117TH CONGRESS
1ST SESSION

S.

To authorize the Director of the Cybersecurity and Infrastructure Security Agency to establish an apprenticeship program and to establish a pilot program on cybersecurity training for veterans and members of the Armed Forces transitioning to civilian life, and for other purposes.

IN THE SENATE OF THE UNITED STATES

Ms. HASSAN (for herself and Mr. CORNYN) introduced the following bill; which was read twice and referred to the Committee on ____________________

A BILL

To authorize the Director of the Cybersecurity and Infrastructure Security Agency to establish an apprenticeship program and to establish a pilot program on cybersecurity training for veterans and members of the Armed Forces transitioning to civilian life, 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 “Federal Cybersecurity

5 Workforce Expansion Act”.

SEC. 2. FINDINGS.

Congress finds that—

(1) the need for qualified cybersecurity personnel is greater than ever, as demonstrated by the recent SolarWinds breach and the growing spate of ransomware attacks on critical infrastructure entities and State and local governments;

(2) the Federal Government is facing a shortage of qualified cybersecurity personnel, as noted in a March 2019 Government Accountability Office report on critical staffing needs in the Federal cybersecurity workforce;

(3) there is a national shortage of qualified cybersecurity personnel, and according to CyberSeek, a project supported by the National Initiative for Cybersecurity Education within the National Institute of Standards and Technology, there are approximately 500,000 cybersecurity job openings around the United States;

(4) in May 2021, the Department of Homeland Security announced that the Department was initiating a 60 day sprint to hire 200 cybersecurity personnel across the Department, with 100 of those hires for the Cybersecurity and Infrastructure Security Agency, to address a cybersecurity workforce shortage; and
(5) the Federal Government needs to—

(A) expand the cybersecurity workforce pipeline of the Federal Government to sustainably close a Federal cybersecurity workforce shortage; and

(B) work cooperatively with the private sector and State and local government authorities to expand opportunities for new cybersecurity professionals.

SEC. 3. CYBERSECURITY AND INFRASTRUCTURE SECURITY APPRENTICESHIP PROGRAM.

(a) In General.—Subtitle A of title XXII of the Homeland Security Act (6 U.S.C. 651 et seq.) is amended by adding at the end the following:

“SEC. 2218. APPRENTICESHIP PROGRAM.

“(a) Definitions.—In this section:

“(1) Area career and technical education school.—The term ‘area career and technical education school’ has the meaning given the term in section 3 of the Carl D. Perkins Career and Technical Education Act of 2006 (20 U.S.C. 2302).

“(2) Community college.—The term ‘community college’ means a public institution of higher education at which the highest degree that is pre-
dominantly awarded to students is an associate’s degree, including—

“(A) a 2-year Tribal College or and University, as defined in section 316 of the Higher Education Act of 1965 (20 U.S.C. 1059c); and

“(B) a public 2-year State institution of higher education.

“(3) CYBERSECURITY WORK ROLES.—The term ‘cybersecurity work roles’ means the work roles outlined in the National Initiative for Cybersecurity Education Cybersecurity Workforce Framework (NIST Special Publication 800–181), or any successor framework.

“(4) EDUCATION AND TRAINING PROVIDER.—The term ‘education and training provider’ means—

“(A) an area career and technical education school;

“(B) an early college high school;

“(C) an educational service agency;

“(D) a high school;

“(E) a local educational agency or State educational agency;

“(F) a Tribal educational agency, Tribally controlled college or university, or Tribally con-
trolled postsecondary career and technical institution;

“(G) a postsecondary educational institution;

“(H) a minority-serving institution;

“(I) a provider of adult education and literacy activities under the Adult Education and Family Literacy Act (29 U.S.C. 3271 et seq.);

“(J) a local agency administering plans under title I of the Rehabilitation Act of 1973 (29 U.S.C. 720 et seq.), other than section 112 or part C of that title (29 U.S.C. 732, 741);

“(K) a related instruction provider, including a qualified intermediary acting as a related instruction provider as approved by a registration agency;

“(L) a Job Corps center, as defined in section 142 of the Workforce Innovation and Opportunity Act (29 U.S.C. 3192); or

“(M) a consortium of entities described in any of subparagraphs (A) through (L).

“(5) ELIGIBLE ENTITY.—

“(A) IN GENERAL.—The term ‘eligible entity’ means—

“(i) a program sponsor;
“(ii) a State workforce development board or State workforce agency, or a local workforce development board or local workforce development agency;

“(iii) an education and training provider;

“(iv) if the applicant is in a State with a State apprenticeship agency, such State apprenticeship agency;

“(v) an Indian Tribe or Tribal organization;

“(vi) an industry or sector partnership, a group of employers, a trade association, or a professional association that sponsors or participates in a program under the national apprenticeship system;

“(vii) a Governor of a State;

“(viii) a labor organization or joint labor-management organization; or

“(ix) a qualified intermediary.

“(B) SPONSOR REQUIREMENT.—Not fewer than 1 entity described in subparagraph (A) shall be the sponsor of a program under the national apprenticeship system.
“(6) Institution of Higher Education.—
The term ‘institution of higher education’ has the meaning given the term in section 101 of the Higher Education Act of 1965 (20 U.S.C. 1001).

“(7) Local Educational Agency; Secondary School.—The terms ‘local educational agency’ and ‘secondary school’ have the meanings given those terms in section 8101 of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 7801).

“(8) Local Workforce Development Board.—The term ‘local workforce development board’ has the meaning given the term ‘local board’ in section 3 of the Workforce Innovation and Opportunity Act (29 U.S.C. 3102).

“(9) Nonprofit Organization.—The term ‘nonprofit organization’ means an organization that is described in section 501(c) of the Internal Revenue Code of 1986 and exempt from taxation under section 501(a) of such Code.

“(10) Provider of Adult Education.—The term ‘provider of adult education’ has the meaning given the term ‘eligible provider’ in section 203 of the Adult Education and Family Literacy Act (29 U.S.C. 3272).
“(11) RELATED INSTRUCTION.—The term ‘related instruction’ means an organized and systematic form of instruction designed to provide an individual in an apprenticeship program with the knowledge of the technical subjects related to the intended occupation of the individual after completion of the program.

“(12) SPONSOR.—The term ‘sponsor’ means any person, association, committee, or organization operating an apprenticeship program and in whose name the program is, or is to be, registered or approved.

“(13) STATE APPRENTICESHIP AGENCY.—The term ‘State apprenticeship agency’ has the meaning given the term in section 29.2 of title 29, Code of Federal Regulations, or any corresponding similar regulation or ruling.

“(14) STATE WORKFORCE DEVELOPMENT BOARD.—The term ‘State workforce development board’ has the meaning given the term ‘State board’ in section 3 of the Workforce Innovation and Opportunity Act (29 U.S.C. 3102).

“(15) WIOA TERMS.—The terms ‘career planning’, ‘community-based organization’, ‘economic development agency’, ‘industry or sector partnership’,
‘on-the-job training’, ‘recognized postsecondary credential’, and ‘workplace learning advisor’ have the meanings given those terms in section 3 of the Workforce Innovation and Opportunity Act (29 U.S.C. 3102).

“(16) QUALIFIED INTERMEDIARY.—

“(A) IN GENERAL.—The term ‘qualified intermediary’ means an entity that demonstrates expertise in building, connecting, sustaining, and measuring the performance of partnerships described in subparagraph (B) and serves program participants and employers by—

“(i) connecting employers to programs under the national apprenticeship system;

“(ii) assisting in the design and implementation of such programs, including curriculum development and delivery for related instruction;

“(iii) supporting entities, sponsors, or program administrators in meeting the registration and reporting requirements of this Act;
“(iv) providing professional development activities such as training to mentors;

“(v) supporting the recruitment, retention, and completion of potential program participants, including nontraditional apprenticeship populations and individuals with barriers to employment;

“(vi) developing and providing personalized program participant supports, including by partnering with organizations to provide access to or referrals for supportive services and financial advising;

“(vii) providing services, resources, and supports for development, delivery, expansion, or improvement of programs under the national apprenticeship system; or

“(viii) serving as a program sponsor.

“(B) PARTNERSHIPS.—The term ‘partnerships described in subparagraph (B)’ means partnerships among entities involved in, or applying to participate in, programs under the national apprenticeship system, including—

“(i) industry or sector partnerships;
“(ii) partnerships among employers, joint labor-management organizations, labor organizations, community-based organizations, industry associations, State or local workforce development boards, education and training providers, social service organizations, economic development organizations, Indian Tribes or Tribal organizations, one-stop operators, one-stop partners, or veterans service organizations in the State workforce development system; or

“(iii) partnerships among 1 or more of the entities described in clauses (i) and (ii).

“(b) Establishment of Apprenticeship Programs.—Not later than 2 years after the date of enactment of this section, the Director may establish 1 or more apprenticeship programs as described in subsection (c).

“(c) Apprenticeship Programs Described.—An apprenticeship program described in this subsection is an apprenticeship program that—

“(1) leads directly to employment in—

“(A) a cybersecurity work role with the Agency; or
“(B) a position with a company or other entity provided that the position is—

“(i) certified by the Director as contributing to the national cybersecurity of the United States; and

“(ii) funded at least in majority part through a contract, grant, or cooperative agreement with the Agency;

“(2) is focused on competencies and related learning necessary, as determined by the Director, to meet the immediate and ongoing needs of cybersecurity work roles at the Agency; and

“(3) is registered with and approved by the Office of Apprenticeship of the Department of Labor or a State apprenticeship agency pursuant to the Act of August 16, 1937 (commonly known as the ‘National Apprenticeship Act’; 29 U.S.C. 50 et seq.).

“(d) COORDINATION.—In the development of an apprenticeships program under this section, the Director shall consult with the Secretary of Labor, the Director of the National Institute of Standards and Technology, the Secretary of Defense, the Director of the National Science Foundation, and the Director of the Office of Personnel Management to leverage existing resources, research, com-
communities of practice, and frameworks for developing cyber-
security apprenticeship programs.

“(e) Optional Use of Grants or Cooperative
Agreements.—An apprenticeship program under this
section may include entering into a contract or cooperative
agreement with or making a grant to an eligible entity
if determined appropriate by the Director based on the
eligible entity—

“(1) demonstrating experience in implementing
and providing career planning and career pathways
toward apprenticeship programs;

“(2) having knowledge of cybersecurity work-
force development;

“(3) being eligible to enter into a contract or
cooperative agreement with or receive grant funds
from the Agency as described in this section;

“(4) providing students who complete the ap-
prenticeship program with a recognized postsec-
ondary credential;

“(5) using related instruction that is specifically
aligned with the needs of the Agency and utilizes
workplace learning advisors and on-the-job training
to the greatest extent possible; and
“(6) demonstrating successful outcomes connecting graduates of the apprenticeship program to careers relevant to the program.

“(f) APPLICATIONS.—If the Director enters into an arrangement as described in subsection (e), an eligible entity seeking a contract, cooperative agreement, or grant under the program shall submit to the Director an application at such time, in such manner, and containing such information as the Director may require.

“(g) PRIORITY.—In selecting eligible entities to receive a contract, grant, or cooperative agreement under this section, the Director may prioritize an eligible entity that—

“(1) is a member of an industry or sector partnership;

“(2) provides related instruction for an apprenticeship program through—

“(A) a local educational agency, a secondary school, a provider of adult education, an area career and technical education school, or an institution of higher education; or

“(B) an apprenticeship program that was registered with the Department of Labor or a State apprenticeship agency before the date on
which the eligible entity applies for the grant under subsection (g);

“(3) works with the Secretary of Defense, the Secretary of Veterans Affairs, or veterans organizations to transition members of the Armed Forces and veterans to apprenticeship programs in a relevant sector; or

“(4) plans to use the grant to carry out the apprenticeship program with an entity that receives State funding or is operated by a State agency.

“(h) TECHNICAL ASSISTANCE.—The Director shall provide technical assistance to eligible entities to leverage the existing job training and education programs of the Agency and other relevant programs at appropriate Federal agencies.

“(i) EXCEPTED SERVICE.—Participants in the program may be entered into cybersecurity-specific excepted service positions as determined appropriate by the Director and authorized by section 2208.

“(j) REPORT.—

“(1) IN GENERAL.—Not less than once every 2 years after the establishment of an apprenticeship program under this section, the Director shall submit to Congress a report on the program, including—
“(A) a description of—

“(i) any activity carried out by the Agency under this section;

“(ii) any entity that enters into a contract or agreement with or receives a grant from the Agency under subsection (e);

“(iii) any activity carried out using a contract, agreement, or grant under this section as described in subsection (e); and

“(iv) best practices used to leverage the investment of the Federal Government under this section; and

“(B) an assessment of the results achieved by the program, including the rate of continued employment at the Agency for participants after completing an apprenticeship program carried out under this section.

“(k) PERFORMANCE REPORTS.—Not later than 1 year after the establishment of an apprenticeship program under this section, and annually thereafter, the Director shall submit to Congress and the Secretary of Labor a report on the effectiveness of the program based on the accountability measures described in clauses (i) and (ii) of section 116(b)(2)(A) of the Workforce Innovation and Opportunity Act (29 U.S.C. 3141(b)(2)(A)).
“(l) Authorization of Appropriations.—There is authorized to be appropriated to the Agency such sums as necessary to carry out this section.”.

(b) Technical and Conforming Amendment.—The table of contents in section 1(b) of the Homeland Security Act of 2002 (Public Law 107–296; 116 Stat. 2135) is amended by inserting after the item relating to section 2217 the following:

“Sec. 2218. Apprenticeship program.”.

SEC. 4. PILOT PROGRAM ON CYBER TRAINING FOR VETERANS AND MEMBERS OF THE ARMED FORCES TRANSITIONING TO CIVILIAN LIFE.

(a) Definitions.—In this section:

(1) Eligible Individual.—The term “eligible individual” means an individual who is—

(A) a member of the Armed Forces transitioning from service in the Armed Forces to civilian life; or

(B) a veteran.

(2) Portable Credential.—The term “portable credential”—

(A) means a documented award by a responsible and authorized entity that has determined that an individual has achieved specific learning outcomes relative to a given standard; and
18

(B) includes a degree, diploma, license, certificate, badge, and professional or industry certification that—

(i) has value locally and nationally in labor markets, educational systems, or other contexts;

(ii) is defined publicly in such a way that allows educators, employers, and other individuals and entities to understand and verify the full set of skills represented by the credential; and

(iii) enables a holder of the credential to move vertically and horizontally within and across training and education systems for the attainment of other credentials.

(3) VETERAN.—The term “veteran” has the meaning given the term in section 101 of title 31, United States Code.

(4) WORK-BASED LEARNING.—The term “work-based learning” has the meaning given the term in section 3 of the Carl D. Perkins Career and Technical Education Act of 2006 (20 U.S.C. 2302).

(b) ESTABLISHMENT.—Not later than 1 year after the date of enactment of this Act, the Secretary of Veterans Affairs shall establish a pilot program under which
the Secretary shall provide cyber-specific training for eligible individuals.

(c) Elements.—The pilot program established under subsection (b) shall incorporate—

(1) virtual platforms for coursework and training;

(2) hands-on skills labs and assessments;

(3) Federal work-based learning opportunities and programs; and

(4) the provision of portable credentials to eligible individuals who graduate from the pilot program.

(d) Alignment with NICE Workforce Framework for Cybersecurity.—The pilot program established under subsection (b) shall align with the taxonomy, including work roles and associated tasks, knowledge, and skills, from the National Initiative for Cybersecurity Education Workforce Framework for Cybersecurity (NIST Special Publication 800–181), or any successor framework.

(e) Coordination.—

(1) Training, Platforms, and Frameworks.—In developing the pilot program under subsection (b), the Secretary of Veterans Affairs shall coordinate with the Secretary of Defense, the Secretary of Homeland Security, the Secretary of...
Labor, and the Director of the Office of Personnel Management to evaluate and, where possible, leverage existing training, platforms, and frameworks of the Federal Government for providing cyber education and training to prevent duplication of efforts.

(2) **Federal work-based learning opportunities and programs.**—In developing the Federal work-based learning opportunities and programs required under subsection (c)(3), the Secretary of Veterans Affairs shall coordinate with the Secretary of Defense, the Secretary of Homeland Security, the Secretary of Labor, the Director of the Office of Personnel Management, and the heads of other appropriate Federal agencies to identify or create interagency opportunities that will enable the pilot program established under subsection (b) to—

(A) bridge the gap between knowledge acquisition and skills application for participants; and

(B) give participants the experience necessary to pursue Federal employment.

(f) **Resources.**—

(1) **In general.**—In any case in which the pilot program established under subsection (b)—
(A) uses a program of the Department of Veterans Affairs or platforms and frameworks described in subsection (e)(1), the Secretary of Veterans Affairs shall take such actions as may be necessary to ensure that those programs, platforms, and frameworks are expanded and resourced to accommodate usage by eligible individuals participating in the pilot program; or

(B) does not use a program of the Department of Veterans Affairs or platforms and frameworks described in subsection (e)(1), the Secretary of Veterans Affairs shall take such actions as may be necessary to develop or procure programs, platforms, and frameworks necessary to carry out the requirements of subsection (e) and accommodate the usage by eligible individuals participating in the pilot program.

(2) ACTIONS.—Actions described in paragraph (1) may include providing additional funding, staff, or other resources to—

(A) provide administrative support for basic functions of the pilot program;
(B) ensure the success and ongoing engagement of eligible individuals participating in the pilot program;

(C) connect graduates of the pilot program to job opportunities within the Federal Government; and

(D) allocate dedicated positions for term employment to enable Federal work-based learning opportunities and programs for participants to gain the experience necessary to pursue permanent Federal employment.

SEC. 5. FEDERAL WORKFORCE ASSESSMENT EXTENSION.

Section 304(a) of the Federal Cybersecurity Workforce Assessment Act of 2015 (5 U.S.C. 301 note) is amended, in the matter preceding paragraph (1), by striking “2022” and inserting “2025”.