

119TH CONGRESS
1ST SESSION

S. _____

To require the Director of the National Institute of Standards and Technology to develop voluntary guidelines and specifications for internal and external assurances of artificial intelligence systems, and for other purposes.

IN THE SENATE OF THE UNITED STATES

Mr. HICKENLOOPER (for himself and Mrs. CAPITO) introduced the following bill; which was read twice and referred to the Committee on

A BILL

To require the Director of the National Institute of Standards and Technology to develop voluntary guidelines and specifications for internal and external assurances of artificial intelligence systems, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Validation and Evalua-
5 tion for Trustworthy (VET) Artificial Intelligence Act” or
6 the “VET Artificial Intelligence Act”.

7 **SEC. 2. PURPOSES.**

8 The purposes of this Act are—

1 (1) to develop consensus-driven, evidence-based
2 voluntary technical guidelines and specifications for
3 internal and external assurances through the testing,
4 evaluation, validation, and verification of artificial
5 intelligence systems, as appropriate based on the in-
6 tended application, use-case, and risk profile of the
7 artificial intelligence system;

8 (2) to use meaningful assurance to supplement
9 methodologies used to build trust in artificial intel-
10 ligence systems, increase adoption of artificial intel-
11 ligence systems, and provide for accountability and
12 governance of artificial intelligence systems; and

13 (3) to further the goals of the Artificial Intel-
14 ligence Risk Management Framework, including any
15 successor framework, published by the National In-
16 stitute of Standards and Technology and the Artifi-
17 cial Intelligence Safety Institute pursuant to section
18 22A(c) of the National Institute of Standards and
19 Technology Act (15 U.S.C. 278h–1(c)).

20 **SEC. 3. DEFINITIONS.**

21 In this Act:

22 (1) **ARTIFICIAL INTELLIGENCE SYSTEM.**—The
23 term “artificial intelligence system” means a ma-
24 chine-based system that, for explicit or implicit ob-
25 jectives, infers, from the input the system receives,

1 how to generate outputs, such as predictions, con-
2 tent, recommendations, or decisions, that can influ-
3 ence physical or virtual environments.

4 (2) DEPLOYER.—The term “deployer” means
5 an entity that operates an artificial intelligence sys-
6 tem for internal use or for use by a third party.

7 (3) DEVELOPER.—The term “developer”—

8 (A) means an entity that builds, designs,
9 codes, produces, trains, or owns an artificial in-
10 telligence system for internal use or for use by
11 a third party; and

12 (B) does not include an entity that is sole-
13 ly a deployer of the artificial intelligence sys-
14 tem.

15 (4) DIRECTOR.—The term “Director” means
16 the Director of the National Institute of Standards
17 and Technology.

18 (5) EXTERNAL ARTIFICIAL INTELLIGENCE AS-
19 Surance.—The term “external artificial intelligence
20 assurance” means an independent and impartial
21 evaluation of an artificial intelligence system con-
22 ducted by a nonaffiliated third party in accordance
23 with the voluntary assurance technical guidelines
24 and specifications described in section 4 or con-

1 sensus-driven voluntary standards, for the purpose
2 of—

3 (A) verifying claims with respect to the
4 functionality and testing of the artificial intel-
5 ligence system, including verifying whether it is
6 fit for its intended purpose; or

7 (B) identifying any significant error or in-
8 consistency in the testing, risk management
9 processes, or internal governance, any substan-
10 tial vulnerability, or any negative societal im-
11 pact of the artificial intelligence system.

12 (6) INTERNAL ARTIFICIAL INTELLIGENCE AS-
13 SURANCE.—The term “internal artificial intelligence
14 assurance” means an independent evaluation of an
15 artificial intelligence system conducted by the party
16 being evaluated with an internal reporting structure
17 that encourages impartial evaluations and prevents
18 conflicts of interest, for the purpose of—

19 (A) verifying claims with respect to the
20 functionality and testing of the artificial intel-
21 ligence system, including verifying whether it is
22 fit for its intended purpose; or

23 (B) identifying any significant error or in-
24 consistency in the testing, risk management
25 process, or internal governance or any substan-

1 tial vulnerability of the artificial intelligence
2 system.

(7) NONAFFILIATED THIRD PARTY.—The term “nonaffiliated third party” with respect to the evaluation of an artificial intelligence system, means a person who—

(A) is not related by common ownership or affiliated by common corporate control with the developer or deployer of the artificial intelligence system;

(B) can demonstrate financial independence from the developer or deployer of the artificial intelligence system;

(C) does not employ any individual, who is also employed by the developer or deployer of the artificial intelligence system; and

(D) is a qualified evaluator of artificial intelligence systems, with—

19 (i) demonstrated expertise in relevant
20 technical domains, including—

21 (I) data privacy and security
22 principles; and

(II) risk management practices in artificial intelligence systems; and

1 (ii) familiarity with the relevant de-
2 tails regarding the type of artificial intel-
3 ligence system being evaluated.

4 (8) SECRETARY.—The term “Secretary” means
5 the Secretary of Commerce.

6 **SEC. 4. VOLUNTARY ASSURANCE TECHNICAL GUIDELINES**
7 **AND SPECIFICATIONS FOR ARTIFICIAL IN-**
8 **TELLIGENCE SYSTEMS.**

9 (a) VOLUNTARY TECHNICAL GUIDELINES AND SPEC-
10 IFICATIONS FOR ASSURANCE.—Not later than 1 year after
11 the date of the enactment of this Act, the Director, in col-
12 laboration with public and private sector organizations, in-
13 cluding the National Science Foundation and the Depart-
14 ment of Energy, shall develop and, not less frequently
15 than every 2 years, shall review and update as the Director
16 considers appropriate, a set of voluntary technical guide-
17 lines and specifications for internal artificial intelligence
18 assurance and external artificial intelligence assurance.

19 (b) CONTENTS.—The technical guidelines and speci-
20 fications required by subsection (a) shall—

21 (1) identify consensus-driven, voluntary stand-
22 ards for internal artificial intelligence assurance and
23 external artificial intelligence assurance that ad-
24 dress—

25 (A) safeguards for consumer privacy;

1 (B) methods to assess and mitigate harms
2 to individuals by artificial intelligence systems;

3 (C) dataset quality;

4 (D) documentation, disclosure, and prove-
5 nance communications to external parties; and

6 (E) governance and process controls;

7 (2) provide technical guidelines, best practices,
8 methodologies, procedures, and processes, as appro-
9 priate, for internal artificial intelligence assurance
10 and external artificial intelligence assurance that ef-
11 fectively address the elements listed in paragraph
12 (1);

13 (3) establish common definitions and character-
14 izations for testing, evaluating, verifying, and vali-
15 dating methods for internal artificial intelligence as-
16 surance and external artificial intelligence assurance;

17 (4) recommend criteria or approaches for a de-
18 veloper or deployer to determine the frequency and
19 circumstances under which internal artificial intel-
20 ligence assurance and external artificial intelligence
21 assurance activities should be conducted, accounting
22 for the relevant risk and use-case profile of the arti-
23 ficial intelligence system, and any additional cir-
24 cumstance under which an assurance should be con-
25 ducted;

1 (5) recommend criteria or approaches for a de-
2 veloper or deployer to determine the scope of inter-
3 nal artificial intelligence assurance and external arti-
4 ficial intelligence assurance conducted through test-
5 ing and evaluating, accounting for the relevant risk
6 and use-case profile of the artificial intelligence sys-
7 tem, including the minimum information or technical
8 resources that should be provided to the party con-
9 ducting the assurance to enable assurance activities;

10 (6) provide guidance for the manner in which a
11 developer or deployer may disclose, as appropriate,
12 the results of an internal or external assurance or
13 carry out corrective actions with respect to an artifi-
14 cial intelligence system following the completion of
15 an internal or external assurance of such system,
16 and guidance on the manner in which a developer or
17 deployer may properly document any corrective ac-
18 tion taken;

19 (7) align with the voluntary consensus stand-
20 ards, including international standards, identified
21 pursuant to paragraph (1) to the fullest extent pos-
22 sible;

23 (8) incorporate the relevant voluntary consensus
24 standards identified pursuant to paragraph (1) and
25 industry best practices to the fullest extent possible;

1 (9) not prescribe or otherwise require—

2 (A) the use of any specific solution; or

3 (B) the use of any specific information or
4 any communications technology product or serv-
5 ice; and

6 (10) recommend methods to protect the con-
7 fidentiality of sensitive information, including per-
8 sonal data and proprietary knowledge of an artificial
9 intelligence system, that may be obtained during the
10 assurance process.

11 (c) STAKEHOLDER OUTREACH.—In developing the
12 voluntary technical guidelines and specifications required
13 by subsection (a), the Director shall—

14 (1) solicit public comment on at least 1 draft of
15 the technical guidelines and specifications, and pro-
16 vide a reasonable period of not less than 30 days for
17 the submission of comments by interested stake-
18 holders;

19 (2) make each complete draft of the voluntary
20 technical guidelines and specifications developed
21 under subsection (a) available to the public on the
22 website of the National Institute of Standards and
23 Technology; and

24 (3) convene workshops, roundtables, and other
25 public forums, as the Director considers appropriate,

1 to consult with relevant stakeholders in industry,
2 academia, civil society, consumer advocacy, work-
3 force development organizations, labor organizations,
4 conformance assessment bodies, and any other sec-
5 tor the Director considers appropriate, on the devel-
6 opment of the voluntary technical guidelines and
7 specifications.

8 (d) PUBLICATION.—The Director shall publish the
9 voluntary technical guidelines and specifications required
10 by subsection (a) as a standalone framework or document
11 available to the public on the website of the National Insti-
12 tute of Standards and Technology.

13 **SEC. 5. QUALIFICATIONS ADVISORY COMMITTEE.**

14 (a) ADVISORY COMMITTEE.—Not later than 90 days
15 after the date on which the Director publishes the vol-
16 untary technical guidelines and specifications required
17 under section 4(a), the Secretary shall establish the Artifi-
18 cial Intelligence Assurance Qualifications Advisory Com-
19 mittee (referred to in this section as the “Advisory Com-
20 mittee”).

21 (b) MEMBERSHIP.—The Secretary shall appoint to
22 the Advisory Committee not more than 20 individuals with
23 expertise relating to artificial intelligence systems, includ-
24 ing at least 1 representative from each of the following:

25 (1) Institutions of higher education.

1 (2) Organizations developing artificial intel-
2 ligence systems.

3 (3) Organizations deploying artificial intel-
4 ligence systems.

5 (4) Organizations assessing artificial intel-
6 ligence systems.

7 (5) Consumers or consumer advocacy groups.

8 (6) Public health organizations.

9 (7) Public safety organizations.

10 (8) Civil rights organizations.

11 (9) Professional accreditation organizations.

12 (10) Workforce development organizations.

13 (11) Labor organizations.

14 (12) Nonprofit assurance professional organiza-
15 tions.

16 (c) DUTIES.—The Advisory Committee shall—

17 (1) review and assess case studies from entities
18 that provide licensure, certification, or accreditation
19 to independent organizations with a primary mission
20 of verifying compliance with applicable statutes, reg-
21 ulations, standards, or guidelines; and

22 (2) determine the applicability of the case stud-
23 ies reviewed and assessed under paragraph (1) to
24 the development, maintenance, and use of artificial

1 intelligence systems for the purpose of developing
2 recommendations under subsection (d).

3 (d) RECOMMENDATIONS.—Not later than 1 year
4 after the date on which the Secretary establishes the Advi-
5 sory Committee under this section, the Advisory Com-
6 mittee shall submit to the Secretary and Congress and
7 make publicly available a report that includes rec-
8 ommendations for the Secretary to consider regarding—

9 (1) the qualifications, expertise, professional li-
10 censing, independence, and accountability that a
11 party conducting an assurance of an artificial intel-
12 ligence system should have, including with respect to
13 the type of artificial intelligence system under eval-
14 uation and the internal and external assurance proc-
15 esses; and

16 (2) whether accreditation for internal artificial
17 intelligence assurance and external artificial intel-
18 ligence assurance can be met through a combination
19 of existing licensure, certification, or accreditation
20 programs.

21 (e) TERMINATION.—The Advisory Committee shall
22 terminate not later than 1 year after the date on which
23 the Advisory Committee submits the recommendations re-
24 quired under subsection (d).

1 **SEC. 6. STUDY AND REPORT ON ENTITIES THAT CONDUCT**
2 **ASSURANCES OF ARTIFICIAL INTELLIGENCE**
3 **SYSTEMS.**

4 (a) STUDY.—Not later than 90 days after the date
5 on which the Director publishes the voluntary technical
6 guidelines and specifications required under section 4(a),
7 the Secretary shall commence a study to evaluate the ca-
8 pabilities of the sector of entities that conduct internal ar-
9 tificial intelligence assurances and external artificial intel-
10 ligence assurances.

11 (b) CONSIDERATIONS.—In carrying out the study re-
12 quired by subsection (a), the Secretary shall—

13 (1) assess the capabilities of the sector of enti-
14 ties described in subsection (a) with respect to per-
15 sonnel, technical tools, evaluation methods, com-
16 puting infrastructure, and physical infrastructure
17 and whether such capabilities are adequate for pro-
18 viding internal artificial intelligence assurances or
19 external artificial intelligence assurances that com-
20 port with the voluntary technical guidelines and
21 specifications required under section 4(a);

22 (2) review the features, best practices, and safe-
23 guards employed by such entities to maintain the in-
24 tegrity of confidential or proprietary information of
25 a developer or deployer during an internal artificial

1 intelligence assurance or an external artificial intel-
2 ligence assurance;

3 (3) assess the market demand for internal arti-
4 ficial intelligence assurances and external artificial
5 intelligence assurances and the availability of such
6 assurers; and

7 (4) assess the feasibility of leveraging an exist-
8 ing facility accredited by the Director under the Na-
9 tional Voluntary Laboratory Accreditation Program
10 established under part 285 of title 15, Code of Fed-
11 eral Regulations, to conduct external assurances of
12 artificial intelligence systems.

13 (c) REPORT.—Not later than 1 year after the date
14 on which the Secretary commences the study required by
15 subsection (a), the Secretary shall submit to the appro-
16 priate committees of Congress and the head of any Fed-
17 eral agency that the Secretary considers relevant, a report
18 that contains the results of the study required by sub-
19 section (a), including—

20 (1) recommendations for improving the capa-
21 bilities and the availability of the entities assessed in
22 the study;

23 (2) descriptions of the features, best practices,
24 and safeguards of the entities studied and the effec-
25 tiveness of such features, practices, or safeguards at

1 implementing the voluntary technical guidelines and
2 specifications required under section 4(a) and at
3 maintaining the integrity of confidential and propri-
4 etary information, as described under subsection
5 (b)(2); and

6 (3) any conclusions drawn from the assessment
7 of the facilities described in subsection (b)(4).

8 (d) APPROPRIATE COMMITTEES OF CONGRESS DE-
9 FINED.—In this section, the term the “appropriate com-
10 mittees of Congress” means—

11 (1) the Committee of Commerce, Science, and
12 Transportation of the Senate; and

13 (2) the Committee on Science, Space, and
14 Technology of the House of Representatives.