

Here is the generated checklist:

IDENTITY AND PURPOSE

AI/ML Constituent ODD Characterization

- Has a precise characterization of the AI/ML constituent OOD?
- Has traced the set of parameters pertaining to the AI/ML constituent OOD to the corresponding parameters pertaining to the OD when applicable?

CONFIGURATION MANAGEMENT

Configuration Items, Versioning, and Baselining

- Identified configuration items for the AI/ML constituent life-cycle data?
- Implemented versioning for the AI/ML constituent life-cycle data?
- Created a baseline for the AI/ML constituent life-cycle data?
- Implemented change control for the AI/ML constituent life-cycle data?

Reproducibility, Problem Reporting, Archiving, and Retention

- Ensured reproducibility of the AI/ML constituent life-cycle data?
- Implemented problem reporting for the AI/ML constituent life-cycle data?
- Archived and retrieved the AI/ML constituent life-cycle data as required?
- Defined a retention period for the AI/ML constituent life-cycle data?

QUALITY AND PROCESS ASSURANCE

Quality and Process Assurance Principles

- Applied quality and process assurance principles to the development of the AI-based system?
- Ensured independence level compliance in the development of the AI-based system?

REUSE ASSESSMENT

Reuse Assessment for Trained ML Models

- Performed an impact assessment of the reuse of a trained ML model before incorporating it into an AI/ML constituent?
- Considered factors such as data quality, bias, and performance when assessing the reuse of a trained ML model?

FUNCTIONAL ANALYSIS

Functional Analysis of COTS ML Models

- Performed a functional analysis of the COTS ML model to confirm its adequacy to the requirements and architecture of the AI/ML constituent?
- Verified that the COTS ML model meets the specified requirements and functionality for the AI/ML constituent?

UNUSED FUNCTIONS

Deactivation of Unused Functions in COTS ML Models

- Performed an analysis of the unused functions of the COTS ML model?
- Prepared deactivation of these unused functions to ensure the AI/ML constituent operates within specified boundaries?

SURROGATE MODEL

Accuracy and Fidelity of Reference Model

- Captured the accuracy and fidelity of the reference model to support verification of the surrogate model's accuracy?
- Identified additional sources of uncertainties linked with the use of a surrogate model?
- Documented and mitigated these additional sources of uncertainties?

EXPLAINABILITY

Explainability for AI-Based Systems

- Identified stakeholders who need explainability of the AI-based system at any stage of its life cycle?
- Characterized the need for explainability to be provided for each stakeholder or group of stakeholders?
- Documented methods at AI/ML item and/or output level satisfying the specified AI explainability needs?

Indication of Confidence in AI/ML Constituent Output

- Designed the AI-based system with the ability to deliver an indication of the level of confidence in the AI/ML constituent output?
- Quantified the level of uncertainty for the AI/ML constituent output?

Input and Output Monitoring

- Designed the AI-based system with the ability to monitor that its inputs are within specified operational boundaries?
- Verified that the AI-based system's outputs are within specified operational performance boundaries?
- Monitored the AI-based system's outputs to ensure they are within the specified operational level of confidence?