Oral presentation | General Session | [General Session] 2. Machine Learning

[2A4][General Session] 2. Machine Learning 座長:椿 真史(產業技術総合研究所) Wed. Jun 6, 2018 5:20 PM - 7:00 PM Room A (4F Emerald Hall)

## 6:20 PM - 6:40 PM

## [2A4-04]Analysis of Machine-Friendly Knowledge Representation toward More Efficient Knowledge Tracing

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Recent advancements in computer-assisted learning systems have increased research in the area of knowledge tracing, and it is reported that leveraging neural networks enables efficient estimation. However, such a development of neural network-based knowledge tracing methods suggests the necessity to review the definition of "knowledge", which previously has been designed by human experts and treated as given. In this context, recently a method to automatically learn efficient knowledge representation from student exercise logs has been proposed, and it is becoming important to designing more machine-friendly knowledge representation, which enables efficient performance of knowledge tracing. In this paper, we analyze the properties of knowledge representation learned to maximize the performance of knowledge tracing. Experimental results provide useful insights for reviewing the definition of knowledge, which previously has been treated as given, and designing machine-friendly knowledge representation, which enables for reviewing the definition of knowledge, which previously has been treated as given, and designing machine-friendly knowledge representation, which enables for reviewing the definition of knowledge, which previously has been treated as given, and designing machine-friendly knowledge representation, which could help improve the learning experience of students in more diverse environments.