

### 115TH CONGRESS 1ST SESSION

# S. 754

To support meeting our Nation's growing cybersecurity workforce needs by expanding the cybersecurity education pipeline.

### IN THE SENATE OF THE UNITED STATES

March 28, 2017

Mr. Kaine (for himself, Mr. Wicker, and Mrs. Murray) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

## A BILL

To support meeting our Nation's growing cybersecurity workforce needs by expanding the cybersecurity education pipeline.

- 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 "Cyber Scholarship Op-
- 5 portunities Act of 2017".
- 6 SEC. 2. FINDINGS.
- 7 Congress finds the following:
- 8 (1) A well-trained workforce is essential to
- 9 meeting the Nation's growing cybersecurity needs.

- 1 (2) A 2015 report by the National Academy of 2 Public Administration found that the United States 3 faces a severe shortage of properly trained and 4 equipped cybersecurity professionals.
  - (3) A 2015 study of the information security workforce found that the information security workforce shortfall is widening.
- 8 (4) The National Science Foundation's Cyber-9 Corps: Scholarship-for-Service program is a success-10 ful effort to support capacity building in institutions 11 of higher education and scholarships for students to 12 pursue cybersecurity careers.

#### 13 SEC. 3. SENSE OF CONGRESS.

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- 14 It is the sense of Congress that—
  - (1) given the current need for cybersecurity professionals in the public and private sectors, Congress and the Federal Government should support existing programs to boost their success;
    - (2) the Federal Government should also build upon and develop existing programs to meet emerging challenges, such as the need to protect critical infrastructure and the greater need for cybersecurity professionals of various skill levels;
- 24 (3) there is a need for greater engagement with 25 students at the kindergarten through grade 12 level

- to recruit young people to pursue career paths in cybersecurity;
  - (4) many community colleges offer degrees or industry-recognized credentials in cybersecurity and related fields that prepare students to fill high-demand cybersecurity jobs, and the Federal Government should support programs at 2-year institutions of higher education that help students develop skills necessary to support the Nation's cybersecurity missions; and
- 11 (5) the Federal Government should expand ex-12 isting programs to support re-training mid-career in-13 dividuals, such as veterans of the Armed Forces, to 14 fill cybersecurity positions.

### 15 SEC. 4. FEDERAL CYBER SCHOLARSHIP-FOR-SERVICE PRO-

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- 17 Section 302 of the Cybersecurity Enhancement Act 18 of 2014 (15 U.S.C. 7442) is amended—
- 19 (1) in subsection (a), by adding at the end the 20 following: "Not less than 5 percent of scholarships 21 provided under this section shall be provided to eligi-22 ble students who are pursuing an associate's degree 23 in a cybersecurity field without the intent of trans-24 ferring to a bachelor's degree program and either

1	have a bachelor's degree already or are veterans of
2	the Armed Forces.";
3	(2) in subsection (d), by adding at the end the
4	following: "In the case of a scholarship recipient who
5	is pursuing a doctoral or master's degree, such
6	agreement may include (if determined appropriate
7	on a case-by-case basis by the Director of the Na-
8	tional Science Foundation) an agreement for the re-
9	cipient to work at an institution of higher education
10	or for a local educational agency teaching cybersecu-
11	rity skills for a period equal to the length of the
12	scholarship following receipt of such degree.";
13	(3) in subsection (f)—
14	(A) by striking paragraph (3) and insert-
15	ing the following:
16	"(3) have demonstrated a high level of com-
17	petency in relevant knowledge, skills, and abilities,
18	as described in the national cybersecurity awareness
19	and education program under section 401;"; and
20	(B) by striking paragraph (4) and insert-
21	ing the following:
22	"(4) be a student in an eligible degree program
23	at a qualified institution of higher education, as de-
24	termined by the Director of the National Science
25	Foundation, who is—

1	"(A) a full-time student; or
2	"(B) a student who is enrolled for study
3	leading to a degree on a less than full-time
4	basis but not less than half-time basis; and";
5	(4) by striking subsection (m) and inserting the
6	following:
7	"(m) EVALUATION AND REPORT.—
8	"(1) In general.—The Director of the Na-
9	tional Science Foundation shall evaluate and make
10	public, in a manner that protects the personally
11	identifiable information of scholarship recipients, in-
12	formation on the success of recruiting individuals for
13	scholarships under this section and on hiring and re-
14	taining those individuals in the public sector work-
15	force, including on—
16	"(A) placement rates;
17	"(B) where students are placed;
18	"(C) student salary ranges for students
19	not released from obligations under this section;
20	"(D) how long after graduation they are
21	placed;
22	"(E) how long they stay in the positions
23	they enter upon graduation;
24	"(F) how many students are released from
25	obligations; and

1	"(G) what (if any) remedial training needs
2	are required.
3	"(2) REGULAR REPORTS.—The Director of the
4	National Science Foundation shall submit reports to
5	Congress under paragraph (1) not less often than
6	once every 5 years."; and
7	(5) by adding at the end the following:
8	"(n) Resources.—The Director of the National
9	Science Foundation shall work with the Director of the
10	Office of Personnel Management to provide adequate re-
11	sources to the CyberCorps community in the form of an
12	online resource center, where all other relevant websites
13	will be consolidated or eliminated, if possible. To the ex-
14	tent applicable, such websites shall—
15	"(1) present up-to-date, accurate information
16	about existing scholarship programs and job oppor-
17	tunities;
18	"(2) present a modernized view of cybersecurity
19	careers;
20	"(3) improve user friendliness; and
21	"(4) allow prospective job applicants to search
22	positions by State, salary, and title.
23	"(o) Advertisements.—The Director of the Na-
24	tional Science Foundation shall work with the Director of
2.5	the Office of Personnel Management and State, local, and

- 1 tribal agencies to advertise cybersecurity positions to
- 2 scholarship recipients under this section, such as by
- 3 hosting, in coordination with such office and agencies, a
- 4 virtual job fair for scholarship recipients.
- 5 "(p) Cybersecurity at Kindergarten Through
- 6 Grade 12 Level.—The Director of the National Science
- 7 Foundation, in coordination with other Federal agencies
- 8 as necessary, shall carry out a program to grow and im-
- 9 prove cybersecurity education at the kindergarten through
- 10 grade 12 level that—
- "(1) increases interest in cybersecurity careers;
- 12 "(2) helps students practice correct and safe
- online behavior and understand the foundational
- principles of cybersecurity; and
- 15 "(3) improves teaching methods for delivering
- 16 cybersecurity content for kindergarten through
- 17 grade 12 computer science curricula.
- 18 "(q) Critical Infrastructure Protection.—
- 19 Due to the need for skilled cybersecurity professionals to
- 20 protect the Nation's critical infrastructure, the Director
- 21 of the National Science Foundation may—
- 22 "(1) grant exceptions to students for fulfilling
- post-award employment obligations under this sec-
- 24 tion (on a case-by-case basis and in coordination
- 25 with other Federal agencies) who agree to work in

1 a critical infrastructure mission at a Federal Gov-2 ernment corporation or a State, local, or tribal gov-3 ernment-affiliated asset, system, or network that is considered to be part of a critical infrastructure sec-5 tor as described in Presidential Policy Directive—21, issued February 12, 2013 (related to critical infra-6 7 structure security and resilience), or any successor; 8 and 9 "(2) develop a pilot program to enhance critical 10 infrastructure protection training for students pur-11 suing careers in cybersecurity. 12 "(r) Study.—The Director of the National Science

12 "(r) STUDY.—The Director of the National Science 13 Foundation, in coordination with the Director of the Of-14 fice of Personnel Management, shall assess the potential 15 benefits and feasibility of granting scholarship awards 16 under this section to students who do not possess a bach-17 elor's degree to pursue an associate's degree or an indus-18 try-recognized credential in a cybersecurity field.".

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