

AMENDMENT NO. _____ Calendar No. _____

Purpose: In the nature of a substitute.

IN THE SENATE OF THE UNITED STATES—118th Cong., 2d Sess.

S. 4394

To support National Science Foundation education and professional development relating to artificial intelligence.

Referred to the Committee on _____ and ordered to be printed

Ordered to lie on the table and to be printed

AMENDMENT IN THE NATURE OF A SUBSTITUTE intended to be proposed by Ms. CANTWELL (for herself and Mr. MORAN)

Viz:

1 Strike all after the enacting clause and insert the following:
2

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “NSF AI Education
5 Act of 2024”.

6 **SEC. 2. DEFINITIONS.**

7 In this Act:

8 (1) ESEA TERMS.—The terms “educational
9 service agency”, “elementary school”, “high school”,
10 “local educational agency”, “secondary school”,
11 “State educational agency”, and “universal design

1 for learning” have the meaning given those terms in
2 section 8101 of the Elementary and Secondary Edu-
3 cation Act of 1965 (20 U.S.C. 7801).

4 (2) ARTIFICIAL INTELLIGENCE; AI.—The term
5 “artificial intelligence” or “AI” has the meaning
6 given such term in section 5002 of the William M.
7 (Mac) Thornberry National Defense Authorization
8 Act for Fiscal Year 2021 (15 U.S.C. 9401).

9 (3) COMMUNITY COLLEGE.—The term “commu-
10 nity college” means—

11 (A) an institution that is a junior or com-
12 munity college, as such term is defined in sec-
13 tion 312(f) of the Higher Education Act of
14 1965 (20 U.S.C. 1058(f));

15 (B) a degree-granting public institution of
16 higher education at which—

17 (i) the highest degree awarded is an
18 associate degree; or

19 (ii) an associate degree is the most
20 frequently awarded degree;

21 (C) an eligible Tribal College or University;

22 or

23 (D) a branch campus of a four-year public
24 institution of higher education, if, at such
25 branch campus—

1 (i) the highest degree awarded is an
2 associate degree; or

3 (ii) an associate degree is the most
4 frequently awarded degree.

5 (4) DIRECTOR.—The term “Director” means
6 the Director of the National Science Foundation.

7 (5) EMERGING RESEARCH INSTITUTION.—The
8 term “emerging research institution” has the mean-
9 ing given the term in section 10002 of the Research
10 and Development, Competition, and Innovation Act
11 (42 U.S.C. 18901).

12 (6) EPSCoR INSTITUTION.—The term
13 “EPSCoR institution” means an institution of high-
14 er education, nonprofit organization, or other insti-
15 tution located in a jurisdiction eligible to participate
16 in the Established Program to Stimulate Competi-
17 tive Research under section 113 of the National
18 Science Foundation Authorization Act of 1988 (42
19 U.S.C. 1862g).

20 (7) FOREIGN COUNTRY OF CONCERN.—The
21 term “foreign country of concern” means a country
22 that is a covered nation, as defined in section
23 4872(d) of title 10, United States Code.

24 (8) FOREIGN ENTITY OF CONCERN.—The term
25 “foreign entity of concern” has the meaning given

1 the term in section 10612 of the Research and De-
2 velopment, Competition, and Innovation Act (42
3 U.S.C. 19221).

4 (9) HISTORICALLY BLACK COLLEGE AND UNI-
5 VERSITY.—The term “historically Black college and
6 university” has the meaning given the term “part B
7 institution” in section 322 of the Higher Education
8 Act of 1965 (20 U.S.C. 1061).

9 (10) INSTITUTION OF HIGHER EDUCATION.—
10 The term “institution of higher education” has the
11 meaning given the term in section 101(a) of the
12 Higher Education Act of 1965 (20 U.S.C. 1001(a)).

13 (11) KEY EMERGING TECHNOLOGIES.—The
14 term “key emerging technologies” means the tech-
15 nologies included in the initial list of key technology
16 focus areas set forth by section 10387(e) of the Re-
17 search and Development, Competition, and Innova-
18 tion Act (42 U.S.C. 19107(e)), photonics, and elec-
19 tronics.

20 (12) LABOR ORGANIZATION.—The term “labor
21 organization” has the meaning given the term in
22 section 2(5) of the National Labor Relations Act (29
23 U.S.C. 152(5)).

24 (13) MINORITY-SERVING INSTITUTION.—The
25 term “minority-serving institution” means an insti-

1 tution defined in any of paragraphs (1) through (7)
2 of section 371(a) of the Higher Education Act of
3 1965 (20 U.S.C. 7801).

4 (14) NATIONAL LABORATORY.—The term “Na-
5 tional Laboratory” has the meaning given that term
6 in section 2 of the Energy Policy Act of 2005 (42
7 U.S.C. 15801).

8 (15) NONPROFIT ORGANIZATION.—The term
9 “nonprofit organization” means an organization
10 which is described in section 501(c)(3) of the Inter-
11 nal Revenue Code of 1986 and exempt from tax
12 under section 501(a) of such Code.

13 (16) QUANTUM HYBRID COMPUTING.—The
14 term “quantum hybrid computing” means the use of
15 quantum computing in conjunction with classical
16 computing.

17 (17) QUANTUM INFORMATION SCIENCE.—The
18 term “quantum information science” means the use
19 of the laws of quantum physics for the storage,
20 transmission, manipulation, computing, or measure-
21 ment of information.

22 (18) RURAL-LOCATED INSTITUTION OF HIGHER
23 EDUCATION.—The term “rural-located institution of
24 higher education” means an institution of higher

1 education that is located in or near areas that are
2 not classified as urban by the Census Bureau.

3 (19) RURAL-SERVING INSTITUTION OF HIGHER
4 EDUCATION.—The term “rural-serving institution of
5 higher education” means an institution of higher
6 education that—

7 (A) primarily serves areas that are not
8 classified as urban by the Census Bureau; and

9 (B) offers degrees that are unique and
10 helpful to rural regions that are not classified
11 as urban by the Census Bureau.

12 (20) STEM.—The term “STEM” means
13 science, technology, engineering, and mathematics,
14 including computer science.

15 (21) TRIBAL COLLEGE OR UNIVERSITY.—The
16 term “Tribal College or University” has the meaning
17 given the term in section 316(b) of the Higher Edu-
18 cation Act of 1965 (20 U.S.C. 1059c(b)).

19 **SEC. 3. UNDERGRADUATE SCHOLARSHIPS FOR ARTIFICIAL**
20 **INTELLIGENCE EDUCATION.**

21 (a) SCHOLARSHIPS RELATED TO AI OR QUANTUM
22 HYBRID COMPUTING.—

23 (1) IN GENERAL.—Subject to section 15, the
24 Director shall award merit- or need-based scholar-
25 ships to undergraduate students at institutions of

1 higher education in order to enable such students to
2 study—

3 (A) the development, deployment, integra-
4 tion, or application of artificial intelligence; or

5 (B) quantum hybrid computing.

6 (2) SCHOLARSHIPS.—Scholarships awarded
7 under paragraph (1) shall be in the form of annual
8 grant awards for not more than a 4-year period in
9 amounts that cover the cost of tuition, education-re-
10 lated fees, and a stipend. Such scholarships shall be
11 paid directly to the institution of higher education in
12 which the student is enrolled.

13 (b) SCHOLARSHIPS RELATED TO AI AND AGRI-
14 CULTURE.—

15 (1) IN GENERAL.—Subject to section 15, the
16 Director shall award merit- or need-based scholar-
17 ships to undergraduate students at institutions of
18 higher education in order to enable such students to
19 study—

20 (A) artificial intelligence and agriculture;

21 or

22 (B) the integration of artificial intelligence
23 into agricultural operations, prediction, and de-
24 cisionmaking.

1 (2) PRIORITY.—In awarding scholarships under
2 this subsection, the Director shall give preference to
3 students who are attending rural-located institutions
4 of higher education, rural-serving institutions of
5 higher education, Tribal Colleges or Universities, or
6 minority-serving institutions (including historically
7 Black colleges and universities).

8 (3) SCHOLARSHIPS.—Scholarships awarded
9 under paragraph (1) shall be in the form of annual
10 grant awards for not more than a 4-year period in
11 amounts that cover the cost of tuition, education-re-
12 lated fees, and a stipend. Such scholarships shall be
13 paid directly to the institution of higher education in
14 which the student is enrolled.

15 (c) SCHOLARSHIPS RELATED TO AI AND EDU-
16 CATION.—

17 (1) IN GENERAL.—Subject to section 15, the
18 Director shall award merit- or need-based scholar-
19 ships to undergraduate students at institutions of
20 higher education in order to enable such students to
21 study the teaching of artificial intelligence and artifi-
22 cial intelligence skills at elementary schools, sec-
23 ondary schools, career and technical education
24 schools, institutions of higher education, or through

1 other higher education and professional education
2 programs.

3 (2) SCHOLARSHIPS.—Scholarships awarded
4 under paragraph (1) shall be in the form of annual
5 grant awards for not more than a 4-year period that
6 cover the cost of tuition, education-related fees, and
7 a stipend. Such scholarships shall be paid directly to
8 the institution of higher education in which the stu-
9 dent is enrolled.

10 (d) SCHOLARSHIPS RELATED TO AI AND ADVANCED
11 MANUFACTURING.—

12 (1) IN GENERAL.—Subject to section 15, the
13 Director shall award merit- or need-based scholar-
14 ships to undergraduate students at institutions of
15 higher education in order to enable such students to
16 study—

17 (A) artificial intelligence and advanced
18 manufacturing; or

19 (B) the integration of artificial intelligence
20 into advanced manufacturing operations.

21 (2) SCHOLARSHIPS.—Scholarships awarded
22 under paragraph (1) shall be in the form of annual
23 grant awards for a 4-year period that cover the cost
24 of tuition, education-related fees, and a stipend.
25 Such scholarships shall be paid directly to the insti-

1 tution of higher education in which the student is
2 enrolled.

3 (e) METHOD.—The Director may carry out this sec-
4 tion by making awards through new or existing programs.

5 **SEC. 4. GRADUATE SCHOLARSHIPS FOR ARTIFICIAL INTEL-**
6 **LIGENCE EDUCATION.**

7 (a) GRADUATE SCHOLARSHIPS RELATED TO AI OR
8 QUANTUM HYBRID COMPUTING.—Subject to section 15,
9 the Director shall award merit- or need-based scholarships
10 to graduate students at institutions of higher education
11 in order to enable such students to study—

12 (1) the development, deployment, integration,
13 or application of artificial intelligence; or

14 (2) quantum hybrid computing.

15 (b) SCHOLARSHIPS RELATED TO AI AND AGRI-
16 CULTURE.—

17 (1) IN GENERAL.—Subject to section 15, the
18 Director shall award merit- or need-based scholar-
19 ships to graduate students at institutions of higher
20 education in order to enable such students to
21 study—

22 (A) artificial intelligence and agriculture;

23 or

1 (B) the integration of artificial intelligence
2 into agricultural operations, prediction, and de-
3 cisionmaking.

4 (2) PRIORITY.—In awarding scholarships under
5 this subsection, the Director shall give preference to
6 students who are attending rural-located institutions
7 of higher education, rural-serving institutions of
8 higher education, Tribal Colleges or Universities, or
9 minority-serving institutions (including historically
10 Black colleges and universities).

11 (c) GRADUATE SCHOLARSHIPS RELATED TO AI AND
12 EDUCATION.—Subject to section 15, the Director shall
13 award merit- or need-based scholarships to graduate stu-
14 dents at institutions of higher education in order to enable
15 such students to study the teaching of artificial intel-
16 ligence and artificial intelligence skills at elementary
17 schools, secondary schools, career and technical education
18 schools, institutions of higher education, or through other
19 higher education and professional education programs.

20 (d) GRADUATE SCHOLARSHIPS RELATED TO AI AND
21 ADVANCED MANUFACTURING.—Subject to section 15, the
22 Director shall award merit- or need-based scholarships to
23 graduate students at institutions of higher education in
24 order to enable such students to study—

1 (1) artificial intelligence and advanced manu-
2 facturing; or

3 (2) the integration of artificial intelligence into
4 advanced manufacturing operations.

5 (e) SCHOLARSHIPS.—Scholarships awarded under
6 this section shall be in the form of annual grant awards
7 for not more than a 3-year period that cover the cost of
8 tuition, education-related fees, and a stipend. Such schol-
9 arships shall be paid directly to the institution of higher
10 education in which the student is enrolled.

11 (f) METHOD.—The Director may carry out this sec-
12 tion by making awards through new or existing programs.

13 **SEC. 5. NSF ARTIFICIAL INTELLIGENCE PROFESSIONAL DE-**
14 **VELOPMENT FELLOWSHIPS.**

15 (a) IN GENERAL.—Subject to section 15, the Direc-
16 tor shall establish a program to promote the exchange of
17 ideas and encourage collaborations between institutions of
18 higher education and industry partners in the fields of ar-
19 tificial intelligence and key emerging technologies, includ-
20 ing through fellowships for students, teachers, faculty at
21 institutions of higher education, and industry profes-
22 sionals.

23 (b) FELLOWSHIPS.—

24 (1) IN GENERAL.—The Director shall award
25 merit-based fellowships for professionals for profes-

1 sional development programs in STEM fields or the
2 field of education that are administered by or affili-
3 ated with institutions of higher education, in order
4 to enable fellowship recipients to attain skills or
5 training in AI-related subjects, including—

6 (A) the development, deployment, integra-
7 tion, or application of artificial intelligence;

8 (B) prompt engineering; or

9 (C) quantum hybrid computing.

10 (2) FELLOWSHIP AWARDS.—Awards under this
11 subsection shall be in the form of one annual award
12 that covers the cost of tuition, education-related
13 fees, and a stipend. Such awards shall be paid di-
14 rectly to the institution of higher education that ad-
15 ministers, or that is affiliated with, the program in
16 which the fellowship recipient is participating.

17 (c) APPLICATION.—An applicant for a fellowship
18 under this section shall submit to the Director an applica-
19 tion at such time, in such manner, and containing such
20 information as the Director may require. The Director
21 shall set minimum standards for participation in the fel-
22 lowship program established under this section.

23 (d) METHOD.—The Director may carry out this sec-
24 tion through new or existing programs.

1 **SEC. 6. ARTIFICIAL INTELLIGENCE TRAINING FOR LAND-**
2 **GRANT COLLEGES AND UNIVERSITIES.**

3 (a) IN GENERAL.—Subject to section 15, the Sec-
4 retary of Agriculture, acting through the Director of the
5 National Institute of Food and Agriculture, in collabora-
6 tion with the Director of the National Science Foundation,
7 shall award grants to land-grant colleges and universities
8 (as defined in section 1404 of the National Agricultural
9 Research, Extension, and Teaching Policy Act of 1977 (7
10 U.S.C. 3103)) for artificial intelligence in agriculture.

11 (b) USE OF FUNDS.—A grant awarded under this
12 section may be used for—

13 (1) research and development on the use of ar-
14 tificial intelligence in agriculture or the integration
15 of artificial intelligence into agricultural operations,
16 predictions, and decision making;

17 (2) the dissemination of educational resources
18 for artificial intelligence in rural areas; and

19 (3) acquisition and deployment of artificial in-
20 telligence tools for agriculture.

21 (c) METHOD.—The Director may carry out this sec-
22 tion through new or existing programs.

23 **SEC. 7. QUANTUM FELLOWSHIPS AND SCHOLARSHIPS.**

24 (a) IN GENERAL.—The Director may establish or use
25 existing programs to support fellowships and scholarships

1 for students at institutions of higher education for the
2 purpose of—

3 (1) increasing quantum information science, en-
4 gineering, and technology exposure for under-
5 graduate and graduate STEM students; and

6 (2) increasing post-graduation employment op-
7 portunities for STEM students who demonstrate in-
8 terest in pursuing careers in quantum information
9 science, engineering, and technology, or fields that
10 support the quantum industry.

11 (b) REQUIREMENT.—Eligible participants in the fel-
12 lowship and scholarship program shall be enrolled in or
13 have graduated from a STEM degree program at an insti-
14 tution of higher education.

15 (c) CONSIDERATIONS.—Eligible fellowships and
16 scholarships may include temporary quantum-related posi-
17 tions at State or Federal agencies, National Laboratories,
18 private sector entities, institutions of higher education, or
19 other quantum-relevant entities, as determined appro-
20 priate by the Director.

21 (d) COMPETITIVE AWARDS.—Fellowships and schol-
22 arships shall be competitively awarded through a merit-
23 review process. The Director may prioritize fellowships
24 that include an industry partner that provides financial
25 assistance to the applicant for direct or indirect costs.

1 (e) FELLOWS IN FEDERAL AGENCIES SUBJECT TO
2 OMB ETHICS REQUIREMENTS.—An individual partici-
3 pating in a fellowship with an assignment at a Federal
4 agency shall be subject to the ethics requirements pre-
5 scribed by the Director of the Office of Management and
6 Budget that apply to an employee of such agency.

7 (f) METHOD.—The Director may carry out this sec-
8 tion through new or existing programs.

9 **SEC. 8. NSF OUTREACH CAMPAIGN.**

10 (a) IN GENERAL.—Subject to section 15, the Direc-
11 tor shall carry out a nationwide outreach campaign to stu-
12 dents, teachers, principals, and other school leaders at ele-
13 mentary schools, secondary schools, career and technical
14 education schools, institutions of higher education, or
15 through other higher education and professional education
16 programs to increase awareness about AI or quantum edu-
17 cation opportunities at the National Science Foundation.

18 (b) PRIORITY.—In carrying out such campaign, the
19 Director shall prioritize outreach to underserved and rural
20 areas.

21 (c) METHOD.—The Director may carry out this sec-
22 tion through new or existing programs.

23 **SEC. 9. COMMUNITY COLLEGE AND VOCATIONAL SCHOOL**
24 **CENTERS OF AI EXCELLENCE.**

25 (a) DEFINITIONS.—In this section:

1 (1) AREA CAREER AND TECHNICAL EDUCATION
2 SCHOOL.—The term “area career and technical edu-
3 cation school” has the meaning given the term in
4 section 3 of the Carl D. Perkins Career and Tech-
5 nical Education Act of 2006 (20 U.S.C. 2302).

6 (2) ELIGIBLE APPLICANT.—The term “eligible
7 applicant” means a community college, vocational
8 school, or area career and technical education school
9 in partnership with 1 or more of the following:

10 (A) A Federal, State, local, or Tribal gov-
11 ernment entity.

12 (B) An institution of higher education.

13 (C) An entity in private industry.

14 (D) An economic development organization
15 or venture development organization.

16 (E) A labor organization.

17 (F) A nonprofit organization.

18 (3) VENTURE DEVELOPMENT ORGANIZATION.—
19 The term “venture development organization” has
20 the meaning given the term in section 27(a) of the
21 Stevenson-Wydler Act of 1980 (15 U.S.C. 3722(a)).

22 (4) VOCATIONAL SCHOOL.—The term “voca-
23 tional school” has the meaning given the term “post-
24 secondary vocational institution” in section 102(c) of

1 the Higher Education Act of 1965 (20 U.S.C.
2 1002(e)).

3 (b) ESTABLISHMENT OF CENTERS OF AI EXCEL-
4 LENCE.—Subject to section 15, the Director, in coordina-
5 tion with the Regional Technology Hubs program at the
6 Department of Commerce and the Regional Innovation
7 Engines program at the National Science Foundation,
8 shall choose not less than 5 regionally and geographically
9 diverse eligible applicants to be designated as Community
10 College and Vocational School Centers of AI Excellence
11 (referred to in this section as “Centers of AI Excellence”).

12 (c) EPSCoR STATE PARTICIPATION.—Not less than
13 20 percent of designated Community College and Voca-
14 tional School Centers of AI Excellence shall be eligible ap-
15 plicants that are located in a State jurisdiction eligible to
16 participate in the National Science Foundation’s Estab-
17 lished Program to Stimulate Competitive Research under
18 section 113 of the National Science Foundation Author-
19 ization Act of 1988 (42 U.S.C. 1862g).

20 (d) APPLICATION.—An eligible applicant that desires
21 to be designated as a Center of AI Excellence shall submit
22 an application to the Director at such time, in such man-
23 ner, and containing such information as the Director may
24 reasonably require. Such application shall specify a focus

1 area or areas for the Center of AI Excellence, which may
2 be any of the following:

3 (1) AI education and training related to agri-
4 culture.

5 (2) AI education and training related to manu-
6 facturing.

7 (3) AI education and training related to appli-
8 cations of AI-based technology and AI literacy.

9 (4) AI education and training related to an-
10 other focus area as specified by the eligible appli-
11 cant.

12 (e) ACTIVITIES.—A designated Center of AI Excel-
13 lence shall develop and disseminate information about best
14 practices for—

15 (1) artificial intelligence research and education
16 at community colleges and area career and technical
17 education schools;

18 (2) methods to scale up successful programs
19 that perform research or provide education on artifi-
20 cial intelligence at community colleges and area ca-
21 reer and technical education schools;

22 (3) providing hands-on research opportunities
23 on artificial intelligence and learning opportunities
24 for students that are enabled through artificial intel-
25 ligence; and

1 (4) identifying pathways to employment for stu-
2 dents that are enabled by artificial intelligence.

3 (f) PERFORMANCE MEASUREMENT, TRANSPARENCY,
4 AND ACCOUNTABILITY.—

5 (1) METRICS, STANDARDS AND ASSESSMENT.—

6 The Director, in coordination with the Regional
7 Technology Hubs program at the Department of
8 Commerce and the Regional Innovation Engines pro-
9 gram at the National Science Foundation, shall de-
10 velop metrics to assess, and shall assess, the effec-
11 tiveness of each designated Center of AI Excellence
12 in carrying out the activities described in subsection
13 (e).

14 (2) FINAL REPORTS BY RECIPIENTS OF STRAT-
15 EGY IMPLEMENTATION GRANTS AND COOPERATIVE
16 AGREEMENTS.—The Secretary shall require each
17 Center of AI Excellence designated under this sec-
18 tion to submit to the Secretary a report on the ac-
19 tivities of the Center of AI Excellence that are sup-
20 ported by Federal funds or Federal cooperative
21 agreements.

22 (g) ANNUAL REPORTS TO CONGRESS.—Not less fre-
23 quently than once each year, the Director shall submit to
24 the appropriate committees of Congress an annual report
25 on the results of the assessments conducted by the Direc-

1 tor under paragraph (1) during the period covered by the
2 report.

3 (h) METHOD.—The Director may carry out this sec-
4 tion through new or existing programs.

5 (i) SUNSET.—The section shall cease to be effective,
6 and the activities authorized under this section shall ter-
7minate on the date that is 7 years after the date of enact-
8ment of this Act.

9 **SEC. 10. AWARD PROGRAM FOR RESEARCH ON AI IN EDU-**
10 **CATION.**

11 (a) ELIGIBLE ENTITY.—In this section, the term “el-
12igible entity” means—

13 (1) an institution of higher education;

14 (2) a nonprofit organization; or

15 (3) a consortium of 1 or more institution of
16 higher education or a nonprofit organization and 1
17 or more private entities.

18 (b) PROGRAM AUTHORIZED.—

19 (1) IN GENERAL.—Subject to section 15, the
20 Director shall make awards, on a competitive, merit-
21 reviewed basis, to eligible entities, to enable the eligi-
22 ble entities to promote research on teaching models,
23 tools, and materials for artificial intelligence and in-
24tegration with other key emerging technologies, such
25 as quantum information science and technologies

1 and photonics, with a focus on teaching and learning
2 for elementary school and secondary school students
3 who are from low-income, rural, or Tribal popu-
4 lations.

5 (2) METHOD.—The Director may carry out this
6 section by making awards through new or existing
7 programs.

8 (c) APPLICATION.—

9 (1) IN GENERAL.—An eligible entity that de-
10 sires to receive an award under this section shall
11 submit an application to the Director at such time,
12 in such manner, and containing such information as
13 the Director may require.

14 (2) CONTENTS.—An application described in
15 paragraph (1) shall include—

16 (A) a description of the student demo-
17 graphics on which the research supported under
18 the award intends to focus;

19 (B) a description of any regional partner-
20 ships the eligible entity plans to utilize to carry
21 out the award;

22 (C) a description of how such research ac-
23 tivity or activities may inform efforts to pro-
24 mote the engagement and achievement of ele-
25 mentary school and secondary school students

1 in artificial intelligence and other key emerging
2 technologies, such as quantum information
3 science and technologies and photonics;

4 (D) with respect to an application that
5 concerns the use or integration of artificial in-
6 telligence, a description of potential ethical con-
7 cerns and implications of teacher and student
8 interactions with artificial intelligence systems;

9 (E) a description of how the research on
10 teaching models, tools, and materials were de-
11 veloped in consultation with other educators,
12 academia, and private sector organizations; and

13 (F) such other information as the Director
14 may require.

15 (d) USE OF AWARD FUNDS.—An eligible entity that
16 receives an award under this section shall carry out a pro-
17 gram described in subsection (b)(1) that—

18 (1) emphasizes preparing and providing profes-
19 sional development to teachers, principals, and other
20 school leaders to help them integrate artificial intel-
21 ligence, key emerging technologies, and computa-
22 tional thinking in teaching and learning; and

23 (2) supports research to develop, pilot, fully im-
24 plement, or test areas, such as—

1 (A) evidence-based instructional materials
2 and high-quality learning opportunities for
3 teaching artificial intelligence and key emerging
4 technologies;

5 (B) models for the preparation of new
6 teachers who will teach artificial intelligence
7 and key emerging technologies;

8 (C) scalable models of professional develop-
9 ment and ongoing support for teachers, prin-
10 cipals, and other school leaders; and

11 (D) tools and models for teaching and
12 learning aimed at supporting student access to
13 and utilization of artificial intelligence and key
14 emerging technologies across diverse popu-
15 lations, including low-income, rural, and Tribal
16 populations.

17 **SEC. 11. NATIONAL SCIENCE FOUNDATION AWARDS FOR**
18 **ARTIFICIAL INTELLIGENCE RESOURCES.**

19 (a) DEFINITIONS.—In this section:

20 (1) ELIGIBLE ENTITY.—The term “eligible enti-
21 ty” means—

22 (A) a State educational agency, local edu-
23 cational agency, or educational service agency;

24 (B) an institution of higher education, in-
25 cluding—

- 1 (i) an emerging research institution;
- 2 (ii) an EPSCoR institution;
- 3 (iii) a minority-serving institution;
- 4 (iv) a historically Black college or uni-
- 5 versity;
- 6 (v) a Tribal College or University; or
- 7 (vi) a community college; or
- 8 (C) a technical and vocational school.

9 (2) TECHNICAL AND VOCATIONAL SCHOOL.—

10 The term “technical and vocational school” has the
11 meaning given the term “area career and technical
12 school” in section 3 of the Carl D. Perkins Career
13 and Technical Education Act of 2006 (20 U.S.C.
14 2302).

15 (b) AWARDS AUTHORIZED.—Subject to section 15,
16 the Director shall make awards to eligible entities to en-
17 able the eligible entities to provide or increase access to
18 artificial intelligence tools and applications to the students
19 and researchers served by the eligible entities.

20 (c) PREFERENCE.—In making awards under sub-
21 section (b), the Director shall give preference to eligible
22 entities that—

- 23 (1) expand the geographic diversity of funded
- 24 entities; or

1 (B) the differing applications of artificial
2 intelligence in STEM and the liberal arts; and
3 (2) a description of how the guidance was devel-
4 oped in consultation with educators, academia, and
5 private sector organizations.

6 **SEC. 13. NSF GRAND CHALLENGES RELATING TO ARTIFI-**
7 **CIAL INTELLIGENCE EDUCATION AND TRAIN-**
8 **ING.**

9 (a) GRAND CHALLENGE.—The term “grand chal-
10 lenge” means a prize competition under section 24 of the
11 Stevenson-Wydler Technology Innovation Act of 1980 (15
12 U.S.C. 3719).

13 (b) IN GENERAL.—Subject to section 15, the Direc-
14 tor, in coordination with the Secretaries of Labor and
15 Education, shall support grand challenges to stimulate in-
16 novation regarding—

17 (1) how to train 1,000,000 or more workers, in-
18 cluding educators, technical and vocational workers,
19 and professionals, in the United States by 2028 in
20 areas related to the creation, deployment, or use of
21 artificial intelligence, such as foundational knowl-
22 edge, critical thinking, programming skills, machine
23 learning, or deep learning;

1 (2) how to overcome barriers in the develop-
2 ment of the artificial intelligence education and
3 training;

4 (3) methods and strategies for creating artifi-
5 cial intelligence education and training that does not
6 displace workers, including teachers, in the work-
7 force;

8 (4) ways to increase the number of women who
9 receive artificial intelligence education and training;
10 and

11 (5) how to ensure rural areas of the United
12 States are able to benefit from artificial intelligence
13 education and training.

14 (c) METHOD.—The Director may carry out this sec-
15 tion through new or existing programs.

16 **SEC. 14. CRITERIA ON APPROPRIATENESS OF GIFT AC-**
17 **CEPTANCE; PRINCIPLES FOR PUBLIC-PRI-**
18 **VATE PARTNERSHIPS.**

19 (a) CRITERIA FOR DETERMINING APPROPRIATENESS
20 OF GIFT ACCEPTANCE.—

21 (1) IN GENERAL.—Not later than 180 days
22 after the date of enactment of this Act, the Director
23 shall establish the criteria to be used in determining
24 whether the acceptance of contributions of money,
25 services, use of facilities, or personal property under

1 this Act would reflect unfavorably upon the ability of
2 the National Science Foundation, or any employee of
3 the National Science Foundation, to carry out its re-
4 sponsibilities or official duties in a fair, objective,
5 and transparent manner, or would compromise the
6 integrity or the appearance of the integrity of its
7 programs or any official involved in those programs.

8 (2) PROHIBITION.—Such criteria shall include a
9 prohibition on the receipt of funding pursuant to the
10 National Science Foundation’s gift authority from
11 either a foreign country of concern or a foreign enti-
12 ty of concern.

13 (3) REVIEW OF EXISTING RULES.—To the ex-
14 tent the criteria described in paragraph (1) have al-
15 ready been established, the Director shall—

16 (A) conduct a review of the existing cri-
17 teria;

18 (B) update the criteria as necessary to sat-
19 isfy the requirements under this subsection; and

20 (C) include, in the report under paragraph
21 (4), an explanation of the existing criteria and
22 any changes made to the criteria resulting from
23 the Director’s review.

24 (4) REPORT.—The Director shall submit a re-
25 port on the criteria established under this subsection

1 to the Committee on Commerce, Science, and Trans-
2 portation and the Committee on Health, Education,
3 Labor, and Pensions of the Senate and the Com-
4 mittee on Education and the Workforce and the
5 Committee on Science, Space, and Technology of the
6 House of Representatives.

7 (b) PRINCIPLES FOR PUBLIC-PRIVATE PARTNER-
8 SHIPS.—

9 (1) IN GENERAL.—The Director shall establish
10 principles to guide the National Science Founda-
11 tion’s formation of public-private partnerships under
12 this Act to help ensure that such partnerships are
13 aligned with the National Science Foundation’s stat-
14 utory obligations and do not reflect unfavorably
15 upon the ability of the National Science Foundation
16 or any employee of the National Science Foundation,
17 to carry out its responsibilities or official duties in
18 a fair, objective, and transparent manner, or com-
19 promise the integrity or the appearance of the integ-
20 rity of its programs or any official involved in those
21 programs.

22 (2) REVIEW OF EXISTING PRINCIPLES.—To the
23 extent the principles described in paragraph (1) have
24 already been established, the Director shall—

1 (A) conduct a review of the existing prin-
2 ciples;

3 (B) update the principles as necessary to
4 satisfy the requirements under paragraph (1);
5 and

6 (C) include, in the report under paragraph
7 (3), an explanation of the existing principles
8 and any changes made to the principles result-
9 ing from the Director's review.

10 (3) REPORT.—The Director shall submit a re-
11 port on the principles established under this sub-
12 section to the Committee on Commerce, Science, and
13 Transportation and the Committee on Health, Edu-
14 cation, Labor, and Pensions of the Senate and the
15 Committee on Education and the Workforce and the
16 Committee on Science, Space, and Technology of the
17 House of Representatives.

18 **SEC. 15. ACTIVITIES SUBJECT TO FUNDING.**

19 The activities under this Act that are subject to this
20 section shall only be required if sufficient funds are either
21 appropriated by Congress or made available to carry out
22 those respective requirements.

23 **SEC. 16. RESEARCH SECURITY.**

24 The activities authorized under this Act shall be car-
25 ried out in accordance with the provision of subtitle D of

1 title VI of the Research and Development, Competition,
2 and Innovation Act (42 U.S.C. 19231 et seq.; enacted as
3 part of division B of Public Law 117–167) and section
4 223 of the William M. (Mac) Thornberry National De-
5 fense Authorization Act for Fiscal Year 2021 (42 U.S.C.
6 6605).