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Safety of machinery — Relationship with ISO 12100 —

Part 5: Implications of artificial intelligence machine learning

Sécurité des machines — En relation avec l'ISO 12100 —

Partie 5: Implications de l'intelligence artificielle pour l'apprentissage automatique

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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Foreword

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This document was prepared by Technical Committee ISO/TC 199, *Safety of machinery*.

A list of all parts in the ISO/TR 22100 series can be found on the ISO website.

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Introduction

The primary purpose of this document is to provide guidance for the development of artificial intelligence (AI) machine learning applications. Safety can be compromised due to the significant complexity of introducing AI machine learning to machines.

A control system can use machine learning (a technology of artificial intelligence) to improve performance of the machine or to execute tasks. The control system learns its expected behaviour through training. This involves two stages: training and inference (autonomous operation).

This document assists machinery designers to develop solutions appropriate for their particular applications. It describes how to apply the risk assessment process according to ISO 12100 to AI machine learning applications.

AI machine learning is a rapidly evolving technology and has not been a subject of machinery safety until now.