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Peer Review

Review of: "Certificate-Gated Clearance in Change-Impact Analysis: A Fail-Closed Architecture"

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The article addresses the critical regulatory compliance problem of risk asymmetry when assessing the impact of changes: a false escalation only costs analyst time, while a false clearance imperceptibly removes an obligation from the review queue.

The main value of the study lies in the shift from probabilistic model confidence to a fail-closed architecture requiring independent verification.

Despite the sound concept, the empirical part has significant systemic gaps. The synthetic corpus and the ground taxonomy were developed by the same author team, so the experiment essentially checks whether the system correctly executes the rules the authors built into it — not its ability to work with real data.

The comparison with the baseline model looks especially weak. The supervised baseline clears 100% of cases at any non-zero label budget, which is a clear sign of a broken or misconfigured model rather than evidence against supervised approaches as a class. The authors themselves call this a "degenerate result," yet the main claimed comparison is still built on this baseline, which undermines its persuasiveness.

Tamper-resistance testing covered only finished certificates and did not test data distortion before hash calculation. Stability under distribution shift was tested on only a single case.

The presented work is a conceptually sound proof-of-concept, but its practical value still requires confirmation on real regulatory data.

Declarations

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Potential competing interests: No potential competing interests to declare.