Crosswalk NIST AI Risk Management Framework (AI RMF 1.0) and Singapore's AI Verify Testing Framework

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AI RMF 1.0	AI Verify Testing Framework
GOVERN 1: Policies, processes, procedures, and practices across the organization related to the mapping, measuring, and managing of AI risks are in place, transparent, and implemented effectively.	Transparency 1.1.1 Reproducibility 3.2.1, 3.11.1, 3.14.1 Safety 4.1.1, 4.3.1 Security 5.4.1, 5.5, 5.7 Robustness 6.1.1, 6.5 Fairness 7.2, 7.7, 7.8 Data Governance 8.3.1 Human Agency and Oversight 10.1.2 Organisational Considerations 12.1
GOVERN 2: Accountability structures are in place so that the appropriate teams and individuals are empowered, responsible, and trained for mapping, measuring, and managing AI risks.	Security 5.1 Data Governance 8.1.1, 8.4 Accountability 9.1, 9.3.1 Human Agency and Oversight 10.1
GOVERN 3: Workforce diversity, equity, inclusion, and accessibility processes are prioritized in the mapping, measuring, and managing of AI risks throughout the lifecycle.	Transparency 1.2.4 Reproducibility 3.3.1 Safety 4.4 Robustness 6.1 Fairness 7.2, 7.4.2, 7.6, 7.9 Accountability 9.1.2 Human Agency and Oversight 10.2.3 Inclusive growth, Societal & Environmental Well-being 11.1
GOVERN 4: Organizational teams are committed to a culture that considers and communicates AI risk.	Transparency 1.1-1.3 Safety 4.1- 4.6 Fairness 7.1 - 7.9 Accountability 9.1.1
GOVERN 5: Processes are in place for robust engagement with relevant AI actors.	Transparency 1.2.4 Safety 4.5.4 Robustness 6.3 Data Governance 8.3.1 Fairness 7.2, 7.7, 7.4.2 Accountability 9.1.1 Inclusive growth, Societal & Environmental Well-being 11.1
GOVERN 6: Policies and procedures are in place to address AI risks and benefits arising from third-party software and data and other supply chain issues.	Transparency 1.1.2 Reproducibility 3.13 Safety 4.4, 4.5 Data Governance 8.1 - 8.4 Accountability 9.5
MAP 1: Context is established and understood.	Transparency 1.2 Safety 4.1 - 4.6

	Robustness 6.1 - 6.5 Fairness 7.3 Accountability 9.1 Inclusive growth, Societal & Environmental Well-being 11.1 Organisational Considerations 12.2
MAP 2: Categorization of the AI system is performed.	Transparency 1.1-1.3 Explainability 2.1 Reproducibility 3.1 - 3.14 Human Agency & Oversight 10.5 Organisational Considerations 12.3
MAP 3: AI capabilities, targeted usage, goals, and expected benefits and costs compared with appropriate benchmarks are understood.	Transparency 1.1-1.3 Reproducibility 3.1 - 3.14 Security 5.1 Data Governance 8.4 Accountability 9.1 Human Agency and Oversight 10.1-10.5
MAP 4: Risks and benefits are mapped for all components of the AI system including third-party software and data.	Reproducibility 3.13 Safety 4.1- 4.6 Data Governance 8.1 - 8.4 Accountability 9.5
MAP 5: Impacts to individuals, groups, communities, organizations, and society are characterized.	Transparency 1.2.4 Safety 4.1-4.3 Fairness 7.4.2 Human Agency & Oversight 10.4, 10.5 Inclusive growth, Societal & Environmental Well-being 11.1 Organisational Considerations 12.4
MEASURE 1: Appropriate methods and metrics are identified and applied.	Transparency 1.2.4 Safety 4.1- 4.6 Fairness 7.3, 7.4 Accountability 9.4 Human Agency & Oversight 10.4.1 Inclusive growth, Societal & Environmental Well-being 11.1
MEASURE 2: AI systems are evaluated for trustworthy characteristics.	Transparency 1.2 Explainability 2.1 Reproducibility 3.11, 3.14 Safety 4.2, 4.3, 4.5, 4.6 Security 5.5 Robustness 6.1, 6.2, 6.3, 6.5 Fairness 7.2, 7.4.2, 7.6, 7.7, 7.8, 7.9 Data Governance 8.1-8.4 Accountability 9.1-9.5 Human Agency and Oversight 10.1.2 Inclusive growth, Societal & Environmental Well-being 11.1

MEASURE 3: Mechanisms for tracking identified AI risks over time are in place.	Reproducibility 3.11, 3.14 Safety 4.3, 4.6 Security 5.3 - 5.7 Robustness 6.1 - 6.5 Fairness 7.2, 7.7, 7.8 Accountability 9.1.2, 9.1.3 Human Agency & Oversight 10.4.1 Organisational Considerations 12.5
MEASURE 4: Feedback about efficacy of measurement is gathered and assessed.	Transparency 1.2.4 Accountability 9.1.2, 9.4 Fairness 7.2 Accountability 9.1.2 Human Agency and Oversight 10.1, 10.3, 10.5 Inclusive growth, Societal & Environmental Well-being 11.1
MANAGE 1: AI risks based on assessments and other analytical output from the MAP and MEASURE functions are prioritized, responded to, and managed.	Safety 4.1, 4.2, 4.3, 4.6 Fairness 7.1 - 7.9 Accountability 9.1 Human Agency & Oversight 10.5
MANAGE 2: Strategies to maximize AI benefits and minimize negative impacts are planned, prepared, implemented, documented, and informed by input from relevant AI actors.	Reproducibility 3.14 Safety 4.3, 4.5 Security 5.5 Robustness 6.5 Fairness 7.2, 7.7, 7.8 Human Agency and Oversight 10.2 Organisational Considerations 12.6
MANAGE 3: AI risks and benefits from third-party entities are managed.	Transparency 1.1 Reproducibility 3.13 Data governance 8.1 - 8.3 Accountability 9.5
MANAGE 4: Risk treatments, including response and recovery, and communication plans for the identified and measured AI risks are documented and monitored regularly.	Transparency 1.2.4 Reproducibility 3.14 Safety 4.3, 4.5 Security 5.5, 5.7 Robustness 6.1 - 6.5 Fairness 7.2, 7.7 Accountability 9.4 Human Agency & Oversight 10.4, 10.5 Inclusive growth, Societal & Environmental Well-being 11.1