

L@S - 2016:

1. MOOC Discussion forums:

- Measuring Engagement across Political Differences in Forums: Structural Topic Model, forum activity. degree to which students engage in MOOC forums with other students holding different political beliefs.
- Promoting Student Engagement

2. Online Urbanism: Interest-based Subcultures as Drivers of Informal Learning in an Online Community Scratch

Clustering of subgroups based on activity, followers

- Engagement related papers show some inference but not much ML(almost no) is involved

3. A Data-Driven Approach for Inferring Student Proficiency from Game Activity Logs

- Hidden Markov Models (HMM), allow structure learning from sequential data

4. Automatically Learning to Teach to the Learning Objectives:

- which items to include in the curriculum, modelled as an optimization problem.

5. Personalized Adaptive Learning using Neural Networks:

- Based on student knowledge and providing personalized instruction to students based on their skill level.

6. Finding use patterns that lead to learning will allow us to develop better guidance for students who struggle to extract the useful information from the simulation log data

7. Mimim-likelihood embedding of students, lessons, and assessments from historical student-content interactions

8. Queuing network approach for space repetition.

9. Predicting Students' Performance: Incremental Interaction Classifiers

10. Deep Neural Networks and How They Apply to Sequential Education

11. Modeling Student Performance by random forest

12. Bayesian knowledge tracing

LAK-2016:

Most of them are based on design of tools and evaluation of some tool.

1. How Affect-aware Feedback Can Improve Student Learning: Student's affective state is deduced both from speech and interaction and this is used in giving the feedback
2. Investigating Boredom and Engagement during Writing Using Multiple Sources of Information like The Essay, The Writer, and Keystrokes
3. Orchestration Graphs Using Wearable Sensors like EEG, eye tracking, accelerometer
4. Bringing Order to Chaos in MOOC Discussion Forums with Content-Related Thread Identification. Also use no. of views, vote threads.
5. Investigating Social and Semantic User Roles in MOOC Discussion forum
6. possibility of obtaining students' feedback about the emotions they feel in class in order to discover potential emotion patterns that might indicate learning fails. A case study
7. Towards Universal Instructional Policies, policies that are applicable for wide range of student models
- 8.

EDM-2015:

1. Automatic grading of short answers by clustering
2. clustering and process mining techniques to discover students' navigation paths or trails in Moodle. observe variations in the way students pace through the course design.
3. Aggregate Multimodal Features like typing, mouse clicks for Perceived Task Difficulty Recognition in Intelligent Tutoring Systems.
4. Data-Driven Analyses of Electronic Text Books. A probabilistic clustering using expectation maximisation to detect groups of similar (i) sessions and (ii) users.
5. Dialogue Act Classification in Online Tutoring Sessions

6. Detect learners with a performance inconsistent with the activity carried out, enabling teachers to send personalised messages to these students. Clustering
7. A Model for Student Action Prediction in 3D Virtual Environments for Procedural Training: model can predict the most common behaviors by considering the sequences of more frequent actions, which is useful to anticipate common student' errors. These logs are clustered based on the number of errors made by each student and the total time that each student spent to complete the entire practice
8. Apps for cognitive tutor: equation solving apps, education games
9. Student Attrition Predictor: sentiment analysis, neural networks model with features like number of clicks, no of views, forum activity
10. Dynamic student behavioral modeling based on the analysis of time-based student-generated trace data. To unobtrusively classify students according to their time-spent behavior
11. Data-driven Proficiency Profiling
12. Using Bayesian knowledge tracing to model students' skill acquisition over time, select questions that advance the student's learning within the range of the student's capabilities, as determined by the model.
13. Modeling Common Misconceptions in Learning
14. Forecasting Student Achievement
15. Eye Fixation Patterns of Students in Higher Education Using an Online Learning System
16. improve With-me-ness by providing a visualaid superimposed on the video. The position of the visualaid is suggested by the teachers' dialogue and deixis, and it is displayed when the learner's With-me-ness is under the average value, which is computed from the other students' gaze behavior.
17. Predictive Models of Academic Performance
18. Multimodal Learning Analytics(workshop)
19. Smart Environments and Analytics on Video-Based Learning(workshop)

Combined:

1. MOOC forums: Engagement of students in forums. Ordering of forum activity(content related thread identification). Using this activity for student attrition. Semantic and social user roles in forum activity

2. Curriculum: which items to be included, queuing theory models for space repetition, modelling common misconceptions, universal instructional policies
3. Student performance : modelling(DL not used), predicting,
4. Student emotions: using wearable to devices to detect emotions, use of keystroke, eye gaze pattern, smart environment for video based learning, using these recognize the task difficulty, discover potential emotion patterns that might indicate learning fails, Investigating Boredom and Engagement. EEG, eye tracking, accelerometer
5. Student learning: Bayesian knowledge tracing, navigation paths in MOOC and moodle based on log data, detect slow learners
6. Based on log data: cluster similar users,