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**Paper title:** Uncovering the Hidden Significance of Activities Location in Predictive Process Monitoring

The article proposes a novel approach to enhance the understanding of prediction models in predictive process monitoring by focusing on the significance of activity locations. While predictive monitoring methods analyze historical data to predict ongoing case outcomes, the need to improve the interpretability of these prediction models is increasingly recognized. However, the importance of activity locations in these models remains largely unexplored.

The paper introduces a new post-hoc explainable artificial intelligence technique, inspired by permutation feature importance, to assess the impact of activity locations in predictive models. Experimental results on real-life event logs validate the feasibility of the proposed method, demonstrating the influence of activity locations on outcome predictions.

This research contributes to filling a gap in the understanding of predictive process monitoring models by highlighting the often overlooked importance of activity locations. The implications of this understanding can support process management optimization and decision-making in various industrial contexts.

The paper also underscores the need for future research to explore more sophisticated analysis approaches and methodologies for selecting more meaningful patterns, as well as to evaluate the importance of the order of activities within activity groups. In conclusion, this study opens up new avenues for better understanding and improving the interpretability of predictive process monitoring models.

**AI model used:** The paper employs an explainable artificial intelligence technique inspired by permutation feature importance to assess the impact of activity locations in predictive process monitoring models.

**Introduce the AI models:** The explainable artificial intelligence technique utilized in the paper is based on permutation feature importance. This technique assesses the significance of activity locations in predictive process monitoring models by systematically permuting the feature values and measuring the resulting change in model performance.

**How do they contribute the idea proposed by the paper?** The AI model contributes by providing a systematic method for evaluating the importance of activity locations in predictive process monitoring models. By applying permutation feature importance, the technique offers insights into the influence of activity locations on outcome predictions, enhancing the interpretability of these models.