

Paper 18: Turning Maintenance Reports into Actionable Risk and Work Orders with LLMs

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Abstract:

A few years ago, we conducted market research to understand gaps maintainers see in the maintenance of electrical distribution equipment. The loss of information captured in maintenance reports was identified as key pain point and very common hurdle. After a job is completed, a report is stored - physically or digitally - as evidence that the device was inspected or repaired. These reports often contain important observations and recommendations for follow-up actions, yet they are rarely reviewed and therefore these practical insights from field go unused.

To address the gap, we trained a Large Language Model (LLM) to identify key observations and recommendations in the reports. It automatically analyzes maintenance reports and presents, in a structured way, the observations, risks and recommendations distilled from them. The system addresses the common pain point for maintainers and complements existing systems by ensuring that field recommendations are collected and reported risks can be evaluated and acted upon.

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