EDM2019 (Educational Data Mining)
Event Schedule
Tue, Jul 02, 2019

8:30am
Registration
⏰ 8:30am - 5:30pm, Jul 2
📍 200 Sherbrooke St W, Montreal, QC H2X 1X5
UQAM Pavillon Sherbrooke. You can access by metro (place des arts station) and take the exit: UQAM.

8:45am
Workshop/Tutorial Sessions
⏰ 8:45am - 10:15am, Jul 2

4 Subsessions
- LABBEC
  ⏰ 8:45am - 8:45am, Jul 2
  📍 SH3220

- Designing and Developing Open, Pedagogically-Based Predictive Models using the Moodle Analytics API
  ⏰ 8:45am - 8:45am, Jul 2
  📍 SH3420

- Sharing and Reusing Data and Analytic Methods with LearnSphere
  ⏰ 8:45am - 8:45am, Jul 2
  📍 SH3620

- Reinforcement Learning for Educational Data Mining
  ⏰ 8:45am - 8:45am, Jul 2
  📍 SH3720

10:15am
Coffee break
⏰ 10:15am - 10:30am, Jul 2

Coffee Break
10:30am

Workshop/Tutorial Sessions
⊙ 10:30am - 12:30pm, Jul 2

4 Subsessions

- LABBEC
  ⊙ 10:30am - 10:30am, Jul 2
  SH3220

- Designing and Developing Open, Pedagogically-Based Predictive Models using the Moodle Analytics API
  ⊙ 10:30am - 10:30am, Jul 2
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  ⊙ 10:30am - 10:30am, Jul 2
  SH3620

- Reinforcement Learning for Educational Data Mining
  ⊙ 10:30am - 10:30am, Jul 2
  SH3720

12:30pm

Lunch
⊙ 12:30pm - 1:30pm, Jul 2
SH Salle polyvalente (Pavillon Sherbrooke UQAM)

Break

1:30pm

Workshop/Tutorial Sessions
⊙ 1:30pm - 4:30pm, Jul 2

3 Subsessions

- EDM & GAMES
  ⊙ 1:30pm - 1:30pm, Jul 2
  SH3220

- Designing and Developing Open, Pedagogically-Based Predictive Models using the Moodle Analytics API
  ⊙ 1:30pm - 1:30pm, Jul 2
  SH3420

- Causal Discovery with Tetrad in LearnSphere's Tigris
4:30pm

Coffee break

4:45pm

Workshop/Tutorial Sessions

3 Subsessions

- EDM & GAMES
  - 4:45pm - 4:45pm, Jul 2
  - SH3220

- Designing and Developing Open, Pedagogically-Based Predictive Models using the Moodle Analytics API
  - 4:45pm - 4:45pm, Jul 2
  - SH3420

- Causal Discovery with Tetrad in LearnSphere's Tigris
  - 4:45pm - 4:45pm, Jul 2
  - SH3620

6:30pm

Poster session 1

- 6:30pm - 8:30pm, Jul 2
- Salle polyvalente (Pavillon Sherbrooke UQAM)

Welcome Reception

- 24 : A Novel Use of Educational Data Mining to Inform Effective Management of Academic Programs by Anwar Ali Yahya and Addin Osman


- 91: ATC Framework: A fully Automatic Cognitive Tracing Model for Student and Educational Contents by Yanjun Pu, Wenjun Wu and Tianrui Jiang

- 104: Identify Crucial Pedagogical Decisions through Adversarial Deep Reinforcement Learning by Song Ju, Guojing Zhou and Min Chi
127: A Data-Driven Approach for Automated Assessment of Scientific Explanations in Science Inquiry by Rachel Dickler, Haiying Li and Janice Gobert

162: Studying Factors Influencing the Prediction of Student STEM and Non-STEM College Major Enrollment by Varun Mandalapu and Jiaqi Gong

164: Incorporating Prior Practice Difficulty into Performance Factor Analysis to Model Mandarin Tone Learning by Meng Cao, Philip Pavlik and Gavin Bidelman

198: Developing Automated Audio Assessment Tools for a Chinese Language Course by Hao Fan Yin

205: Investigating Error Resolution Processes in C Programming Exercise Courses by Yuta Taniguchi, Atsushi Shimada and Shin'ichi Konomi

210: A generalizable performance evaluation model of driving games via risk-weighted trajectories by Rory Flemming, Emmanuel Schmück, Dominic Mussack, Pedro Cardoso-Leite and Paul Schrater

220: Accurate modelling of language learning tasks and students using representations of grammatical proficiency by Ahmed Zaidi, Andrew Caines, Christopher Davis, Russell Moore, Paula Buttery and Andrew Rice

262: Predicting Student Dropout in Higher Education Based on Previous Exam Results by Alexander Askinadze

270: Predicting student academic outcomes in UK secondary phase education: an architecture for machine learning and user interaction by Matthew Woodruff

274: Design of an Elective Course Recommendation System for University Environment by Boxuan Ma

277: Visualization and clustering of learner pathways in an interactive online learning environment by Daniel Furr

280: Anatomy of mobile learners: Using learning analytics to unveil learning in presence of mobile devices by Varshita Sher

282: Collaboration Analysis Using Object Detection by Zhang Guo and Roghayeh Barmaki

286: Beyond Autoscoring: Extracting Conceptual Connections from Essays for Classroom Instruction by Korah Wiley, Allison Bradford, Zach Pardos and Marcia Linn

287: Towards Modeling Students’ Problem-solving Skills in Non-routine Mathematics Problems by Huy Nguyen, John Stamper and Bruce McLaren

289: Modeling Student Performance and Disengagement Using Decomposition of Response Time Data by Deniz Sonmez Unal by

290: Binary Q-matrix Learning with dAFM by Nan Jiang and Zach Pardos

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Wed, Jul 03, 2019

8:00am
Breakfast
⏰ 8:00am - 9:00am, Jul 3
📍 777 Boulevard Robert-Bourassa, Montréal, QC H3C 3Z7, Canada

8:30am
Registration
⏰ 8:30am - 5:30pm, Jul 3
📍 777 Boulevard Robert-Bourassa, Montréal, QC H3C 3Z7, Canada

Come see us at the registration desk to pick up your package (badge, Poster (if ordered), etc.).

8:40am
Opening session
⏰ 8:40am - 9:00am, Jul 3

9:00am
Keynote
⏰ 9:00am - 10:00am, Jul 3

Keynote session
On the Ethics of Data-Powered Instruction, Recommendation, Persuasion, and Behaviour Change

10:00am
Coffee break
⏰ 10:00am - 10:30am, Jul 3

10:30am
Deep Learning
⏰ 10:30am - 12:30pm, Jul 3
📍 Regence A

Session 1: Deep Learning
Session chair: John Stamper

5 Subsessions
- Leveraging Deep Reinforcement Learning for Pedagogical Policy Induction in an Intelligent Tutoring System.
  ⏰ 10:30am - 11:00am, Jul 3
  📍 Regence A
Predicting student performance
○ 10:30am - 12:30pm, Jul 3
📍 Regence B

Session 1: Predicting student performance

Session chair: Steve Ritter

5 Subsessions

- Grade Prediction Based on Cumulative Knowledge and Co-taken Courses
  ○ 10:30am - 11:00am, Jul 3
  📍 Regence B

- Evaluating Fairness and Generalizability in Models of On-Time College Graduation from College Application Data
  ○ 11:00am - 11:30am, Jul 3
  📍 Regence B

- Neural Attentive Knowledge-based Model for Grade Prediction
  ○ 11:30am - 11:50am, Jul 3
  📍 Regence B

- Rank-Based Tensor Factorization for Predicting Student Performance
  ○ 11:50am - 12:10pm, Jul 3
  📍 Regence B

- Application of Hidden Markov Models to quantify the impact of enrollment patterns on student performance
  ○ 12:10pm - 12:30pm, Jul 3
  📍 Regence B
Text mining and NLP
10:30am - 12:30pm, Jul 3
Cartier A

5 Subsessions

- Towards the prediction of semantic complexity based on concept graphs
  10:30am - 11:00am, Jul 3
  Cartier A

- Predicting the Quality of Collaborative Problem Solving Through Linguistic Analysis of Discourse
  11:00am - 11:30am, Jul 3
  Cartier A

  11:30am - 11:50am, Jul 3
  Cartier A

- Categorizing students' questions using an ensemble hybrid approach
  11:50am - 12:10pm, Jul 3
  Cartier A

- Utterance-level Modeling of Indicators of Engaging Classroom Discourse
  12:10pm - 12:30pm, Jul 3
  Cartier A

12:30pm

Lunch
12:30pm - 1:30pm, Jul 3

1:30pm

Tutoring Systems
1:30pm - 3:30pm, Jul 3
Regence A

5 Subsessions

- One minute is enough: Early Prediction of Student Success and Event-level Difficulty
during Novice Programming Tasks
- 1:30pm - 2:00pm, Jul 3
  - Regence A

Predictors of Student Satisfaction: A Large-scale Study of Human-Human Online Tutorial Dialogues
- 2:00pm - 2:30pm, Jul 3
  - Regence A

JEDM: The Continuous Hint Factory - Providing Hints in Vast and Sparsely Populated Edit Distance Spaces
- 2:30pm - 2:50pm, Jul 3
  - Regence A

JEDM: Predictiveness of Prior Failures is Modulated by Trial Duration
- 2:50pm - 3:10pm, Jul 3
  - Regence A

Clustering Students Based on Their Prior Knowledge
- 3:10pm - 3:30pm, Jul 3
  - Regence A

Infrastructure / Enrollment
- 1:30pm - 3:30pm, Jul 3
  - Regence B

Session 5: Infrastructure / Enrollment

  Session chair: Andrew Lan

5 Subsessions

Measuring students’ thermal comfort and its impact on learning
- 1:30pm - 2:00pm, Jul 3
  - Regence B

Optimizing Assignment of Students to Courses based on Learning Activity Analytics
- 2:00pm - 2:30pm, Jul 3
  - Regence B

Latent Variable Models of Enrollment for Course Planning and Understanding
- 2:30pm - 2:50pm, Jul 3
  - Regence B

'Scholars Walk‘: A Markov Chain Framework for Course Recommendation
- 2:50pm - 3:10pm, Jul 3
  - Regence B

JEDM: Will this Course Increase or Decrease Your GPA? Towards Grade-aware Course Recommendation
- 3:10pm - 3:30pm, Jul 3
Panel / Peer Assessment
○ 1:30pm - 2:00pm, Jul 3
Cartier A
EDM Definition Panel
○ 1:30pm - 2:00pm, Jul 3
Cartier A

EDM Definition Panel
○ 2:00pm - 2:30pm, Jul 3
Cartier A

Probabilistic Modeling of Peer Correction and Peer Assessment
○ 2:30pm - 2:50pm, Jul 3
Cartier A

Improving Peer Assessment Accuracy by Incorporating Relative Peer Grades
○ 2:50pm - 3:10pm, Jul 3
Cartier A

Detecting suggestions in peer assessments
○ 3:10pm - 3:30pm, Jul 3
Cartier A

3:30pm
Coffee break
○ 3:30pm - 4:00pm, Jul 3

4:00pm
Poster session 2
○ 4:00pm - 5:30pm, Jul 3

19: The Guided TeamPartitioning Problem: Definition, Complexity, and Algorithm by Sanaz Bahargam, Theodoros Lappas and Evimaria Terzi

23: Combining Deep Neural Network with Expert Knowledge for Predicting Socio-Moral Reasoning skills by Ange Adrienne Nyamen Tato, Roger Nkambou and Aude Dufresne

40: What You Say is Relevant to How You Make Friends: Measuring the Effect of Content on Social Connection by Yiqiao Xu, Niki Gitinabard, Collin Lynch and Tiffany Barnes

53: STAYING IN THE ZONE: SEQUENCING CONTENT IN CLASSROOMS BASED ON THE ZONE OF PROXIMAL DEVELOPMENT by Oded Vainas, Yossi Ben-David, Ran Gilad-Bachrach, Meitar Ronen, Ori Bar-Ilan, Roi Shillo and Daniel Sitton

56: Assessing the Fairness of Graduation Predictions by Henry Anderson, Afshan Boodhwani and Ryan Baker

74: Beyond Autoscorining: Extracting Conceptual Connections from Essays for Classroom Instruction by Korah Wiley, Allison Bradford, Zach Pardos and Marcia Linn

94: Deep Hierarchical Knowledge Tracing by Tianqi Wang, Fenglong Ma and Jing Gao

118: Measuring Microlearning in an Online Learning Environment


147: Visualizing Learning Performance Data and Model Predictions as Objects in a 3D Space by Bruno Emond and Julio J. Valdés

156: Augmenting Transcripts with Multimodal Data by Tyler Angert and Bertrand Schneider


173: Design and deployment of a better university course search: Inferring latent keywords from enrollment networks by Matthew Dong, Run Yu and Zachary Pardos

176: Adding duration-based quality labels to learning events for improved description of students’ online learning behavior by Matthew Guthrie and Zhongzhou Chen

182: A Meta-Learning Approach to Automatic Short Answer Grading by Zichao Wang, Andrew Lan, Andrew Waters, Phillip Grimaldi and Richard Baraniuk


208: Validating the Myth of Average through Evidences by Praseeda, Srinath Srinivasa and Prasad Ram

223: Supporting Minority Student Success by using Machine Learning to Identify At-Risk Students by J.D Jayaraman.

252: Discovering item similarity through deep learning: combining item features and user behavior by Dominic Mussack, Rory Flemming, Paul Schrater and Pedro Cardoso-Leite

272: Balancing Student Success and Inferring Personalized Effects in Dynamic Experiments by Hammad Shaikh, Arghavan Modiri, Joseph Jay Williams and Anna Rafferty
8:00am

Breakfast

8:00am - 9:00am, Jul 4

8:30am

Registration

8:30am - 5:30pm, Jul 4

Come see us at the registration desk to pick up your package (badge, Poster (if ordered), etc.).

9:00am

Keynote

9:00am - 10:00am, Jul 4

Keynote session

Reconsidering two sigma: Educational data mining for the complete instructional system

Steve Ritter, Carnegie Learning

10:00am

Coffee break

10:00am - 10:30am, Jul 4

10:30am

Learner model

10:30am - 12:30pm, Jul 4

Regence A

Session 7: Learner model

Session chair: Phil Pavlik

5 Subsessions

- DAS3H: A new student learning and forgetting model for optimally scheduling distributed practice of skills
  10:30am - 11:00am, Jul 4
  Regence A

- Kappa Learning: A New Item-Similarity Method for Clustering Educational Items from Response Data
  11:00am - 11:30am, Jul 4
A Self Attentive model for Knowledge Tracing  
11:30am - 11:50am, Jul 4

A Multivariate ELO-based Learner Model for Adaptive Educational Systems  
11:50am - 12:10pm, Jul 4

Toward Near Zero-Parameter Prediction Using a Computational Model of Student Learning  
12:10pm - 12:30pm, Jul 4

What will you do next? A Sequence Analysis of the Student Transitions between Online Platforms  
10:30am - 11:00am, Jul 4

Mining University Registrar Records to Predict First-Year Undergraduate Attrition  
11:00am - 11:30am, Jul 4

Time-series Insights into the Process of Passing or Failing Online University Courses using Neural-Induced Interpretable Student States  
11:30am - 12:00am, Jul 4

A Human-Machine Hybrid Peer Grading Framework for SPOCs  
11:50am - 12:10pm, Jul 4

Grades are not Normal: Improving Exam Score Models Using the Logit-Normal Distribution  
12:10pm - 12:30pm, Jul 4

Session 8: Student performance / Grading  
10:30am - 12:30pm, Jul 4

5 Subsessions

What will you do next? A Sequence Analysis of the Student Transitions between Online Platforms  
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12:10pm - 12:30pm, Jul 4

Adaptative Feedback
10:30am - 12:30pm, Jul 4
Cartier A

Session 9: Adaptive Feedback

Session chair: Elizabeth Owen

5 Subsessions

- Predicting Early and Often: Predictive Student Modeling for Block-Based Programming Environments
  - 10:30am - 11:00am, Jul 4
  - Cartier A

- Toward Data-Driven Example Feedback for Novice Programming
  - 11:00am - 11:30am, Jul 4
  - Cartier A

- Design and evaluation of a semantic indicator for automatically supporting programming learning
  - 11:30am - 11:50am, Jul 4
  - Cartier A

- How Should Online English as a Foreign Language Teachers Write their Feedback to Students?
  - 11:50am - 12:10pm, Jul 4
  - Cartier A

- Grading emails and generating feedback
  - 12:10pm - 12:30pm, Jul 4
  - Cartier A

12:30pm

Lunch
- 12:30pm - 1:30pm, Jul 4

1:30pm

Industry track (6 papers @ 15/3 each)
- 1:30pm - 3:30pm, Jul 4
  - Regence A

Session 10: Industry track

Session chair: KP Thai

6 Subsessions

- Affect Detection in home-based Educational Software for Young Children
  - 1:30pm - 1:50pm, Jul 4
Course Recommender System in a Liberal Arts Context
  1:50pm - 2:10pm, Jul 4

Using a Glicko-Based Algorithm to Measure In-Course Learning
  2:10pm - 2:30pm, Jul 4

Machine-Learned School Dropout Early Warning At Scale
  2:30pm - 2:50pm, Jul 4

A Better Cold-Start for Early Prediction of Student At-Risk Status in New School Districts
  2:50pm - 3:10pm, Jul 4

Detecting Outlier Behaviors in Student Progress Trajectories Using a Repeated Fuzzy Clustering Approach
  3:10pm - 3:30pm, Jul 4

Doctoral Consortium
  1:30pm - 3:30pm, Jul 4

Session 11: Doctoral Consortium
  Session chair: Andrew Lan

8 Subsessions

Techniques for Automatically Evaluating Machine-Authored Homework Questions
  1:30pm - 1:45pm, Jul 4

Beyond Autoscoring: Extracting Conceptual Connections from Essays for Classroom Instruction by Korah Wiley, Allison Bradford, Zach Pardos and Marcia Linn
  1:45pm - 2:00pm, Jul 4

Towards Modeling Students' Problem-solving Skills in Non-routine Mathematics Problems
  2:00pm - 2:15pm, Jul 4

Modeling Student Performance and Disengagement Using Decomposition of Response Time Data
  2:15pm - 2:30pm, Jul 4
Design an Elective Course Recommendation System for University Environment
○ 2:30pm - 2:45pm, Jul 4
📍 Regence B

Anatomy of mobile learners: Using learning analytics to unveil learning in presence of mobile devices
○ 2:45pm - 3:00pm, Jul 4
📍 Regence B

Predicting student academic outcomes in UK secondary phase education: an architecture for machine learning and user interaction
○ 3:00pm - 3:15pm, Jul 4
📍 Regence B

Collaboration Analysis Using Object Detection
○ 3:15pm - 3:30pm, Jul 4
📍 Regence B

Text mining / Unsupervised Methods/ Creativity
○ 1:30pm - 3:30pm, Jul 4
📍 Cartier A

Session 12: Text mining / Unsupervised Methods/ Creativity

Session chair: Giora Alexandron

6 Subsessions

Tutorbot Corpus: Evidence of Human-Agent Verbal Alignment in Second Language Learner Dialogues
○ 1:30pm - 1:50pm, Jul 4
📍 Cartier A

Characterising Students’ Writing Processes Using Temporal Keystroke Analysis
○ 1:50pm - 2:10pm, Jul 4
📍 Cartier A

Skills Embeddings: a Neural Approach to Multicomponent Representations of Students and Tasks
○ 2:10pm - 2:30pm, Jul 4
📍 Cartier A

Generalizing Expert Misconception Diagnoses Through Common Wrong Answer Embedding
○ 2:30pm - 2:50pm, Jul 4
📍 Cartier A

Detecting Creativity in an Open Ended Geometry Environment
○ 2:50pm - 3:10pm, Jul 4
📍 Cartier A
Investigating Collaborative Learning States with Multimodal Data and Unsupervised Machine Learning

- 3:10pm - 3:30pm, Jul 4
- Cartier A

3:30pm

Coffee break
- 3:30pm - 4:00pm, Jul 4

4:00pm

Test of time award
- 4:00pm - 4:30pm, Jul 4

4:30pm

Poster session 3
- 4:30pm - 5:30pm, Jul 4

- 21: Smart Learning Object Recommendations based on Time-Dependent Learning Need Models by Christopher Krauss, Agathe Merceron and Stefan Arbanowski
- 83: It's a Match! Reciprocal Recommender System for Graduating Students and Jobs by Anik Jacobsen and Gerasimos Spanakis
- 97: Students’ Use of Support Functions in DBAs: Analysis of NAEP Grade 8 Mathematics Process Data by Juanita Hicks, Ruhan Circi and Mengyi Li
- 103: Investigating Writing Style Development in High School by Niklas Hjuler, Stephan Lorenzen and Stephen Alstrup
- 111: Gender Differences in Work-Integrated Learning by Shivangi Chopra, Abeer Khan, Melicaalsadat Mirsafian and Lukasz Golab
- 117: Identifying bias and underlying knowledge structures in Brazilian higher education national exam by Mariana Oliveira and Carlos Mello
- 129: Stealth Assessment via Deep Learning in an Open-Ended Virtual Environment by Joseph Reilly and Chris Dede
167: Shedding Light on the Automated Essay Scoring Process by David Boulanger and Vivekanandan Kumar

169: Student Knowledge Diagnosis on Response Data via the Model of Sparse Factor Learning by Yupei Zhang, Huan Dai, Yue Yun and Xuequn Shang

206: N-gram Graphs for Topic Extraction in Educational Forums by Glenn Davis, Cindy Wang and Christina Yuan

213: Learning Feature Analysis for Quality Improvement of Web-Based Teaching Materials Using Mouse Cursor Tracking by Mizuho Ikeda

245: A Methodology for Student Video Interaction Patterns Analysis and Classification by Boniface Mbouzao, Michel Desmarais and Ian Shrier.

263: Individual Differences in Student Learning Aid Usage by Andrea Davis and Yun Jin Rho

264: Teacher vs. algorithm double-blind experiment of content sequencing in mathematics by Ben Levy, Arnon Hershkovitz, Odelia Tzayada, Orit Ezra, Avi Segal, Kobi Gal, Anat Cohen and Michal Tabach

267: A Comparative Analysis of Emotional Words for Learning Effectiveness in Online Education by Jaechoon Jo, Yeongwook Yang, Gyeongmin Kim and Heuiseok Lim

271: Investigating effects of considering mobile and desktop learning data on predictive power of learning management system (LMS) features on student success by Varshita Sher

281: Towards a General Purpose Anomaly Detection Method to Identify Cheaters in Massive Open Online Courses by Giora Alexandron, Jose Ruiperez Valiente and Dave Pritchard

283: Filtering non-relevant short answers in peer learning applications by Vincent Gagnon, Audrey Labrie, Michel Desmarais and Sameer Bhatnagar

284: Hello? Who is posting, who is answering, and who is succeeding in Massive Open Online Courses by Juan Miguel Andres-Bray, Jaclyn Ocumpaugh and Ryan S. Baker

6:30pm

Cocktail

6:30pm - 7:30pm, Jul 4

7:30pm

Banquet

7:30pm - 11:00pm, Jul 4

Fri, Jul 05, 2019

8:00am

Breakfast

8:00am - 9:00am, Jul 5

Break
### 8:30am

**Registration**  
**8:30am - 5:30pm, Jul 5**

*Come see us at the registration desk to pick up your package (badge, Poster (if ordered), etc.)*

### 9:00am

**Keynote**  
**9:00am - 10:00am, Jul 5**

*Keynote session*  
**Educating a synthetic student**

### 10:00am

**Coffee break**  
**10:00am - 10:30am, Jul 5**

*Regence A*

**Break**

### 10:30am

**MOOCs / Online Tutor**  
**10:30am - 12:30pm, Jul 5**

*Regence A*

**Session 13: MOOCs / Online Tutor**

*Session chair: François Bouchet*

#### 5 Subsessions

- **Modeling and Experimental Design for MOOC Dropout Prediction: A Replication Perspective**  
  **10:30am - 11:00am, Jul 5**
  *Regence A*

- **The Influence of School Demographics on the Relationship Between Student Outcomes and Their Help-Seeking Behavior in an Online Tutor**  
  **11:00am - 11:30am, Jul 5**
  *Regence A*

- **Implicit and Explicit Emotions in MOOCs**  
  **11:30am - 11:50am, Jul 5**
  *Regence A*
Session 14: Game-Based Learning
Session chair: Arnon Hershkovitz

5 Subsessions

- Using Knowledge Component Modeling Techniques to Increase Domain Understanding in a Digital Learning Game
  - 10:30am - 11:00am, Jul 5
  - Regence B

- Exploring Neural Network Models for the Classification of Students in Highly Interactive Environments
  - 11:00am - 11:30am, Jul 5
  - Regence B

- Detecting Wheel Spinning and Productive Persistence in Educational Games
  - 11:30am - 11:50am, Jul 5
  - Regence B

- Towards Planning Gamification Strategies based on User Characteristics using Data Mining Techniques: A gender-based Case Study
  - 11:50am - 12:10pm, Jul 5
  - Regence B

- Collaborative problem-solving process in a science serious game: Exploring Group Action Similarity Trajectory
  - 12:10pm - 12:30pm, Jul 5
  - Regence B

Session 15: Affect, Motivation & Metacognition
Session chair: Roger Nkambou

- Success prediction in MOOCs - A case study
  - 11:50am - 12:10pm, Jul 5
  - Regence A

- Do Learners Know What's Good for Them? Crowdsourcing Subjective Ratings of OERs to Predict Learning Gains
  - 12:10pm - 12:30pm, Jul 5
  - Regence A

- Using Knowledge Component Modeling Techniques to Increase Domain Understanding in a Digital Learning Game
  - 10:30am - 11:00am, Jul 5
  - Regence B

- Exploring Neural Network Models for the Classification of Students in Highly Interactive Environments
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- Towards Planning Gamification Strategies based on User Characteristics using Data Mining Techniques: A gender-based Case Study
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  - Regence B

- Collaborative problem-solving process in a science serious game: Exploring Group Action Similarity Trajectory
  - 12:10pm - 12:30pm, Jul 5
  - Regence B
5 Subsessions

- Active Learning for Student Affect Detection
  - 10:30am - 11:00am, Jul 5
  - Cartier A

- Affective State Prediction in a Mobile Setting using Wearable Biometric Sensors
  - 11:00am - 11:30am, Jul 5
  - Cartier A

- Generalizability of Sensor-Free Affect Detection Models in a Longitudinal Dataset of Tens of Thousands of Students
  - 11:30am - 11:50am, Jul 5
  - Cartier A

- Exploring the Link Between Motivations and Gaming
  - 11:50am - 12:10pm, Jul 5
  - Cartier A

- JEDM: Using Sequence Mining to Analyze Metacognitive Monitoring and Scientific Inquiry based on Levels of Efficiency and Emotions during Game-Based Learning
  - 12:10pm - 12:30pm, Jul 5
  - Cartier A

12:30pm

- Lunch
  - 12:30pm - 1:30pm, Jul 5

1:30pm

Industry Panels & Sponsor Talks

- 1:30pm - 3:00pm, Jul 5
  - Regence A

Session 16: Industry Track (2)

  Session chair: Mary Jean Blink

4 Subsessions

- Sponsor Talk by Prodigy
  - 1:30pm - 1:45pm, Jul 5
  - Regence A

- Sponsor Talk by Squirrel AI learning
  - 1:45pm - 2:00pm, Jul 5
  - Regence A
Sponsor Talk by SAS: Using Simulation Games to Teach Analytics
○ 2:00pm - 2:15pm, Jul 5
📍 Regence A

Industry Panel
○ 2:15pm - 2:45pm, Jul 5
📍 Regence A

Educational Systems / Psychometrics
○ 1:30pm - 2:50pm, Jul 5
📍 Cartier A

Session 17: Educational Systems / Psychometrics

Session chair: Michel Desmarais

4 Subsessions

- Early detection of wheel spinning: Comparison across tutors, models, features, and operationalizations
  ○ 1:30pm - 1:50pm, Jul 5
  📍 Cartier A

- Modeling person-specific development of math skills in continuous time: New evidence for mutualism
  ○ 1:50pm - 2:10pm, Jul 5
  📍 Cartier A

- A Comparison of Automated Scale Short Form Selection Strategies
  ○ 2:10pm - 2:30pm, Jul 5
  📍 Cartier A

- Active Learning of Strict Partial Orders: A Case Study on Concept Prerequisite Relations
  ○ 2:30pm - 2:50pm, Jul 5
  📍 Cartier A

3:00pm

Coffee break
○ 3:00pm - 3:15pm, Jul 5

3:15pm

Closing/ Society Meeting
○ 3:15pm - 4:00pm, Jul 5
📍 Regence A