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Information technology — JPEG AI learning-based image coding system —

Part 1: Core coding system

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This document was prepared by ITU-T (as ITU-T T.840.1) and drafted in accordance with its editorial rules, in collaboration with Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

A list of all parts in the ISO/IEC 6048 series can be found on the ISO and IEC websites.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html and www.iec.ch/national-committees.

INTERNATIONAL STANDARD ISO/IEC 6048-1
RECOMMENDATION ITU-T T.840.1

Information technology – JPEG AI learning-based image coding system: Core coding system

Summary

Recommendation ITU-T T.840.1 | ISO/IEC 6048-1 specifies an image coding technology known as *JPEG AI learning-based image coding (JPEG AI)* and it has been designed with multi-task goal. It facilitates the compression and processing of images for both human and machine vision. This Recommendation | International Standard describes the JPEG AI learning-based standard for the creation of an image from the parsed single-stream, which contains the compact compressed domain representation, targeting both human visualization, with significant compression efficiency improvement over image coding standards in common use at equivalent subjective quality, and effective performance for image processing and computer vision tasks.

Core coding system describes the JPEG AI standard for the human vision reconstruction task and thus specifies the parsing of the coded stream and the image reconstruction process.

The trainable model parameters, which are an integral part of this Recommendation | International Standard, are not contained in the Specification due to their size. Instead, the trained model parameters are available at: https://standards.iso.org/iso-iec/6048/-1/ed-1/en/ and https://www.itu.int/myworkspace/#/t-signals/vectors?val=40 (see subclause 18.2).

This Recommendation | International Standard was developed collaboratively with ISO/IEC JTC 1/SC 29, and corresponds with ISO/IEC 6048-1 as common text.

History *

Edition	Recommendation	Approval	Study Group	Unique ID
1.0	ITU-T T.840.1	2025-03-16	21	11.1002/1000/16265

Keywords

Coding, compression, decoding, human vision, image, machine vision, neural network.

* To access the Recommendation, type the URL https://handle.itu.int/ in the address field of your web browser, followed by the Recommendation's unique ID.

FOREWORD

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In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

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