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PrBPM is a prescriptive business process monitoring technique that goes beyond predictive methods by suggesting next best actions and optimizing KPIs while maintaining adherence to process control-flow, with the goal to avoid issues. It uses two models, m_pp for predicting next activities using DNNs and m_cs for predicting KPI values based on process instance suffixes, operating offline and online to recommend actions based on predicted activities and KPI values. Evaluation suggests optimizing KPIs and measuring deviation from the ground truth process, with promising results in time optimization but failures about performance regarding distance from the ground truth process, linked to model components that aren't optimized and too flexible process control-flow definitions. The authors suggest future research look into advanced DNN architectures and incorporate multiple KPIs for stronger next best action recommendations.

The Generative Adversarial Nets (GANs) are explored to enhance predictive process monitoring and next event prediction by identifying labels and timestamps that are important. Through training involving a generator and discriminator, the method improves prediction accuracy, robustness across datasets, and stability. Indeed, the generator synthesizes additional training data to improve outcomes. Despite promising findings, better experimentation and analysis are recommended to validate the approach by exploring alternative architectures and methodologies encouraged to make progress in predictive process monitoring.

A framework is introduced to evaluate predictive process monitoring methodologies for small datasets, taking into account the challenge of defining "small event logs" and the differences in impact of data removal techniques on predictive accuracy. While some methodologies show robust performance with reduced datasets, extreme reductions can accelerate drops in predictive accuracy, especially in scenarios where rare cases or complex log structures are involved, insisting on the importance of considering data quantity and complexity in monitoring conduct and the need to continue to explore innovative strategies to handle rare trace variants.

LORELEY, an advanced technique for generating counterfactual explanations for predictive process monitoring models, is also introduced. That technique extends the capabilities of the LORE algorithm by including process constraints to enhance the quality and accuracy of explanations. While taking into account the critical issue of the notion of interpretability in AI models, LORELEY's integration of process constraints makes sure explanations align with real world business processes, showing consistency with underlying black-box prediction models. More precise evaluation from diverse datasets and black-box prediction models is recommended to understand LORELEY's performance, with the goal to improve transparency and reliability in predictive process monitoring systems.