....
(Original Signature of Member)

118TH CONGRESS
2D SESSION

H. R. _____

To support National Science Foundation education and professional development relating to artificial intelligence, and for other purposes.

_____

IN THE HOUSE OF REPRESENTATIVES

Mr. FONG introduced the following bill; which was referred to the Committee on _____

_____

A BILL

To support National Science Foundation education and professional development relating to artificial intelligence, 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 "NSF AI Education

5 Act of 2024".

SEC. 2. SCHOLARSHIPS AND FELLOWSHIPS IN ARTIFICIAL INTELLIGENCE.

Paragraph (2) of section 5401(e) of the National Artificial Intelligence Initiative Act of 2020 (15 U.S.C. 9451(e); enacted as part of title LIV of division E of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (Public Law 116–283)) is amended—

(1) in the heading, by striking "FACULTY"; and

(2) by adding at the end the following new subparagraphs:

"(D) STUDENT SCHOLARSHIPS AND FELLOWSHIPS IN ARTIFICIAL INTELLIGENCE.—

"(i) IN GENERAL.—The Director of the National Science Foundation may support scholarships and fellowships for undergraduate and graduate students by making awards through institutions of higher education, including community colleges, to students who are enrolled in programs of study leading to degrees or concentrations in or related to the design, research, assessment, development, deployment, integration, or application of artificial intelligence.

1 "(ii) CONSIDERATIONS.—In carrying
2 out clause (i), the Director of the National
3 Science Foundation may prioritize making
4 awards to students who are enrolled in
5 programs of study leading to degrees or
6 concentrations in or related to any of the
7 following:

8 "(I) The teaching of artificial in-
9 telligence at elementary schools, sec-
10 ondary schools, career and technical
11 education schools, institutions of high-
12 er education, or through other higher
13 education and professional education
14 programs.

15 "(II) Artificial intelligence and
16 advanced manufacturing, including
17 the integration of artificial intelligence
18 into advanced manufacturing oper-
19 ations.

20 "(III) Artificial intelligence and
21 agriculture, including the integration
22 of artificial intelligence into agricul-
23 tural operations, prediction, and deci-
24 sion making.

1   ''(iii) AWARDS.—Scholarships and fel-

2   lowships awarded under this subparagraph

3   may be in the form of awards that may

4   cover the cost of tuition, education-related

5   fees, a stipend, and professional develop-

6   ment funds for a period of up to five years.

7   Such scholarships and fellowships shall be

8   paid directly to the institution of higher

9   education in which the student is enrolled.

10   ''(iv) OUTREACH.—The Director of

11   the National Science Foundation shall con-

12   duct outreach and encourage applications

13   from rural-located institutions of higher

14   education, rural-serving institutions of

15   higher education, Tribal Colleges or Uni-

16   versities, and institutions located in an Es-

17   tablished Program to Stimulate Competi-

18   tive Research (EPSCoR) jurisdiction.

19   ''(v) METHOD.—The Director of the

20   National Science Foundation may carry

21   out this subparagraph by making awards

22   through new or existing programs.

23   ''(E) ARTIFICIAL INTELLIGENCE PROFES-

24   SIONAL DEVELOPMENT FELLOWSHIPS.—

1   "(i) IN GENERAL.—The Director of
2   the National Science Foundation may sup-
3   port activities to promote the exchange of
4   ideas and encourage collaborations between
5   institutions of higher education and indus-
6   try partners in the field of artificial intel-
7   ligence, including through fellowships for
8   students, teachers, faculty, and industry
9   professionals.

10   "(ii) SUPPLEMENTALS FOR STUDENTS
11   AND FACULTY.—The Director of the Na-
12   tional Science Foundation may award fel-
13   lowships for students and faculty to pursue
14   professional development programs in
15   STEM fields that are administered by or
16   affiliated with institutions of higher edu-
17   cation, including community colleges, in
18   order to enable recipients to attain skills,
19   training, or education in partnership with
20   industry members on the design, research,
21   assessment, development, deployment, inte-
22   gration, or application of artificial intel-
23   ligence.

24   "(iii) FELLOWSHIPS FOR INDUSTRY
25   PROFESSIONALS.—The Director of the Na-

1 tional Science Foundation may award fel-
2 lowships to industry professionals to enable
3 recipients to seek short-term appointments
4 to instruct and educate students on the de-
5 sign, research, assessment, development,
6 deployment, integration, or application of
7 artificial intelligence.

8 ''(iv) FELLOWSHIPS FOR SCHOOL
9 PROFESSIONALS.—The Director of the Na-
10 tional Science Foundation may award fel-
11 lowships to teachers, school counselors,
12 and other school professionals for profes-
13 sional development programs in order to
14 enable recipients to attain skills, training,
15 or education in partnership with industry
16 members on the teaching, use of, or appli-
17 cation of artificial intelligence in K-12 set-
18 tings.

19 ''(v) AWARDS.—Awards made under
20 this subparagraph may be in the form of
21 an award that covers the cost of tuition,
22 education-related fees, a stipend, and pro-
23 fessional development funds for up to one
24 year. Such awards shall be paid directly to
25 the institution of higher education that ad-

1 ministers, or is affiliated with, the program

2 in which the fellowship recipient is partici-

3 pating.

4 "(F) NATIONAL SCIENCE FOUNDATION

5 OUTREACH CAMPAIGN.—

6 "(i) IN GENERAL.—The Director of

7 the National Science Foundation may

8 carry out a nationwide outreach campaign

9 to students at elementary schools, sec-

10 ondary schools, career and technical edu-

11 cation schools, institutions of higher edu-

12 cation, or through other higher education

13 and professional education programs to in-

14 crease awareness regarding National

15 Science Foundation-funded artificial intel-

16 ligence education opportunities.

17 "(ii) PRIORITY.—In carrying out the

18 campaign described in clause (i), the Di-

19 rector of the National Science Foundation

20 may prioritize outreach to groups histori-

21 cally underrepresented in STEM, including

22 in underserved and rural areas.

23 "(G) ELIGIBILITY.—To be eligible to re-

24 ceive a scholarship or fellowship under this

1 paragraph, an individual shall satisfy all of the

2 following:

3   "(i) Be a citizen, national, or lawful

4 permanent resident of the United States.

5   "(ii) Demonstrate a commitment to a

6 career in advancing the field of artificial

7 intelligence.

8   "(iii) Accept the terms of a fellow-

9 ships under this subparagraph.

10 "(H) REPORTS.—

11   "(i) IN GENERAL.—Not later than

12 seven years after the date of the enactment

13 of this subparagraph, the Director of the

14 National Science Foundation shall submit

15 to Congress, and make widely available to

16 the public, a report including any rec-

17 ommendations for legislative action that

18 could optimize the effectiveness of the

19 scholarships and fellowships under this

20 paragraph.

21   "(ii) REPORT REQUIREMENTS.—In

22 preparing the reports under clause (i), the

23 Director of the National Science Founda-

24 tion may, as practicable—

''(I) include an assessment of the effectiveness of such scholarships and fellowships in expanding apprentice- ships, internships, and other applied or experiential learning opportunities offered by employers in conjunction with community colleges or other in- stitutions of higher education;

''(II) assess the number of stu- dents who received such scholarships and fellowship;

''(III) assess the percentage of such students who successfully com- plete their education programs and who intend to enter the workforce;

''(IV) assess the percentage of undergraduate, graduate, and post- doctoral students who enter the work- force in a field relating to such schol- arship or fellowship;

''(V) assess the impact in the number of K-12 teachers, school coun- selors, and other school professionals who received such scholarships or fel- lowships; and

1   ''(VI) include an assessment of

2   the effects such scholarships and fel-

3   lowships have on related fields.''.

SEC. 3. COMMUNITY COLLEGE AND AREA CAREER AND TECHNICAL EDUCATIONAL SCHOOL CENTERS OF ARTIFICIAL INTELLIGENCE EXCELLENCE.

7   (a) IN GENERAL.—Subparagraph (B) of section

8 5401(e)(3) of the National Artificial Intelligence Initiative

9 Act of 2020 (15 U.S.C. 9451(e)(3); enacted as part of

10 title LIV of division E of the William M. (Mac) Thorn-

11 berry National Defense Authorization Act for Fiscal Year

12 2021 (Public Law 116–283)) is amended to read as fol-

13 lows:

14   ''(B) CENTERS OF AI EXCELLENCE.—

15   ''(i) DEFINITIONS.—In this subpara-

16   graph:

17   ''(I) AREA CAREER AND TECH-

18   NICAL EDUCATION SCHOOL.—The

19   term 'area career and technical edu-

20   cation school' has the meaning given

21   such term in section 3 of the Carl D.

22   Perkins Career and Technical Edu-

23   cation Act of 2006 (20 U.S.C. 2302).

24   ''(II) ELIGIBLE APPLICANT.—

25   The term 'eligible applicant' means a

1 community college, or area career and
2 technical education school, in partner-
3 ship with one or more of the fol-
4 lowing:

5 "(aa) A Federal, State,
6 local, territorial, or Tribal gov-
7 ernment entity.

8 "(bb) An institution of high-
9 er education.

10 "(cc) An entity in private in-
11 dustry.

12 "(dd) An economic develop-
13 ment organization or venture de-
14 velopment organization.

15 "(ee) A labor or workforce
16 training organization, which may
17 include State workforce develop-
18 ment boards and local workforce
19 development boards as estab-
20 lished under sections 101 and
21 107 of the Workforce Investment
22 and Opportunity Act (29 U.S.C.
23 3111 and 3122).

24 "(ff) A nonprofit organiza-
25 tion.

1   "(III) LABOR ORGANIZATION.—

2   The term 'labor organization' has the

3   meaning given such term in section

4   2(5) of the National Labor Relations

5   Act (29 U.S.C. 152(5)), except that

6   such term shall also include the fol-

7   lowing:

8   "(aa) Any organization com-

9   posed of labor organizations,

10   such as a labor union federation

11   or a State or municipal labor

12   body.

13   "(bb) Any organization that

14   would be included in the defini-

15   tion for such term in such section

16   2(5) but for the fact that the or-

17   ganization represents any of the

18   following:

19   "(AA) An individual

20   employed by the United

21   States, any wholly owned

22   Government corporation,

23   any Federal Reserve Bank,

24   or any State or political sub-

25   division thereof.

1   "(BB) An individual
2   employed by persons subject
3   to the Railway Labor Act
4   (45 U.S.C. 151 et seq.).

5   "(CC) An individual
6   employed as agricultural la-
7   borers.

8   "(IV) VENTURE DEVELOPMENT
9   ORGANIZATION.—The term 'venture
10   development organization' has the
11   meaning given such term in section
12   27(a) of the Stevenson-Wydler Tech-
13   nology Innovation Act of 1980 (15
14   U.S.C. 3722(a)).

15   "(ii) ESTABLISHMENT OF CENTERS
16   OF AI EXCELLENCE.—The Director of the
17   National Science Foundation, in coordina-
18   tion with the Regional Technology Hubs
19   program of the Department of Commerce,
20   and leveraging the Regional Innovation
21   Engines, the Advanced Technical Edu-
22   cation program, and other programs of the
23   National Science Foundation, subject to
24   the availability of appropriations, shall es-
25   tablish up to eight regionally and geo-

1 graphically diverse eligible applicants to be
2 designated as Community College and
3 Area Career and Technical Education Cen-
4 ters of AI Excellence (referred to in this
5 subparagraph as 'Centers of AI Excel-
6 lence'). Such Centers of AI Excellence
7 shall enhance educational outcomes and
8 drive workforce development by integrating
9 artificial intelligence into teaching, learn-
10 ing, and community engagement.

11 "(iii) APPLICATION.—An eligible ap-
12 plicant seeking to be designated as a Cen-
13 ter of AI Excellence under this subpara-
14 graph shall submit to the Director of the
15 National Science Foundation an applica-
16 tion at such time, in such manner, and
17 containing such information as the Direc-
18 tor may require. Such application shall in-
19 clude the following:

20 "(I) A description of the focus
21 area or areas for such proposed Cen-
22 ter of AI Excellence and how such
23 area or areas are aligned with re-
24 gional investments made by industry
25 and the Federal Government.

1 ''(II) A description of the capac-
2 ity of the applicant to carry out the
3 purpose of such proposed Center of
4 AI Excellence.

5 ''(III) A description of dem-
6 onstrate current and anticipated fu-
7 ture workforce demands in occupa-
8 tions directly related to such proposed
9 Center of AI Excellence.

10 ''(IV) A description of how the
11 eligible applicant will support the col-
12 lection of information and data for
13 purposes of evaluation of such pro-
14 posed Center of AI Excellence.

15 ''(V) Outreach plans for recruit-
16 ing and enrolling women and other
17 underrepresented populations.

18 ''(VI) An evaluation plan that in-
19 cludes the use of outcome-oriented
20 measures to assess the impact and ef-
21 ficacy of such proposed Center for AI
22 Excellence.

23 ''(iv) ACTIVITIES.—A designated Cen-
24 ter of AI Excellence shall develop and dis-

seminate information regarding best prac-
tices for matters such as the following:

"(I) Artificial intelligence re-
search and education at community
colleges and area career and technical
education schools.

"(II) Methods to scale up suc-
cessful programs that perform re-
search or provide education on artifi-
cial intelligence at community colleges
and area career and technical edu-
cation schools.

"(III) Providing educators and
teachers with actionable strategies
and resources to effectively integrate
artificial intelligence into curriculums
in the classroom.

"(IV) Providing hands-on re-
search opportunities on artificial intel-
ligence and learning opportunities for
students that are enabled through ar-
tificial intelligence.

"(V) Identifying pathways for
students to jobs that are enabled by
artificial intelligence.

1 ''(VI) Facilitating partnerships
2 with employers, employer consortia, or
3 other private sector organizations that
4 offer apprenticeships, internships, co-
5 operative education, or applied learn-
6 ing experiences in the field of artificial
7 intelligence.

8 ''(v) PARTNERSHIPS.—The Director
9 of the National Science Foundation shall
10 encourage applicants to consider including
11 or partnering with a nonprofit organization
12 or an institution of higher education (or a
13 consortium thereof) that has extensive ex-
14 perience and expertise in artificial intel-
15 ligence.

16 ''(vii) EVALUATIONS.—All applications
17 for designation under clause (ii) shall in-
18 clude an evaluation plan that includes the
19 use of outcome-oriented measures to assess
20 the impact and efficacy of the proposed
21 Center for AI Excellence.

22 ''(viii) ACCOUNTABILITY AND DIS-
23 SEMINATION.—

24 ''(I) EVALUATION REQUIRED.—
25 The Director of the National Science

1 Foundation shall evaluate the activi-
2 ties under clause (iv). Such evalua-
3 tion, to the extent practicable, shall
4 integrate the findings of research re-
5 sulting from such activity or activities
6 as a result of a designation under
7 clause (ii) with the findings of other
8 research on artificial intelligence edu-
9 cation.

10 ''(II) REPORT ON EVALUA-
11 TIONS.—Not later than 180 days
12 after the completion of the evaluation
13 under subclause (I), the Director of
14 the National Science Foundation shall
15 submit to Congress and make widely
16 available to the public a report that
17 includes the following:

18 ''(aa) The results of such
19 evaluation.

20 ''(bb) Any recommendations
21 for administrative and legislative
22 action that could optimize the ef-
23 fectiveness of the designations
24 made under clause (ii).''.

SEC. 4. AWARDS FOR RESEARCH ON ARTIFICIAL INTEL-LIGENCE IN EDUCATION.

(a) IN GENERAL.—Section 5401 of the National Artificial Intelligence Initiative Act of 2020 (15 U.S.C. 9451; enacted as part of title LIV of division E of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (Public Law 116–283)) is amended—

(1) by redesignating subsection (g) as subsection (i); and

(2) by inserting after subsection (f) the following new subsections:

''(g) AWARDS FOR RESEARCH ON ARTIFICIAL INTELLIGENCE IN EDUCATION.—

''(1) ELIGIBLE ENTITY DEFINED.—In this subsection, the term 'eligible entity' means any of the following:

''(A) An institution of higher education.

''(B) A nonprofit organization.

''(C) A consortium of one or more institutions of higher education or nonprofit organizations and one or more private sector entities.

''(2) AWARDS.—

''(A) IN GENERAL.—The Director of the National Science Foundation may make awards, on a competitive, merit-reviewed basis,

1 to eligible entities, to enable such eligible enti-
2 ties to promote research regarding teaching
3 models, tools, and materials for artificial intel-
4 ligence and its integration into the classroom,
5 teaching, and learning for pre-kindergarten
6 through grade 12 students who are from low-in-
7 come, rural, or Tribal populations.

8   "(B) METHOD.—The Director of the Na-
9 tional Science Foundation may carry out sub-
10 paragraph (A) by making awards through new
11 or existing programs.

12 "(3) APPLICATION.—

13   "(A) IN GENERAL.—An eligible entity that
14 desires to receive an award under this sub-
15 section shall submit to the Director of the Na-
16 tional Science Foundation an application at
17 such time, in such manner, and containing such
18 information as the Director may require.

19   "(B) CONTENTS.—An application under
20 subparagraph (A) may include the following:

21   "(i) A description of the student de-
22 mographics on which the research sup-
23 ported under the award intends to focus.

1   "(ii) A description of any regional

2   partnerships the eligible entity plans to

3   utilize to carry out the award.

4   "(iii) With respect to an application

5   that concerns the use or integration of ar-

6   tificial intelligence, a description of poten-

7   tial ethical concerns and implications of

8   teacher, faculty, and student interactions

9   with artificial intelligence.

10   "(iv) A description of how proposed

11   research on teaching models, tools, and

12   materials were developed in consultation

13   with other educators, academia, industry,

14   government entities, or civil society organi-

15   zations.

16   "(v) Such other information as the

17   Director may require.

18   "(4) USE OF AWARD FUNDS.—Awards de-

19   scribed in paragraph (2)(A) shall be used by the re-

20   cipient to—

21   "(A) emphasize preparing incoming K–12

22   teachers to integrate artificial intelligence into

23   their classrooms in innovative ways; and

24   "(B) support research to develop, pilot,

25   fully implement, or test areas, such as—

22

1   "(i) instructional materials and high-

2   quality learning opportunities for teaching

3   artificial intelligence;

4   "(ii) models for the preparation of

5   new teachers who will teach artificial intel-

6   ligence;

7   "(iii) scalable models of professional

8   development and ongoing support for

9   teachers; and

10   "(iv) tools and models for teaching

11   and learning aimed at supporting student

12   success and inclusion in artificial intel-

13   ligence across diverse populations, includ-

14   ing low-income, rural, and Tribal popu-

15   lations.

16 "(5) PARTNERSHIPS.—In making awards under

17 this subsection, the Director of the National Science

18 Foundation shall carry out the following:

19   "(A) Encourage applicants which, for the

20   purpose of the proposed activity or activities

21   funded through such award, include or partner

22   with a nonprofit organization or an institution

23   of higher education (or a consortium thereof)

24   that has extensive experience and expertise in

1 integrating artificial intelligence into K–12
2 classrooms.

3 ''(B) Encourage applicants which, for the
4 purpose of such proposed activity or activities
5 funded through such award, include or partner
6 with a consortium of schools, institutions of
7 higher education, school districts, or other State
8 and local government entities.

9 ''(C) Encourage applicants which, for the
10 purpose of such proposed activity or activities
11 funded through such award, include commit-
12 ments from school principals, other school lead-
13 ers, or administrators to make a priority re-
14 forms and activities proposed by the applicant.

15 ''(h) RURAL AND UNDERSERVED COMMUNITIES AR-
16 TIFICIAL INTELLIGENCE COLLABORATIVE.—

17 ''(1) IN GENERAL.—The Director of the Na-
18 tional Science Foundation may establish a pilot pro-
19 gram of regional cohorts in rural and traditionally
20 underserved areas that will provide peer support,
21 mentoring, and hands-on research experiences for
22 educators, principals, and other school leaders of
23 students in kindergarten through grade 12, in order
24 to build a network allowing educators, principals,
25 other school leaders to carry out the following:

1   "(A) Engage with one another on edu-

2 cational efforts related to teaching and using

3 artificial intelligence.

4   "(B) Interact with researchers, academia,

5 and local industry involved in artificial intel-

6 ligence.

7   "(2) METHOD.—The Director of the National

8 Science Foundation may carry out this subsection by

9 making awards through new or existing programs,

10 including the pilot program authorized under section

11 10511(a)(2)(B) of the Research and Development,

12 Competition, and Innovation Act (42 U.S.C. 19172;

13 enacted as part of title V of division B of Public

14 Law 117–167).".

15 **SEC. 5. NATIONAL STEM TEACHERS CORPS.**

16   Paragraph (6) of section 10311(c) of the Research

17 and Development, Competition, and Innovation Act (42

18 U.S.C. 18991(c); enacted as part of title III of division

19 B of Public Law 116–117) is amended—

20   (1) in subparagraph (F), by striking "and"

21 after the semicolon;

22   (2) in subparagraph (G), by striking the period

23 at the end and inserting "; and"; and

24   (3) by adding at the end the following new sub-

25 paragraph:

1   "(H) incorporating artificial intelligence

2   skills development into the National STEM

3   Teacher Corps, including consideration of the

4   development of artificial intelligence best prac-

5   tices for high school teachers, developed in con-

6   sultation with other educators and academia.".