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Artificial intelligence — Data quality for analytics and machine learning (ML) —

Part 3: Data quality management requirements and guidelines

Intelligence artificielle — Qualité des données pour les analyses de données et l'apprentissage automatique —

Partie 3: Exigences et lignes directrices pour la gestion de la qualité des données

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The quality of analytics and machine learning (ML) based products and services depends on the quality of data used to train ML models. Hence, data quality management is essential as it often helps to ensure the success of analytics and ML technology.

The adoption of a data quality management system facilitates managing the quality of products and services that employ analytics and ML technologies. This document defines vocabulary, requirements and guidelines for communication, alignment and agreement for managing data quality. The data quality management system provides transparency and auditability, either through self-assessment or third party assessment. It facilitates achieving relevant stakeholder satisfaction and managing quality, performance and self-declaration requirements. Specifically, this document defines requirements for a data quality management system with references to data quality measures that are relevant for the most commonly used analytics and ML technologies.

As data quality requirements vary with context and application domain, this document provides a generic set of requirements and recommendations relating to common data life cycle stages. A data life cycle is typically tightly integrated with the accompanying AI system life cycle and therefore has several dependencies. This document does not prescribe what AI system life cycle to use. Instead, it provides generic interfaces that allow users of this document the flexibility to interface with several life cycle models as long as the life cycle processes can be mapped.

ISO/IEC 5259-1 describes the data quality terminology and concepts used in this document.

ISO/IEC 5259-2[1)] describes the data quality model and data quality measures used in this document.

ISO/IEC 5259-4 describes the data quality process framework used in this document.

ISO/IEC 5259-5[2)] provides a data quality governance framework as guidance for governing bodies.

ISO/IEC TR 5259-6[3)] describes a visualization framework for data quality in analytics and ML.

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