Qeios

Peer Review

Review of: "Advancing Autonomous Vehicle Safety: A Combined Fault Tree Analysis and Bayesian Network Approach"

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1. Consider tightening the focus on the transition from static to dynamic risk assessment early in the abstract to emphasize the methodological innovation.
2. A synthesis table comparing existing FTA-only and hybrid FTA-BN applications across domains would strengthen this section.
3. Further elaboration on the toolchain used (e.g., Pathfinder, Python libraries) would increase reproducibility.
4. Consider including a sensitivity analysis to show how results change with different FIT allocations.
5. Explicit mention of how this model could be adapted for different AV system configurations or real-time deployment would be beneficial.

Overall:

This is a well-structured and original study that makes a strong methodological and applied contribution to AV safety modeling. The integration of FTA with BN at the subsystem level is novel and practically useful, offering a pathway for dynamic and precise risk assessments aligned with safety standards.

Areas of Improvement include:

- Slight enhancement in clarity and presentation (e.g., tool details, visualization aids).
- Potential extension to real-time or online risk analysis should be emphasized more in the conclusion.

doi.org/10.32388/Q5VZQD

Declarations

Potential competing interests: No potential competing interests to declare.