

Here is the checklist generated for the author developing the artificial intelligence - machine learning software and the reviewer reviewing it:

# Requirements Capture

## AI/ML Constituent Requirements

- Has the applicant captured all requirements necessary to design and implement the AI/ML constituent?
- Are safety requirements allocated to the AI/ML constituent, including:
  - ☐ Performance
  - ☐ Reliability
  - ☐ Resilience
- Are information security requirements allocated to the AI/ML constituent?
- Are functional requirements allocated to the AI/ML constituent?
- Are operational requirements allocated to the AI/ML constituent, including:
  - ☐ ODD monitoring and performance monitoring
  - ☐ Detection of out-of-distribution input data
  - ☐ Data recording requirements
- Are other non-functional requirements allocated to the AI/ML constituent, such as:
  - ☐ Scalability
- Have interface requirements been captured?

## AI/ML Constituent ODD

- Has a precise characterization of the AI/ML constituent ODD been performed?
- Have parameters pertaining to the AI/ML constituent ODD been defined and traced to the corresponding parameters in the OD when applicable?

# Data Management

## Data Management Requirements Capture

- Have data management requirements been captured, including:
  - ☐ Safety requirements
  - ☐ Information security requirements
  - ☐ Functional requirements
  - ☐ Operational requirements
- Are derived requirements reviewed from a safety perspective?
- Are failure conditions classified for each requirement validated?

## Data Collection and Preparation

- Has data collection been performed to gather the necessary data sets?
- Is data labelling complete (only in supervised learning)?
- Have data transformation, pre-processing, and feature engineering been performed?
- Are the various data sets used in the learning phase identified (typically training, validation, and test data sets)?
- Have data set verification procedures been implemented, including:
  - Accuracy
  - Completeness
  - Representativeness with respect to ML requirements and AI/ML constituent ODD?

## **Data Independence and Bias Elimination**

- Are independence requirements between data sets met?
- Has unwanted bias inherent in the data sets been identified and eliminated?

Note: This checklist is generated based on the provided text and may not be exhaustive.