

118TH CONGRESS
2D SESSION

S. 4394

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

IN THE SENATE OF THE UNITED STATES

MAY 22, 2024

Ms. CANTWELL (for herself and Mr. MORAN) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

A BILL

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

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 “NSF AI Education
5 Act of 2024”.

6 **SEC. 2. DEFINITIONS.**

7 In this Act:

8 (1) ARTIFICIAL INTELLIGENCE; AI.—The term
9 “artificial intelligence” or “AI” has the meaning
10 given such term in section 5002 of the William M.

(Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (15 U.S.C. 9401).

(2) COMMUNITY COLLEGE.—The term “community college” has the meaning given the term “junior or community college” in section 312(f) of the Higher Education Act of 1965 (20 U.S.C. 1058(f)).

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

(4) EMERGING RESEARCH INSTITUTION.—The term “emerging research institution” has the meaning given the term in section 10002 of the Research and Development, Competition, and Innovation Act (42 U.S.C. 18901).

(5) EPSCoR INSTITUTION.—The term “EPSCoR institution” means an institution of higher education, nonprofit organization, or other institution located in a jurisdiction eligible to participate in the Established Program to Stimulate Competitive Research under section 113 of the National Science Foundation Authorization Act of 1988 (42 U.S.C. 1862g).

(6) HIGH SCHOOL.—The term “high school” has the meaning given that term in section 8101 of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 7801).

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

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

10 (9) KEY EMERGING TECHNOLOGIES.—The term
 11 “key emerging technologies” means the technologies
 12 included in the initial list of key technology focus
 13 areas set forth by section 10387(c) of the Research
 14 and Development, Competition, and Innovation Act
 15 (42 U.S.C. 19107(c)), photonics, and electronics.

16 (10) LABOR ORGANIZATION.—The term “labor
 17 organization” has the meaning given the term in
 18 section 2(5) of the National Labor Relations Act (29
 19 U.S.C. 152(5)), except that such term shall also in-
 20 clude—

21 (A) any organization composed of labor or-
 22 ganizations, such as a labor union federation or
 23 a State or municipal labor body; and

24 (B) any organization that would be in-
 25 cluded in the definition for such term under

such section 2(5) but for the fact that the organization represents—

(i) individuals employed by the United States, any wholly owned Government corporation, any Federal Reserve Bank, or any State or political subdivision thereof;

(ii) individuals employed by persons subject to the Railway Labor Act (45 U.S.C. 151 et seq.); or

(iii) individuals employed as agricultural laborers.

(11) MINORITY-SERVING INSTITUTION.—The term “minority-serving institution” has the meaning given the term in section 10002 of the Research and Development, Competition, and Innovation Act (42 U.S.C. 18901).

(12) NATIONAL LABORATORY.—The term “National Laboratory” has the meaning given that term in section 2 of the Energy Policy Act of 2005 (42 U.S.C. 15801).

(13) NONPROFIT ORGANIZATION.—The term “nonprofit organization” means an organization which is described in section 501(c)(3) of the Internal Revenue Code of 1986 and exempt from tax under section 501(a) of such Code.

1 (14) QUANTUM HYBRID COMPUTING.—The
 2 term “quantum hybrid computing” means the use of
 3 quantum computing in conjunction with classical
 4 computing.

5 (15) QUANTUM INFORMATION SCIENCE.—The
 6 term “quantum information science” means the use
 7 of the laws of quantum physics for the storage,
 8 transmission, manipulation, computing, or measure-
 9 ment of information.

10 (16) RURAL-LOCATED INSTITUTION OF HIGHER
 11 EDUCATION.—The term “rural-located institution of
 12 higher education” means an institution of higher
 13 education that is located in or near areas that are
 14 not classified as urban by the Census Bureau.

15 (17) RURAL-SERVING INSTITUTION OF HIGHER
 16 EDUCATION.—The term “rural-serving institution of
 17 higher education” means an institution of higher
 18 education that—

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

21 (B) offers degrees that are unique and
 22 helpful to rural regions that are not classified
 23 as urban by the Census Bureau.

1 (18) STEM.—The term “STEM” means
2 science, technology, engineering, and mathematics,
3 including computer science.

4 (19) TRIBAL COLLEGE OR UNIVERSITY.—The
5 term “Tribal College or University” has the meaning
6 given the term in section 316(b) of the Higher Edu-
7 cation Act of 1965 (20 U.S.C. 1059c(b)).

8 **SEC. 3. UNDERGRADUATE SCHOLARSHIPS FOR ARTIFICIAL**
9 **INTELLIGENCE EDUCATION.**

10 (a) SCHOLARSHIPS RELATED TO AI OR QUANTUM
11 HYBRID COMPUTING.—

12 (1) IN GENERAL.—The Director shall award
13 merit- or need-based scholarships to undergraduate
14 students at institutions of higher education in order
15 to enable such students to study—

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

18 (B) quantum hybrid computing.

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

1 (b) SCHOLARSHIPS RELATED TO AI AND AGRI-
2 CULTURE.—

3 (1) IN GENERAL.—The Director shall award
4 merit- or need-based scholarships to undergraduate
5 students at institutions of higher education in order
6 to enable such students to study—

7 (A) artificial intelligence and agriculture;
8 or

9 (B) the integration of artificial intelligence
10 into agricultural operations, prediction, and de-
11 cision making.

12 (2) PRIORITY.—In awarding scholarships under
13 this subsection, the Director shall give preference to
14 students who are attending rural-located institutions
15 of higher education, rural-serving institutions of
16 higher education, or Tribal Colleges or Universities.

17 (3) SCHOLARSHIPS.—Scholarships awarded
18 under paragraph (1) shall be in the form of annual
19 grant awards for a 4-year period in amounts that
20 cover the cost of tuition, education-related fees, and
21 a stipend. Such scholarships shall be paid directly to
22 the institution of higher education in which the stu-
23 dent is enrolled.

24 (c) SCHOLARSHIPS RELATED TO AI AND EDU-
25 CATION.—

1 (1) IN GENERAL.—The Director shall award
 2 merit- or need-based scholarships to undergraduate
 3 students at institutions of higher education in order
 4 to enable such students to study the teaching of arti-
 5 ficial intelligence and artificial intelligence skills at
 6 elementary schools, secondary schools, career and
 7 technical education schools, institutions of higher
 8 education, or through other higher education and
 9 professional education programs.

10 (2) SCHOLARSHIPS.—Scholarships awarded
 11 under paragraph (1) shall be in the form of annual
 12 grant awards for a 4-year period that cover the cost
 13 of tuition, education-related fees, and a stipend.
 14 Such scholarships shall be paid directly to the insti-
 15 tution of higher education in which the student is
 16 enrolled.

17 (d) SCHOLARSHIPS RELATED TO AI AND ADVANCED
 18 MANUFACTURING.—

19 (1) IN GENERAL.—The Director shall award
 20 merit- or need-based scholarships to undergraduate
 21 students at institutions of higher education in order
 22 to enable such students to study—

23 (A) artificial intelligence and advanced
 24 manufacturing; or

1 (B) the integration of artificial intelligence
 2 into advanced manufacturing operations.

3 (2) SCHOLARSHIPS.—Scholarships awarded
 4 under paragraph (1) shall be in the form of annual
 5 grant awards for a 4-year period that cover the cost
 6 of tuition, education-related fees, and a stipend.
 7 Such scholarships shall be paid directly to the insti-
 8 tution of higher education in which the student is
 9 enrolled.

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

12 **SEC. 4. GRADUATE SCHOLARSHIPS AND FELLOWSHIPS FOR**
 13 **ARTIFICIAL INTELLIGENCE EDUCATION.**

14 (a) GRADUATE SCHOLARSHIPS RELATED TO AI OR
 15 QUANTUM HYBRID COMPUTING.—The Director shall
 16 award merit- or need-based scholarships to graduate stu-
 17 dents at institutions of higher education in order to enable
 18 such students to study—

19 (1) the development, deployment, integration,
 20 or application of artificial intelligence; or

21 (2) quantum hybrid computing.

22 (b) SCHOLARSHIPS RELATED TO AI AND AGRI-
 23 CULTURE.—

24 (1) IN GENERAL.—The Director shall award
 25 merit- or need-based scholarships to graduate stu-

1 dents at institutions of higher education in order to
2 enable such students to study—

3 (A) artificial intelligence and agriculture;

4 or

5 (B) the integration of artificial intelligence
6 into agricultural operations, prediction, and de-
7 cisionmaking.

8 (2) PRIORITY.—In awarding scholarships under
9 this subsection, the Director shall give preference to
10 students who are attending rural-located institutions
11 of higher education, rural-serving institutions of
12 higher education, or Tribal Colleges or Universities.

13 (c) GRADUATE SCHOLARSHIPS RELATED TO AI AND
14 EDUCATION.—The Director shall award merit- or need-
15 based scholarships to graduate students at institutions of
16 higher education in order to enable such students to study
17 the teaching of artificial intelligence and artificial intel-
18 ligence skills at elementary schools, secondary schools, ca-
19 reer and technical education schools, institutions of higher
20 education, or through other higher education and profes-
21 sional education programs.

22 (d) GRADUATE SCHOLARSHIPS RELATED TO AI AND
23 ADVANCED MANUFACTURING.—The Director shall award
24 merit- or need-based scholarships to graduate students at

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

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

5 (2) the integration of artificial intelligence into
6 advanced manufacturing operations.

7 (e) SCHOLARSHIPS.—Scholarships awarded under
8 this section shall be in the form of annual grant awards
9 for a 3-year period that cover the cost of tuition, edu-
10 cation-related fees, and a stipend. Such scholarships shall
11 be paid directly to the institution of higher education in
12 which the student is enrolled.

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

15 **SEC. 5. NSF ARTIFICIAL INTELLIGENCE PROFESSIONAL DE-**
16 **VELOPMENT FELLOWSHIPS.**

17 (a) IN GENERAL.—The Director shall establish a pro-
18 gram to promote the exchange of ideas and encourage col-
19 laborations between institutions of higher education and
20 industry partners in the fields of artificial intelligence and
21 key emerging technologies, including through fellowships
22 for students and industry professionals.

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 on—

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

19 (a) IN GENERAL.—The Secretary of Agriculture, act-
 20 ing through the Director of the National Institute of Food
 21 and Agriculture, in collaboration with the Director of the
 22 National Science Foundation, shall award grants to land-
 23 grant colleges and universities (as defined in section 1404
 24 of the National Agricultural Research, Extension, and

1 Teaching Policy Act of 1977 (7 U.S.C. 3103)) for arti-
2 cial intelligence in agriculture.

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

5 (1) research and development on the use of ar-
6 tificial intelligence in agriculture or the integration
7 of artificial intelligence into agricultural operations,
8 predictions, and decision making;

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

11 (3) artificial intelligence tools for agriculture.

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

13 (a) IN GENERAL.—The Director may establish or use
14 existing programs to support fellowships and scholarships
15 for students at institutions of higher education for the
16 purpose of—

17 (1) increasing quantum information science, en-
18 gineering, and technology exposure for under-
19 graduate and graduate STEM students; and

20 (2) increasing post-graduation employment op-
21 portunities for STEM students who demonstrate po-
22 tential to pursue careers in quantum information
23 science, engineering, and technology, or fields that
24 support the quantum industry.

1 (b) REQUIREMENTS.—Eligible participants in the fel-
 2 lowship and scholarship program shall—

3 (1) be enrolled in or have graduated from a
 4 STEM degree program at a domestic institution of
 5 higher education; and

6 (2) have taken at least one quantum-science or
 7 quantum-relevant course as part of their degree pro-
 8 grams.

9 (c) CONSIDERATIONS.—Eligible fellowships and
 10 scholarships may include temporary quantum-related posi-
 11 tions at State or Federal agencies, National Laboratories,
 12 private sector entities, institutions of higher education, or
 13 other quantum-relevant entities, as determined appro-
 14 priate by the Director.

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

20 **SEC. 8. NSF OUTREACH CAMPAIGN.**

21 (a) IN GENERAL.—The Director shall carry out a na-
 22 tionwide outreach campaign to students at elementary
 23 schools, secondary schools, career and technical education
 24 schools, institutions of higher education, or through other
 25 higher education and professional education programs to

1 increase awareness about AI or quantum education oppor-
 2 tunities at the National Science Foundation.

3 (b) PRIORITY.—In carrying out such campaign, the
 4 Director shall prioritize outreach to underserved and rural
 5 areas.

6 **SEC. 9. COMMUNITY COLLEGE AND VOCATIONAL SCHOOL**
 7 **CENTERS OF AI EXCELLENCE.**

8 (a) DEFINITIONS.—In this section:

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

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

18 (A) A Federal, State, local, or Tribal gov-
 19 ernment entity.

20 (B) An institution of higher education.

21 (C) An entity in private industry.

22 (D) An economic development organization
 23 or venture development organization.

24 (E) A labor organization.

25 (F) A nonprofit organization.

1 (3) VENTURE DEVELOPMENT ORGANIZATION.—

2 The term “venture development organization” has
3 the meaning given the term in section 27(a) of the
4 Stevenson-Wydler Act of 1980 (15 U.S.C. 3722(a)).

5 (4) VOCATIONAL SCHOOL.—The term “voca-
6 tional school” has the meaning given the term “post-
7 secondary vocational institution” in section 102(c) of
8 the Higher Education Act of 1965 (20 U.S.C.
9 1002(c)).

10 (b) ESTABLISHMENT OF CENTERS OF AI EXCEL-
11 LENCE.—The Director, in coordination with the Regional
12 Technology Hubs program at the Department of Com-
13 merce and the Regional Innovation Engines program at
14 the National Science Foundation, shall choose not less
15 than 5 regionally and geographically diverse eligible appli-
16 cants to be designated as Community College and Voca-
17 tional School Centers of AI Excellence (referred to in this
18 section as “Centers of AI Excellence”).

19 (c) EPSCoR STATE PARTICIPATION.—Not less than
20 20 percent of designated Community College and Voca-
21 tional School Centers of AI Excellence shall be eligible ap-
22 plicants that are located in a State jurisdiction eligible to
23 participate in the National Science Foundation’s Estab-
24 lished Program to Stimulate Competitive Research under

1 section 113 of the National Science Foundation Author-
2 ization Act of 1988 (42 U.S.C. 1862g).

3 (d) APPLICATION.—An eligible applicant that desires
4 to be designated as a Center of AI Excellence shall submit
5 an application to the Director at such time, in such man-
6 ner, and containing such information as the Director may
7 reasonably require. Such application shall specify a focus
8 area for the Center of AI Excellence, which may be any
9 of the following:

10 (1) AI education and training related to agri-
11 culture.

12 (2) AI education and training related to manu-
13 facturing.

14 (3) AI education.

15 (4) AI education and training related to an-
16 other focus area as specified by the eligible appli-
17 cant.

18 (e) ACTIVITIES.—A designated Center of AI Excel-
19 lence shall develop and disseminate information about best
20 practices for—

21 (1) artificial intelligence research and education
22 at community colleges and area career and technical
23 education schools;

24 (2) methods to scale up successful programs
25 that perform research or provide education on artifi-

1 cial intelligence at community colleges and area ca-
 2 reer and technical education schools;

3 (3) providing hands-on research opportunities
 4 on artificial intelligence and learning opportunities
 5 for students that are enabled through artificial intel-
 6 ligence; and

7 (4) identifying pathways for students to jobs
 8 that are enabled by artificial intelligence.

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

11 (a) ELIGIBLE ENTITY.—In this section, the term “el-
 12 igible 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.—The Director shall make
 20 awards, on a competitive, merit-reviewed basis, to el-
 21 igible entities, to enable the eligible entities to pro-
 22 mote research on teaching models, tools, and mate-
 23 rials for artificial intelligence and integration with
 24 other key emerging technologies, such as quantum
 25 information science and technologies and photonics,

1 with a focus on teaching and learning for kinder-
2 garten through grade 12 students who are from low-
3 income, rural, or Tribal populations.

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

7 (c) APPLICATION.—

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

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

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

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

21 (C) with respect to an application that con-
22 cerns the use or integration of artificial intel-
23 ligence, a description of potential ethical con-
24 cerns and implications of teacher and student
25 interactions with artificial intelligence systems;

1 (D) a description of how the research on
 2 teaching models, tools, and materials were de-
 3 veloped in consultation with other educators,
 4 academia, industry, and civil society organiza-
 5 tions; and

6 (E) such other information as the Director
 7 may require.

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

11 (1) emphasizes preparing incoming teachers to
 12 integrate artificial intelligence, key emerging tech-
 13 nologies, and computational thinking into their
 14 classrooms in innovative ways; and

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

17 (A) instructional materials and high-qual-
 18 ity learning opportunities for teaching artificial
 19 intelligence and key emerging technologies;

20 (B) models for the preparation of new
 21 teachers who will teach artificial intelligence
 22 and key emerging technologies;

23 (C) scalable models of professional develop-
 24 ment and ongoing support for teachers; and

(D) tools and models for teaching and learning aimed at supporting student success and inclusion in artificial intelligence and key emerging technologies across diverse populations, including low-income, rural, and Tribal populations.

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

(a) DEFINITIONS.—In this section:

(1) ELIGIBLE ENTITY.—The term “eligible entity” means—

(A) an elementary school or secondary school, as defined in section 8101 of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 8101);

(B) an institution of higher education, including—

- (i) an emerging research institution;
 - (ii) an EPSCoR institution;
 - (iii) a minority-serving institution;
 - (iv) a historically Black college or university;
 - (v) a Tribal College or University; or
 - (vi) a community college; or
- (C) a technical and vocational school.

1 (2) TECHNICAL AND VOCATIONAL SCHOOL.—

2 The term “technical and vocational school” has the
3 meaning given the term “area career and technical
4 school” in section 3 of the Carl D. Perkins Career
5 and Technical Education Act of 2006 (20 U.S.C.
6 2302).

7 (b) AWARDS AUTHORIZED.—The Director shall make
8 awards to eligible entities to enable the eligible entities to
9 provide or increase access to artificial intelligence tools
10 and applications to the students and researchers served
11 by the eligible entities.

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

15 (1) expand the geographic diversity of funded
16 entities; or

17 (2) are emerging research institutions, EPSCoR
18 institutions, minority-serving institutions, historically
19 Black colleges and universities, Tribal Colleges or
20 Universities, community colleges, or technical and
21 vocational schools.

1 **SEC. 12. NATIONAL SCIENCE FOUNDATION NATIONAL STEM**
 2 **TEACHERS CORPS.**

3 Section 10311(c)(6) of the Research and Develop-
 4 ment, Competition, and Innovation Act (42 U.S.C.
 5 18991(c)(6)) is amended—

6 (1) in subparagraph (F), by striking “and”
 7 after the semicolon;

8 (2) in subparagraph (G), by striking the period
 9 at the end and inserting “; and”; and

10 (3) by adding at the end the following:

11 “(H) incorporating artificial intelligence
 12 skills development into the priorities of the Na-
 13 tional STEM Teacher Corps, including
 14 prioritizing the development of artificial intel-
 15 ligence best practices for high school teachers,
 16 created in consultation with other educators
 17 and academia.”.

18 **SEC. 13. GUIDANCE FOR THE INTRODUCTION AND USE OF**
 19 **ARTIFICIAL INTELLIGENCE IN PREKINDER-**
 20 **GARTEN THROUGH GRADE 12.**

21 (a) IN GENERAL.—Not later than 2 years after the
 22 date of enactment of this Act, the Director, in coordina-
 23 tion with the Secretary of Education, the Director of the
 24 National Institute of Standards and Technology, and the
 25 Director of the Office of Science and Technology Policy,
 26 shall develop and make publicly available guidance for the

1 introduction and use of artificial intelligence in prekindergarten through grade 12 classrooms.

3 (b) CONSIDERATIONS.—The guidance required under
4 subsection (a) shall include—

5 (1) considerations for—

6 (A) the use of artificial intelligence in pre-
7 kindergarten through grade 12 classrooms in
8 rural areas and economically distressed areas;
9 and

10 (B) the differing applications of artificial
11 intelligence in STEM and the liberal arts; and

12 (2) a description of how the guidance was devel-
13 oped in consultation with educators, academia, in-
14 dustry, and civil society organizations.

15 **SEC. 14. NSF GRAND CHALLENGES RELATING TO ARTIFI-**
16 **CIAL INTELLIGENCE EDUCATION AND TRAIN-**
17 **ING.**

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

22 (b) IN GENERAL.—The Director, in coordination
23 with the Secretaries of Labor and Education, shall sup-
24 port grand challenges to stimulate innovation regarding—

1 (1) how to train 1,000,000 or more workers, in-
2 cluding educators, technical and vocational workers,
3 and professionals, in the United States by 2028 in
4 areas related to the creation, deployment, or use of
5 artificial intelligence, such as foundational knowl-
6 edge, critical thinking, programming skills, machine
7 learning, or deep learning;

8 (2) how to overcome barriers in the develop-
9 ment of the artificial intelligence education and
10 training;

11 (3) methods and strategies for creating artifi-
12 cial intelligence education and training that does not
13 displace workers, including teachers, in the work-
14 force;

15 (4) ways to increase the number of women who
16 receive artificial intelligence education and training;
17 and

18 (5) how to ensure rural areas of the United
19 States are able to benefit from artificial intelligence
20 education and training.

21 **SEC. 15. GIFT AUTHORITY.**

22 In carrying out this Act, the Director may receive and
23 use funds donated by others, including receipt and use of

- 1 donations from private entities to fund scholarships and
- 2 fellowships authorized under this Act.

