

Sample High-Level AI RMF Compliance:

A Checklist

Introduction

As organizations increasingly integrate Artificial Intelligence (AI) into their operations, ensuring the responsible and trustworthy development and deployment of these systems becomes paramount. The National Institute of Standards and Technology (NIST) AI Risk Management Framework (RMF) provides a crucial guide for mitigating potential risks and fostering public trust in AI technologies. This checklist serves as a high-level tool to help your organization systematically align its AI projects with the NIST AI RMF guidance, promoting ethical, fair, and secure AI practices. By methodically addressing each item, you can build a robust framework for responsible AI innovation and compliance.

Use this checklist to systematically align your AI project with NIST AI RMF guidance. Check each item as you complete it:

☐ Governance

Document your AI governance framework — policies, roles, and legal/regulatory requirements. Regularly train staff on AI ethics and compliance (e.g: data privacy, fairness).

☐ Inventory & Scope

Inventory all AI systems and use-cases in your organization (capabilities, models, data sources). Define each system's scope and risk level.

☐ Context Mapping

For each AI system, document its intended purpose, users, and operating context. Identify potential positive and negative impacts on individuals, society, and the environment.

☐ Stakeholder Engagement

Involve cross-functional teams (IT, legal, operations, domain experts, end users) in defining requirements and risk criteria. Ensure diverse perspectives shape system design.

☐ Third-Party Components

Include any third-party or pre-trained AI models in your risk analysis. Apply your organization's risk tolerance to each external component.

☐ **Metrics & Instrumentation**

Define key metrics (accuracy, bias/fairness scores, performance, security, etc.) for measuring your AI system's trustworthiness. Instrument the system with comprehensive logging and audit trails to capture data and decisions.

☐ **Testing**

Conduct rigorous testing before deployment: use validation datasets, run stress and adversarial tests, and evaluate the system across edge-case scenarios. Document results.

☐ **Monitoring**

Continuously monitor production performance against baseline metrics. Track deviations or anomalies in accuracy, bias, or other risk indicators.

☐ **Fairness & Bias**

Perform regular fairness/bias assessments on outputs. If unwanted biases appear, take mitigation actions (retraining, data augmentation, algorithm adjustments).

☐ **Security & Robustness**

Include security tests such as red-team exercises. Monitor for anomalies, adversarial attempts, or unexpected behaviors. Update models and controls as threats evolve.

☐ **Risk Levels**

Define and document AI risk categories and tolerance levels. Allocate more oversight and resources to high-risk systems (e.g. safety-critical or sensitive-use AI).

☐ **Incident Response**

Establish and document incident response procedures for AI failures or negative impacts. Plan how to notify stakeholders and contain issues.

☐ **Fallback/Controls**

Implement contingency plans and human-in-the-loop controls. For high-risk scenarios, have human override or system shutdown mechanisms ready.

☐ **Compliance Automation**

Use automated compliance tools (like Drata) to map AI RMF controls to your processes. Automate evidence collection, task assignments, and continuous control monitoring.

☐ **Documentation & Review**

Keep detailed records of decisions, tests, incidents, and mitigations. Regularly review and update documentation. Document any accepted residual risks with justification.

By diligently completing this checklist, your organization will establish a strong foundation for managing AI risks and ensuring compliance with the NIST AI RMF. Remember that AI governance is an ongoing process, requiring continuous monitoring, adaptation, and improvement as your AI systems evolve and new challenges emerge. Regularly reviewing and updating your practices based on these guidelines will not only mitigate potential harms but also enhance the trustworthiness and long-term success of your AI initiatives.

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