

Recommendation

ITU-T F.743.22 (12/2022)

SERIES F: Non-telephone telecommunication services
Multimedia services

Requirements and architecture of an algorithm-training system for intelligent video surveillance

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Recommendation ITU-T F.743.22

Requirements and architecture of an algorithm-training system for intelligent video surveillance

Summary

Recommendation ITU-T F.743.22 specifies requirements and architecture for algorithm-training systems (ATSS) for intelligent video surveillance (IVS) and provides the algorithm-training workflow within it. The intelligent analysis algorithm in IVS needs to train a large amount of actual scene data to improve the accuracy and the recall of identification. The ATS can collect video and image data from the IVS, complete sample data selection and annotate data, as well as training and deploying algorithms in the IVS, so that the IVS has the reasoning capability of new scenarios and the ATS can continuously iteratively improve on algorithm identification performance. Recommendation ITU-T F.743.22 aims to solve the problems of difficult application of algorithm customization in various industries, long algorithm development and iteration cycle, and effective protection of user privacy and improvement of data security.

History

Edition	Recommendation	Approval	Study Group	Unique ID*
1.0	ITU-T F.743.22	2022-12-14	16	11.1002/1000/15187

Keywords

Algorithm-training system, architecture, intelligent video surveillance, requirement, workflow.

* To access the Recommendation, type the URL <http://handle.itu.int/> in the address field of your web browser, followed by the Recommendation's unique ID. For example, <http://handle.itu.int/11.1002/1000/11830-en>.

FOREWORD

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The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

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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Recommendation ITU-T F.743.22

Requirements and architecture of an algorithm-training system for intelligent video surveillance

1 Scope

This Recommendation specifies requirements and architecture for algorithm-training systems (ATSs) for intelligent video surveillance (IVS) and provides the algorithm-training workflow within it.

The scope of this Recommendation includes:

- an overview of ATS for IVS;
- requirements for ATS for IVS; and
- architecture and reference points of ATS for IVS.

2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

- [ITU-T H.222.0] Recommendation ITU-T H.222.0V8 (2021), *Information technology – Generic coding of moving pictures and associated audio information: Systems*.
- [ITU-T H.264] Recommendation ITU-T H.264V14 (2021), *Advanced video coding for generic audiovisual services*.
- [ITU-T H.265] Recommendation ITU-T H.265V8 (2021), *High efficiency video coding*.
- [ITU-T H.626] Recommendation ITU-T H.626V2 (2019), *Architecture requirements for video surveillance system*.
- [ITU-T H.626.5] Recommendation ITU-T H.626.5V2 (2022), *Architecture for intelligent video surveillance systems*.
- [ITU-T T.81] Recommendation ITU-T T.81 (1992), *Information technology – Digital compression and coding of continuous-tone still images – Requirements and guidelines*.
- [IETF RFC 3550] IETF RFC 3550 (2003), *RTP: A transport protocol for real-time applications*.
- [IETF RFC 4571] IETF RFC 4571 (2006), *Framing real-time transport protocol (RTP) and RTP control protocol (RTCP) packets over connection-oriented transport*.
- [IETF RFC 9110] IETF RFC 9110 (2022), *HTTP semantics*.
- [IETF RFC 9112] IETF RFC 9112 (2022), *HTTP/1.1*.

3 Definitions

3.1 Terms defined elsewhere

This Recommendation uses the following terms defined elsewhere: