

Predictive and Proactive Trustable Process Monitoring

(Abstract)

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Predictive process monitoring [1] aims at predicting the future of an ongoing process execution by learning from past historical business process executions. Different, often Machine Learning based, approaches have been proposed in the literature in order to provide predictions on the outcome, the remaining time, the required resources as well as the remaining activities of an ongoing execution, by leveraging information related to the control flow, the data flow, or even unstructured text contained in event logs, recording information about process executions. Together with the impressive growth of this young field several challenges remain, often related to the multi-perspective nature of Business Process execution data. Important examples are: the inclusion of a-priori knowledge in a prediction [2], the ability to capture and exploit rich temporal relationships between different features, the explainability of the prediction and the predictive model for this type of data [3, 4], and even more crucially the ability to provide prescriptive [5] and actionable [6] predictions. In this talk I outline the work that was carried out in the Process & Data Intelligence research unit of Fondazione Bruno Kessler in the last 5 years, as well as ongoing future research directions, related to the challenges above.


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