted the education field and assess what lays ahead.

In total, 6 papers were submitted to the workshop. After going through the reviewing process, 4 papers were accepted for publication at the workshop; 3 as long papers and 1 as a short paper.

Organized by:

- Sébastien Béland, Université de Montréal
- Iris Bourgault Bouthillier, Université de Montréal
- Michel Desmarais, Polytechnique Montréal
- Nathalie Loye, Université de Montréal
- Guillaume Loignon, Université de Montréal

Program committee:

- Sébastien Béland, Université de Montréal
- Iris Bourgault Bouthillier, Université de Montréal
- Michel Desmarais, Polytechnique Montréal
- Nathalie Loye, Université de Montréal
- Guillaume Loignon, Université de Montréal
- Normand Roy, Université de Montréal
- Christophe Chénier, Université de Montréal

### **Workshop on EDM and Games: Leveling Up Engaged Learning with Data-Rich Analytics**

This workshop brought together researchers interested in the intersection between Educational Data Mining (EDM) and games to better understand student learning and engagement using data-rich analytics. It aimed to address research questions related to the types of EDM techniques best suited for game-based learning and how to leverage those techniques to inform evidence-based design principles for educational games.

In total, 6 papers were submitted to the workshop. After going through the reviewing process, 5 papers were accepted for publication at the workshop.

Organized by:

- Jonathan Rowe, North Carolina State University
- Bradford Mott, North Carolina State University
- Luc Paquette, University of Illinois at Urbana-Champaign

- Seung Lee, North Carolina State University

Program committee:

- Alok Baikadi, Pearson
- Nigel Bosch, University of Illinois at Urbana-Champaign
- Keith Brawner, United States Army Research Laboratory
- Seth Cooper, Northeastern University
- Erik Harpstead, Carnegie Mellon University
- Yang Jiang, Educational Testing Service
- Jina Kang, Utah State University
- Seung Lee, North Carolina State University
- Wookhee Min, North Carolina State University
- Ma. Mercedes T. Rodrigo, Ateneo de Manila University
- Elizabeth Rowe, TERC
- Jennifer Sabourin, SAS
- Maria Ofelia San Pedro, ACT, Inc.
- Erica Snow, Imbellus
- Michelle Taub, University of Central Florida
- K.P. Thai, Squirrel AI Learning
- Joseph Wiggins, University of Florida
- Diego Zapata-Rivera, Educational Testing Service

### **Reinforcement Learning for Educational Data Mining**

This workshop aimed to present research related to the diverse issues in using Reinforcement Learning to the context of Intelligent Tutoring Systems (ITSs), such as representing learning states, defining reward functions, discovering effective actions, and introducing new ITS environments. It also offered tutorials in the application of Reinforcement Learning to ITSs.

In total, 1 paper were submitted to the workshop. After going through the reviewing process, 1 paper was accepted for publication at the workshop.

Organizing committee and Program committee:

- Hamoon Azizoltani, SAS Institute
- Markel Sanz Ausin, North Carolina State University
- Anna Rafferty, Carleton College
- Joseph Jay Williams, University of Toronto
- Yeo Jin Kim, North Carolina State University
- Tiffany Barnes, North Carolina State University
- Min Chi, North Carolina State University