

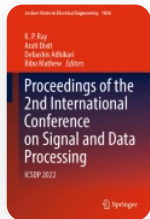
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Conference paper

Process Mining–Based Behavioral Modeling of Learners in Self–paced Learning Environment

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[Gomathi Thiyagarajan](#)  & [S. Prasanna](#)

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Abstract

With the increasing popularity of self-paced learning approaches, various kinds of tools, technologies, and platforms are incorporated to provide autonomy to students. Several approaches in learning analytics attempt to analyze the behavior of students in the self-paced learning environment which could assist to make pedagogical decisions. This paper proposes the use of process mining techniques as a learning analytics approach to provide a more comprehensive overview of students learning in a self-paced learning environment based on the log data from the learning management system and online assessment tools. The focus of this study is to identify which process mining technique can be chosen to record student behavior from a self-paced learning environment and compares process instances with the process model. The stochastic characteristics of the event log are validated against a real use case. The results show the process models built using heuristic and inductive mining exhibit promising metrics. The study also concludes the stochastic similarity between different groups of students can be easily interpreted by the percentage of traces.

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Author information

Authors and Affiliations

Research Scholar (VISTAS, Chennai), CMR Institute of Technology, Bengaluru, India
Gomathi Thiyagarajan

School of Computing Science, VISTAS, Chennai, India
S. Prasanna

Corresponding author

Correspondence to [Gomathi Thiyagarajan](#).

Editor information

Editors and Affiliations

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