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

Uqàm 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

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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

Break

Coffee Break

10:30am

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

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4 Subsessions

- **LABBEC**
  🕐 10:30am - 10:30am, Jul 2
  📍 SH3220

- **Designing and Developing Open, Pedagogically-Based Predictive Models using the Moodle Analytics API**
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- **Sharing and Reusing Data and Analytic Methods with LearnSphere**
  🕐 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
📍 Salle polyvalente (Pavillon Sherbrooke UQAM)

Break

1:30pm

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

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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**

1:30pm - 1:30pm, Jul 2

SH3620

4:30pm

Coffee break

🕐 4:30pm - 4:45pm, Jul 2

Break

4:45pm

Workshop/Tutorial Sessions

🕐 4:45pm - 5:45pm, Jul 2

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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

54: Machine-Learned or Expert-Engineered Features? Exploring Feature Engineering Methods in Detectors of Disengaged Behavior and Affect by Anthony F. Botelho, Ryan Baker and Neil Heffernan

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 Hǎo Fā Yīn

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

273: Techniques for Automatically Evaluating Machine-Authored Homework Questions by Hǎo Fā Yīn

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

Wed, Jul 03, 2019

8:00am

Breakfast

🕐 8:00am - 9:00am, Jul 3

📍 777 Boulevard Robert-Bourassa, Montréal, QC H3C 3Z7, Canada

Break

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

Break

10:30am

Deep Learning

🕐 10:30am - 12:30pm, Jul 3

📍 Regence A

Session 1: Deep Learning

Session chair: John Stamper

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5 Subsessions

⚫ **Leveraging Deep Reinforcement Learning for Pedagogical Policy Induction in an Intelligent Tutoring System.**
🕐 10:30am - 11:00am, Jul 3
📍 Regence A

- **Student's Performance Estimation with Attention-based Graph Convolutional Networks**
  - 🕐 11:00am - 11:30am, Jul 3
  - 📍 Regence A

- **Why Deep Knowledge Tracing has less Depth than Anticipated**
  - 🕐 11:30am - 11:50am, Jul 3
  - 📍 Regence A

- **Concept-Aware Deep Knowledge Tracing and Exercise Recommendation in an Online Learning System**
  - 🕐 11:50am - 12:10pm, Jul 3
  - 📍 Regence A

- **Modelling End-of-Session Actions in Educational Systems**
  - 🕐 12:10pm - 12:30pm, Jul 3
  - 📍 Regence A

Predicting student performance
🕐 10:30am - 12:30pm, Jul 3
📍 Regence B

Session 1: Predicting student performance

Session chair: Steve Ritter

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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

Session 3: Text mining and NLP

Session chair: Alina von Davier

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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

● **Assessing Student Response in Tutorial Dialogue Context using Probabilistic Soft Logic**
🕐 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

Break

1:30pm

Tutoring Systems

🕐 1:30pm - 3:30pm, Jul 3

📍 Regence A

Session 4: Tutoring Systems

Session chair: Andrew Olney

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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 andSparsely 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

📍 Regence B

Panel / Peer Assessment
🕐 1:30pm - 3:30pm, Jul 3
📍 Cartier A

Session 6: Panel / Peer Assessment

    Ssession chair: Collin Lynch

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5 Subsessions

● **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
Break

4:00pm

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

    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

38: Machine Learning Based Decision Support System for Categorizing MOOC Discussion Forum Posts by Gaurav Nanda and Kerrie Douglas

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 Autoscoring: 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

136: Toward Instrumenting Makerspaces: Using Motion Sensors to Capture Students' Affective States and Social Interactions in Open-Ended Learning Environments by Lucia Ramirez, William Yao, Edwin Chng, Iulian Radu and Bertrand Schneider.

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

160: Parent as a Companion for Solving Challenging Math Problems: Insights from Multi-modal Observational Data by Lujie Chen, Eva Gjekmarkaj and Artur Dubrawski

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

193: Educational Research in Mexico: A Text Mining and Mapping Science Analysis by Alfonso Díaz-Furlong, Alfonso Díaz-Cárdenas, Alicia Cuanalo-Pérez, Paola Flores-Espinoza and Dulce Guzmán-Márquez

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

Thu, Jul 04, 2019

8:00am

Breakfast
🕐 8:00am - 9:00am, Jul 4

Break

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

Break

10:30am

Learner model
🕐 10:30am - 12:30pm, Jul 4
📍 Regence A

Session 7: Learner model

Session chair: Phil Pavlik

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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

📍 Regence A

● **A Self Attentive model for Knowledge Tracing**
🕐 11:30am - 11:50am, Jul 4
📍 Regence A

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

● **Toward Near Zero-Parameter Prediction Using a Computational Model of Student Learning**
🕐 12:10pm - 12:30pm, Jul 4
📍 Regence A

Student performance / Grading
🕐 10:30am - 12:30pm, Jul 4
📍 Regence B

Session 8: Student performance / Grading

　　Session chair: Luc Paquette

5 Subsessions

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

● **Mining University Registrar Records to Predict First-Year Undergraduate Attrition**
🕐 11:00am - 11:30am, Jul 4
📍 Regence B

● **Time-series Insights into the Process of Passing or Failing Online University Courses using Neural-Induced Interpretable Student States**
🕐 11:30am - 11:50am, Jul 4
📍 Regence B

● **A Human-Machine Hybrid Peer Grading Framework for SPOCs**
🕐 11:50am - 12:10pm, Jul 4
📍 Regence B

● **Grades are not Normal: Improving Exam Score Models Using the Logit-Normal Distribution**
🕐 12:10pm - 12:30pm, Jul 4
📍 Regence B

Adaptative Feedback

🕐 10:30am - 12:30pm, Jul 4
📍 Cartier A

Session 9: Adaptative Feedback

Session chair: Elizabeth Owen

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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 (1)

Session chair: KP Thai

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6 Subsessions

● **Affect Detection in home-based Educational Software for Young Children**
🕐 1:30pm - 1:50pm, Jul 4

○ Regence A

- Course Recommender System in a Liberal Arts Context
  ⊙ 1:50pm - 2:10pm, Jul 4
  ○ Regence A

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

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

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

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

Doctoral Consortium
⊙ 1:30pm - 3:30pm, Jul 4
○ Regence B

Session 11: Doctoral Consortium

Session chair: Andrew Lan

8 Subsessions

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

- 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
  ○ Regence B

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

- Modeling Student Performance and Disengagement Using Decomposition of Response Time Data
  ⊙ 2:15pm - 2:30pm, Jul 4
  ○ Regence B

- **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 VerbalAlignment 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

Break

4:00pm

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

Test of time award

Test of time award

4:30pm

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

Poster session 3

20: Deep-IRT: Make Deep Learning Based Knowledge Tracing Explainable Using Item Response Theory by Chun-Kit Yeung

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 forGraduating 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

135: Automatic identification of questions in MOOC forums and association with self-regulated learning by Fatima Harrak, François Bouchet, Vanda Luengo and Remi Bachelet

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

Registration

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

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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

- **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

Game-Based Learning
🕐 10:30am - 12:30pm, Jul 5
📍 Regence B

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

Affect, Motivation & Metacognition
🕐 10:30am - 12:30pm, Jul 5
📍 Cartier A

Session 15: Affect, Motivation & Metacognition

Session chair: Roger Nkambou

- **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

`Break`

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 Squirel 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

Break

3:15pm

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