ROZARIO Mary - M2 MCI EUR

Process Mining A Comparative Study

Source : Google scholar :
https://www.researchgate.net/profile/Esmita-Gupta/publication/274248416_Process_Mining_A_Comparative_Study/links/55192bf00cf21b5da3b7b770/Process-Mining-A-Comparative-Study.pdf

KEY WORDS :
Process Mining, Heuristic Miner, Genetic Miner

The text provides a comparative study of three process mining algorithms: **Heuristic Miner, Genetic Miner and Fuzzy Miner.**

Nowadays, companies have a lot of **data to manage**, so intelligence aims to support decision-making processes through data analysis. But companies often don't know which algorithm is best suited to their needs.

Algorithm comparison

Minor heuristics is an algorithm that enables relationships between activities in event logs. It involves reading event logs, obtaining sets of tasks, deducing order relationships based on frequencies and creating a network of dependencies.
→ **Ideal for real data with few different events.**

Genetic mining is an evolutionary algorithm mimicking natural evolution for global search. It calculates dependency relationships, calculates fitness and creates the next population using genetic operators.
→ **Ideal for handling noise, duplicate task names, non-free-choice local and non-local constructs and invisible tasks.**

Fuzzy Miner is a configurable algorithm providing different views of a process.It involves merging attributes with similar behavior,discovering fuzzy frequent sets and creating fuzzy association rules.
→ **Ideal for less structured processes, focusing on desired characteristics, eliminating irrelevant details, reducing complexity and improving comprehensibility.**

Conclusion: why Process Mining?

Process Mining aims to discover, monitor and improve real processes by extracting knowledge from event logs in information systems in the present. This provides insight into actual organizational processes, rather than subjective perceptions.

In this way, process mining increases with the integration of information systems, providing insight into when each algorithm should be used.