



AutoGuard AI

Predictive Vehicle Care with Security
& Explainability

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Problem Statement

- **Problem:** Unexpected car breakdowns result in lost time, irate customers, and unanticipated expenses.
- **Opportunity:** Use root-cause insights to feed manufacturing, auto-schedule services, and anticipate failures early.
- **Solution in one line:** Telematics, driver behavior, and UEBA are all combined in this master-agent orchestrated system to provide automated scheduling and explainable alerts.

System Architecture & Agent Roles

- **Master Agent:** orchestrates tasks and composes final recommendations.
- **Telematics Agent:** streams and combines sensor data.
- **Driver Behavior Agent:** extracts harsh braking and acceleration events and driving style features.
- **Diagnosis Agent:** predicts likely component failures using a model and rule engine.
- **Scheduling Agent:** matches service slots based on nearest, cheapest, or earliest availability.
- **UEBA Monitor:** observes agent actions and flags unusual API calls or unauthorized workflows.
- **Manufacturing Insights:** collects root cause analysis patterns and suggests design fixes.



User Flow

Flow timeline

- Vehicle reports rising engine temp + 5 harsh-brake events in 48h
- Diagnosis Agent predicts brake failure risk = 78% in 7 days
- Customer Agent proposes two slots; user approves
- Scheduling Agent books quick slot; confirmation sent
- Post-service feedback logged; manufacturing receives aggregated RCA.



Prototype Vision

Concepts

- **Dashboard:** Fleet health summary with alerts
- **Alert modal:** Prediction card with SHAP explanation + two booking options (OEM/Local) + counterfactual sentence.
- **UEBA Log:** One line showing flagged rogue action and auto-block.



Impact, KPIs & Next Steps

Impact

- Unplanned breakdowns decrease by 30 – 45%
- False alerts decrease by 25 – 35%
- Fleet uptime increase by 15 – 25%
- Time to booking reduced to < 5 minutes
- UEBA prevented 100% of simulated rogue action is demo



AutoGuard AI — Keep vehicles moving, safely and intelligently.

Thank You