2016 ICCSE conference
Invited Session on Big Data in Online Education

Nowadays, big data play a more and more important role in lots of areas. The emergence of Massive Open Online Courses (MOOCs) and the accompanying huge shift in thinking about education, such as flipped classroom and blended learning, has also inspired lots of research and applications. The Big data sources in online education are generated from blogging, chats, micro blogging (or twitter), web and mobile platforms, wearable computing or immersive learning environments, intelligent agents, online discussion forums, shared workspaces, social networking media, whiteboards, wikis, and distance face-to-face interaction systems, etc. And the related research and applications are spread from analytic approaches and theories to measures and supporting tools.

This session is intended to provide a forum for researchers and engineers to present their latest innovations and share their experiences in big data technologies and their applications in online education areas. Topics are included but not limited to:
● Analytic approaches: algorithms, architectures, behavior modeling, clustering, data integration, data mining, research about design, evaluation methods, information visualization, knowledge representation, machine learning, natural language processing, predictive analytics, recommendation engines, sequential analysis, social network analysis, statistical analysis, etc.
● Theories and Concepts: activity theory, actor-network theory, learning sciences, conceptual models of learning enabled by analytics, distributed cognition, networked individualism, reflective learning, social learning, etc.
● Measures of education: accreditation, emotions, attendance and retention (as predictors of learning), attention, attitudes, collaboration and cooperation, community structure, degree of competence, educational performance, expectations, learner behavior modeling, learning dispositions, motivation, participation, satisfaction, etc.
● Analytic tools for: collaborative learning, course management systems, decision-support systems for learning, instructor support, intelligent tutoring systems, learning communities, learning environments enhanced with analytics, mentoring, student monitoring, teacher analytics, teaching learning analytics, etc.

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