SPCG/123
2022-08-19

SPCG – Standardization Programme Coordination Group

SPCG Recommendation
Ref.: SPCG-122: ITU TSAG (from ITU-T SG13) proposal for a new ITU-T Joint Coordination Activity on Machine Learning (JCA-ML)

The IEC SMB/ISO TMB/ITU-T TSAG Standardization Programme Coordination Group (SPCG) thanks ITU/TSAG for sharing the proposal from ITU-T SG13 for a new ITU-T Joint Coordination Activity on Machine Learning (JCA-ML).

SPCG has reviewed the content of the proposal and identified interest by both IEC and ISO in this proposal by:

- ISO/IEC JTC 1 "Information technology";
- ISO/IEC JTC 1/SC 42 "Artificial intelligence";
- ISO/TC37 "Language and terminology" have a computational dimension related to language, which seems inherent to machine learning, and who might have expertise or interest to the topic;
- IEC TC 62 "Electrical equipment in medical practice";
- IEC SMB ACSEC "Advisory Committee on Information security and data privacy";
- IEC SMB Strategic Group 11 "Hot Topic Radar";
- IEC SMB Strategic Group 12 "Digital transformation and Systems Approach" is working in the area of machine learning, test piloting and collecting use cases. They have established three Task Forces which are working in the area of machine learning.
  Task Force 1 Working more digitally which is working on developing a framework to work more digitally etc.,
  Task Force 2 which is focusing on producing more digital content is a developing a framework for machine interpretable standards etc., and
  Task Force 3 Semantic interoperability and information models.
- IEC/ISO SMART is a key programme of the ISO Strategy, and a key joint programme with IEC, who are actively involved to ensure alignment and a fruitful collaboration between our organizations.

Annex 2 further identifies various activities around machine learning.

The SPCG kindly requests TSAG to take into consideration the provided information, to include those groups identified in subsequent coordination activities and to ensure that the JCA monitors the work programmes of other SDO's to detect duplication and to use terms and definitions in a manner consistent with existing standardized definitions in this area; see Annex 2 with amended terms of reference in Objectives I.2 new 2, 3, and 4.

Considering that ITU's scope relates to telecommunications/ICTs, for coordination of activities on applications of machine learning that fall outside of this scope, consider a new group as a collaboration between relevant standards development organizations, with a

scope to include ALL applications of machine learning and its related standardization work rather than solely for telecommunications/ICTs.

Amanda Richardson
Chair of IEC/ISO/ITU Standardization Programme Coordination Group

Annex 1 – Terms of Reference for Joint Coordination Activity on Machine Learning (JCA-ML)

I.1 Scope

The scope of JCA-ML is the coordination of the ITU-T work programme on applications of machine learning and its related standardization work for telecommunications/ICTs. JCA-ML seeks cooperation and collaboration from external standards development organizations, consortia, forums, and academia studying ML applications and their relevant works. The JCA-ML operates under the terms of clause 5 (Joint coordination activities) of Recommendation ITU-T A.1.

I.2 Objectives

The objectives of JCA-ML are as follows:

1. The JCA-ML ensures that the ITU-T work programme on applications of machine learning and its related standardization work for telecommunications/ICTs is progressed in a well-coordinated manner among all ITU-T study groups and their relevant Questions.
2. JCA-ML monitors the work programmes of other SDO's to detect duplication and to use terms and definitions in a manner consistent with existing standardized definitions in this area.
3. Whenever duplication of effort or planning issues are discovered, the JCA-MLs reports this to the parent study group to **coordinate all activities** with other relevant ~~study~~ groups.
4. The JCA-ML considers and encourages possibilities of **cooperation and collaboration** on applications of machine learning with relevant groups such as ISO/IEC JTC 1, ISO/IEC JTC 1/SC 42, ISO/IEC JTC 1/SC 29, ISO/TC37, IEC TC 62, IEC SMB Advisory Committee on Information security and data privacy, IEC SMB Strategic Group 11, IEC SMB Strategic Group 12, IEEE, Khronos Group, W3C, etc. as well as open-source communities where ML applications experts eagerly participate and contribute.
5. The JCA-ML periodically reviews the roadmaps in ITU-T (e.g., Artificial Intelligence Standardization Roadmap [ITU-T Y.sup.aisr]) to collect relevant information of the on-going and published deliverables from ITU-T, other relevant standard development organizations, consortia and forums, including support to a gap analysis under its parent group.
6. The JCA-ML **considers the work of standards development organizations** consortia and forums for use in its coordination function and provides information on this work for use by the relevant study groups in their work.
7. To **facilitate internal coordination** within ITU-T, JCA-ML invites representatives of all ITU-T study groups and focus groups to its meetings.
8. To **foster external collaboration**, JCA-ML invites representatives from other relevant standards development organizations, regional/national organizations, consortia and forums to join the JCA.

I.3 Administrative support

ITU-T Telecommunications Standardization Bureau (TSB) provides the secretariat and facilities the operation of JCA-ML within its resource limits.

I.4 Meetings

The JCA-ML meets three times a year for considering timely updates and reports from different parties. JCA-ML will work electronically using teleconferences and with face-to-face

meetings as needed. Meetings will be held as determined by the JCA-ML and will be announced to its participants and on the ITU-T website. Online and face-to-face meetings will usually occur concurrently with its parent group, SG13, and between parent group SG13 meetings.

I.5 Parent group and progress reports

The JCA-ML reports its activities to the Study Group 13, a group responsible for the JCA, at its meetings. Progress reports and proposals will be sent to relevant study groups as necessary in accordance with Recommendation ITU-T A.1, clause 5.7.

I.6 Lifetime

The continuation or closure of JCA-ML is to be reviewed by the end of 2024 or it can be terminated by the parent group according to clause 5.10 of Recommendation ITU-T A.1.

Annex 2 – Published standards and current work under development

ISO/IEC JTC 1/SC 42 “Artificial intelligence”:

- ISO/IEC 23053:2022 Framework for Artificial Intelligence (AI) Systems Using Machine Learning (ML)
- ISO/IEC 24030, Information technology — Artificial intelligence — Use cases, was published. This is a first of its kind international technical report with a comprehensive set of over 130 AI use cases in a large variety of application domains.
- ISO/IEC 24668, Information technology — Artificial intelligence —Process management framework for Big data analytics, set target dates for publishing in the second half of 2022.
- ISO/IEC TR 5469, Artificial intelligence — Functional safety and AI systems, is ready for the next phase of commenting by national committees and IEC Technical Committee 65A, which covers systems aspects of industrial process measurement, control and automation.
- ISO/IEC Technical Specification 4213, Information technology — Artificial Intelligence — Assessment of machine learning classification performance, is ready to be submitted for Draft TS ballot.

STANDARD AND/OR PROJECT UNDER THE DIRECT RESPONSIBILITY OF ISO/IEC JTC 1/SC 42 SECRETARIAT(38):

- ISO/IEC PRF TS 4213 Information technology — Artificial intelligence — Assessment of machine learning classification performance
- ISO/IEC AWI 5259-1 Artificial intelligence — Data quality for analytics and machine learning (ML) — Part 1: Overview, terminology, and examples
- ISO/IEC AWI 5259-2 Artificial intelligence — Data quality for analytics and machine learning (ML) — Part 2: Data quality measures
- ISO/IEC AWI 5259-3Artificial intelligence — Data quality for analytics and machine learning (ML) — Part 3: Data quality management requirements and guidelines
- ISO/IEC AWI 5259-4 Artificial intelligence — Data quality for analytics and machine learning (ML) — Part 4: Data quality process framework20.00
- ISO/IEC AWI 5259-5 Artificial intelligence — Data quality for analytics and machine learning (ML) — Part 5: Data quality governance
- ISO/IEC CD 5338 Information technology — Artificial intelligence — AI system life cycle processes
- ISO/IEC CD 5339 Information Technology — Artificial Intelligence — Guidelines for AI applications
- ISO/IEC CD 5392 Information technology — Artificial intelligence — Reference architecture of knowledge engineering
- ISO/IEC DTR 5469 Artificial intelligence — Functional safety and AI systems
- ISO/IEC AWI TS 547 Artificial intelligence — Quality evaluation guidelines for AI systems
- ISO/IEC AWI TS 6254 Information technology — Artificial intelligence — Objectives and approaches for explainability of ML models and AI systems

- ISO/IEC DIS 8183 Information technology — Artificial intelligence — Data life cycle framework
- ISO/IEC AWI TS 8200 Information technology — Artificial intelligence — Controllability of automated artificial intelligence systems
- ISO/IEC AWI TS 12791 Information technology — Artificial intelligence — Treatment of unwanted bias in classification and regression machine learning tasks
- ISO/IEC AWI 12792 Information technology — Artificial intelligence — Transparency taxonomy of AI systems
- ISO/IEC AWI TR 17903 Information technology — Artificial intelligence — Overview of machine learning computing devices

Health sector (IEC TC 62)

- IEC 63450 ED1 Testing of Artificial Intelligence / Machine Learning-enabled Medical Device