AI-Driven Reliability Checklist (One-Page Guide)

How to Strengthen System Resilience with AI and Automation

Why Use This Checklist

This checklist helps Site Reliability Engineers and DevOps teams **implement AI responsibly** in observability, automation, and remediation.

It ensures your reliability strategy balances **speed, safety, and governance** while reducing human toil.

Use it when:

- You're integrating **AI-driven observability tools** into production.
- You're automating **incident detection or remediation workflows.**
- You want to validate that **AI in operations** aligns with reliability best practices.

How to Use This Checklist

1. **Download and Print or Save Digitally** — Use it during audits, post-incident reviews, or deployment planning.
2. **Review Each Section Weekly or Per Deployment** — Mark off each item as you integrate AI into your reliability workflows.
3. **Customize for Your Environment** — Adapt thresholds, automation rules, and governance processes to your team's maturity level.

The Checklist

1. Observability Readiness

☐ All core services have **logs, metrics, and traces** collected and stored.
☐ The **Four Golden Signals** (Latency, Traffic, Errors, Saturation) are monitored.
☐ Data pipelines feeding AI models are **validated for quality and freshness.**
☐ Anomaly detection models are **trained on historical incidents** and retrained periodically.

2. AI-Driven Monitoring & Detection

☐ AI alerts are **correlated with business-impact metrics** (e.g., checkout failures, API response time).
☐ False positives are **below 10%**; noise reduction validated monthly.
☐ AI models predict incidents **before thresholds are breached.**
☐ Predictions are reviewed and validated by humans before automation is expanded.

3. Automated Remediation & Response

☐ Each automated action has a **defined rollback plan.**
☐ Automation runs only when **error budgets allow** or when risks are

within tolerance.

☐ All automation flows are **idempotent** (safe to rerun without harm).

☐ Every AI-triggered action is **logged with timestamp, model version, and reasoning.**

4. Governance & Safety Controls

☐ AI systems have **explainability and audit logs** enabled.

☐ Access to automated remediation tools is **role-based and reviewed quarterly.**

☐ AI models and automation rules go through **change control approval.**

☐ Regular **blameless reviews** include AI and automation incidents.

5. Continuous Learning

☐ Post-incident reviews feed data back into AI models.

☐ SREs receive **ongoing training** on AI/ML fundamentals.

☐ Metrics like **MTTD, MTTR, and false alert rates** are tracked monthly.

☐ Playbooks are updated with **new automation logic or AI insights** after each cycle.

Things to Remember

- **AI assists, not replaces, human judgment.** Keep a human-in-the-loop for all critical actions.
- **Trust but verify.** Treat AI recommendations as inputs, not commands.
- **Update your playbook** regularly—AI models drift, and so do your systems.
- **Document everything.** Logs and audits are your safety net when automation behaves unexpectedly.
- **Start small.** Begin with one or two use cases (like predictive alerting), measure results, then scale.

Pro Tip

Pair this checklist with your internal **SRE Playbook** and **Error Budget Policy** for a complete governance framework.

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