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H. RES. 1250

Expressing the sense of the House of Representatives with respect to the principles that should guide the national artificial intelligence strategy of the United States.

IN THE HOUSE OF REPRESENTATIVES

DECEMBER 4, 2020

Mr. HURD of Texas (for himself, Ms. KELLY of Illinois, Ms. STEFANIK, Mr. VEASEY, Mr. CLOUD, Mr. CONNOLLY, Mr. LUCAS, Mr. BEYER, and Mr. FITZPATRICK) submitted the following resolution; which was referred to the Committee on Science, Space, and Technology, and in addition to the Committees on Education and Labor, Oversight and Reform, Foreign Affairs, Energy and Commerce, and Ways and Means, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

RESOLUTION

Expressing the sense of the House of Representatives with respect to the principles that should guide the national artificial intelligence strategy of the United States.

1 *Resolved,*

2 **SECTION 1. GUIDING PRINCIPLES OF THE NATIONAL ARTI-**
3 **ICIAL INTELLIGENCE STRATEGY OF THE**
4 **UNITED STATES.**

5 (a) FINDINGS.—The House of Representatives finds
6 the following:

1 (1) In general, artificial intelligence is the abil-
2 ity of a computer system to solve problems and to
3 perform tasks that would otherwise require human
4 intelligence.

5 (2) Artificial intelligence will transform the na-
6 ture of work and nearly all aspects of the United
7 States economy.

8 (3) Artificial intelligence will have immense im-
9 plications for the security of the United States and
10 its allies and partners.

11 (4) Investments made by the United States
12 Government will be instrumental in the research and
13 development of artificial intelligence and artificial in-
14 telligence-enabling technologies, as it has been for
15 many of the world's revolutionary technologies.

16 (5) Developing and using artificial intelligence
17 in ways that are ethical, reduce bias, promote fair-
18 ness, and protect privacy is essential for fostering a
19 positive effect on society consistent with core United
20 States values.

21 (6) The Obama Administration released the Big
22 Data Research and Development Initiative in 2012,
23 Executive Order 13702 (relating to creating a na-
24 tional strategic computing initiative) in 2015, and

1 the National Artificial Intelligence Research and De-
2 velopment Strategic Plan in 2016.

3 (7) The Trump Administration released Execu-
4 tive Order 13859 (relating to maintaining American
5 leadership in artificial intelligence), updated the Na-
6 tional Artificial Intelligence Research and Develop-
7 ment Strategic Plan in 2019, and released Office of
8 Management and Budget guidance for regulation of
9 artificial intelligence applications in 2020.

10 (8) In May 2019, the Organisation for Eco-
11 nomic Co-operation and Development (OECD)
12 adopted the OECD Principles on Artificial Intel-
13 ligence, which included the principles of inclusive
14 growth, sustainable development and well-being,
15 human-centered values and fairness, transparency
16 and explainability, robustness, security and safety,
17 and accountability.

18 (9) In February 2020, the European Commis-
19 sion began a consultation process with the release of
20 their white paper “On Artificial Intelligence—A Eu-
21 ropean approach to excellence and trust”, which set
22 out policy options for a coordinated European ap-
23 proach to artificial intelligence regulation.

24 (10) In June 2020, the G7 and several partners
25 launched the Global Partnership on Artificial Intel-

1 ligence to increase cooperation focused around the
2 areas of responsible artificial intelligence, data gov-
3 ernance, the future of work, and innovation and
4 commercialization.

5 (11) Several United States allies, including
6 Canada, Denmark, Estonia, France, Finland, Ger-
7 many, the Netherlands, and South Korea, have pub-
8 lished national artificial intelligence strategies with
9 detailed funding commitments.

10 (12) In 2017, China published a national artifi-
11 cial intelligence strategy that detailed the Chinese
12 Communist Party’s goal to become the world’s pri-
13 mary artificial intelligence innovation center by
14 2030.

15 (13) In 2019, Russia published a national arti-
16 ficial intelligence strategy and, in 2017, Russian
17 President Vladimir Putin said that “whoever be-
18 comes the leader in this sphere will become the ruler
19 of the world”.

20 (14) In 2018, the Subcommittee on Information
21 Technology of the Committee on Oversight and Gov-
22 ernment Reform of the House of Representatives,
23 under the leadership of Chairman Will Hurd and
24 Ranking Member Robin Kelly, published “Rise of
25 the Machines: Artificial Intelligence and its Growing

1 Impact on U.S. Policy” following a series of hear-
2 ings on artificial intelligence with experts from aca-
3 demia, industry, and government, concluding that
4 “the United States cannot maintain its global lead-
5 ership in artificial intelligence absent political leader-
6 ship from Congress and the Executive Branch”.

7 (15) Congress serves a critical role in estab-
8 lishing national priorities, funding scientific research
9 and development, supporting emerging technologies,
10 and sustaining cooperation with our allies to protect
11 the national security of the United States.

12 (b) NATIONAL ARTIFICIAL INTELLIGENCE STRATEGY
13 PRINCIPLES.—It is the sense of the House of Representa-
14 tives that the following principles should guide the na-
15 tional artificial intelligence strategy of the United States:

16 (1) Global leadership.

17 (2) A prepared workforce.

18 (3) National security.

19 (4) Effective research and development.

20 (5) Ethics, reduced bias, fairness, and privacy.

21 **SEC. 2. GLOBAL LEADERSHIP.**

22 It is the sense of the House of Representatives that
23 the United States should take a global leadership role in
24 artificial intelligence.

1 **SEC. 3. WORKFORCE PREPARATION.**

2 (a) FINDINGS.—The House of Representatives finds
3 the following:

4 (1) Artificial intelligence and automation will
5 present significant challenges to workers in affected
6 industries due to the automating of some routine
7 and repetitive tasks, but will also create additional
8 employment opportunities.

9 (2) Closing the artificial intelligence talent gap
10 in the short- and medium-term will require a tar-
11 geted approach to identifying and filling roles that
12 require the skills to build and work with artificial in-
13 telligence systems.

14 (3) The United States should take a leadership
15 role in the artificial intelligence-driven economy by
16 filling the artificial intelligence talent gap and pre-
17 paring United States workers for the jobs of the fu-
18 ture, including by prioritizing inclusivity and equal
19 opportunity.

20 (4) Departments and agencies of the Federal
21 Government are increasingly using data to admin-
22 ister benefits, assess outcomes, and fulfill other mis-
23 sion-critical activities.

24 (5) Effectively creating, managing, and imple-
25 menting artificial intelligence-related research and
26 development grants will require technical expertise.

1 (6) Departments and agencies of the Federal
2 Government will need to be able to recruit employees
3 with technical expertise.

4 (7) Lifelong learning and skill acquisition can
5 increase flexibility with respect to career opportuni-
6 ties.

7 (8) The United States will need to be able to
8 attract the best artificial intelligence researchers and
9 computer scientists from around the world to work
10 in the United States.

11 (b) MATTERS TO CONSIDER.—

12 (1) EDUCATION.—It is the sense of the House
13 of Representatives that the national competitiveness
14 of the United States in artificial intelligence would
15 benefit from—

16 (A) increased funding for Federal pro-
17 grams that support science, technology, engi-
18 neering, mathematics, and computer science
19 education;

20 (B) grant programs that continue funding
21 the integration of ethics courses and modules
22 into science, engineering, and computer science
23 curricula;

24 (C) new education programs of study re-
25 lated to artificial intelligence that incorporate

1 industry-recognized credentials, including cer-
2 tifications and certificates, embedded within
3 secondary and postsecondary degree programs;
4 and

5 (D) continued support for teacher prepara-
6 tion programs that increase the number of
7 teachers with the ability to teach science, tech-
8 nology, engineering, mathematics, and computer
9 science education.

10 (2) PROMOTING DIVERSITY.—It is the sense of
11 the House of Representatives that—

12 (A) the inclusion of students from histori-
13 cally under-represented groups in existing tech-
14 nology education programs would benefit a di-
15 verse artificial intelligence workforce; and

16 (B) recruitment and retention policies with
17 respect to under-represented communities and
18 marginalized groups in the Federal workforce
19 should be reviewed for the purpose of deter-
20 mining if such policies require modification for
21 technology workers.

22 (3) ARTIFICIAL INTELLIGENCE TRAINING.—

23 (A) IN GENERAL.—It is the sense of the
24 House of Representatives that the Federal Gov-
25 ernment should assess the effectiveness of cur-

1 rent public workforce development programs
2 with respect to the additional support such pro-
3 grams will need to effectively address job dis-
4 ruptions and job creations that result from the
5 increased use of artificial intelligence.

6 (B) WORK-BASED LEARNING AND ON-THE-
7 JOB TRAINING PROGRAMS.—It is the sense of
8 the House of Representatives that the Federal
9 Government should support the adoption of
10 work-based learning and on-the-job training
11 programs to prepare the United States work-
12 force for an artificial intelligence-influenced
13 economy, including by—

14 (i) undertaking studies to determine
15 best practices to implement such programs;
16 and

17 (ii) ensuring that there is sufficient
18 Federal funding to support high-quality
19 programs that coordinate with Federal
20 workforce development programs.

21 (4) FEDERAL HIRING PRACTICES.—It is the
22 sense of the House of Representatives that the Fed-
23 eral Government should—

24 (A) allow technical experts to use their
25 skills to assist multiple departments and agen-

1 cies of the Federal Government, such as the
2 United States Digital Service;

3 (B) focus on the retention of non-partisan
4 experts within the Federal Government who are
5 working to modernize Federal information tech-
6 nology;

7 (C) include in the criteria for recruiting for
8 artificial intelligence jobs the consideration of a
9 multi-disciplinary set of skills, including an un-
10 derstanding of ethical practices with respect to
11 the design and use of artificial intelligence sys-
12 tems, privacy, information security, law, and
13 civil liberties;

14 (D) review hiring practices for employment
15 in the Federal Government for the purpose of
16 ensuring that such practices do not disqualify
17 individuals with a less traditional background,
18 including due to a lack of undergraduate or
19 graduate degree attainment, who have skills
20 that will benefit work in artificial intelligence
21 systems management and research and develop-
22 ment; and

23 (E) conduct studies with respect to best
24 practices for skills-based hiring.

1 **SEC. 4. NATIONAL SECURITY.**

2 (a) FINDINGS.—The House of Representatives finds
3 the following:

4 (1) Artificial intelligence will have immense im-
5 plications for national and international security.

6 (2) Artificial intelligence tools and systems can
7 augment human intelligence through human-ma-
8 chine collaboration and teaming across the national
9 security ecosystem.

10 (3) Ensuring that the public trusts the ability
11 of the military to ethically use artificial intelligence
12 and that human operators in human-machine teams
13 trust the artificial intelligence will be critical factors
14 with respect to the successful implementation of ar-
15 tificial intelligence systems.

16 (4) The continued proliferation of national arti-
17 ficial intelligence strategies, plans, statements, and
18 investments demonstrates the increase in global
19 competition in this area.

20 (5) New paradigms will be required to effec-
21 tively test artificial intelligence and to ensure that it
22 is reliable and stable.

23 (6) Export and investment controls will be im-
24 portant policy tools to prevent the acquisition of sen-
25 sitive artificial intelligence and artificial intelligence-
26 enabling technologies, including hardware such as

1 semiconductors and semiconductor manufacturing
2 equipment, by China, Russia, and other adversaries.

3 (b) MATTERS TO CONSIDER.—

4 (1) COLLABORATION WITH FOREIGN NA-
5 TIONS.—It is the sense of the House of Representa-
6 tives that the United States should—

7 (A) leverage its alliances to promote demo-
8 cratic principles, foster research collaboration,
9 and develop common standards with respect to
10 artificial intelligence;

11 (B) promote the interoperability of artifi-
12 cial intelligence for the purpose of strength-
13 ening alliances;

14 (C) along with allies, take a leading role in
15 international forums to set artificial intelligence
16 principles, norms, and standards; and

17 (D) undertake efforts to engage with
18 China and Russia with respect to—

19 (i) shared concerns about artificial in-
20 telligence safety; and

21 (ii) confidence-building by establishing
22 crisis communications procedures designed
23 to reduce the likelihood of unintentional
24 use and the risk of escalation with respect
25 to artificial intelligence systems.

1 (2) FOREIGN ARTIFICIAL INTELLIGENCE CAPA-
2 BILITY.—It is the sense of the House of Representa-
3 tives that national security agencies should consider
4 conditions-based and capabilities-based approaches
5 when evaluating global artificial intelligence capabili-
6 ties.

7 (3) DEVELOPMENT AND DEPLOYMENT.—It is
8 the sense of the House of Representatives that na-
9 tional security agencies should—

10 (A) collaborate with experts in academia,
11 the private sector, and other departments and
12 agencies of the Federal Government to develop
13 best practices for testing, evaluation, validation,
14 and verification of artificial intelligence sys-
15 tems;

16 (B) devote agency resources, including in-
17 vesting in research, for the purpose of pro-
18 moting trustworthiness with respect to human-
19 machine teams;

20 (C) engage with experts to develop guide-
21 lines for the ethical development and use of ar-
22 tificial intelligence systems; and

23 (D) prioritize the development of artificial
24 intelligence systems to cover non-critical tasks

1 until such systems can achieve suitable stand-
2 ards of reliability, interoperability, and security.

3 (4) EXPORT AND INVESTMENT CONTROLS.—It
4 is the sense of the House of Representatives that the
5 United States should collaborate with its allies to
6 prevent the misuse of artificial intelligence systems
7 by China, Russia, and other adversaries.

8 **SEC. 5. RESEARCH AND DEVELOPMENT.**

9 (a) FINDINGS.—The House of Representatives finds
10 the following:

11 (1) Federal funding plays an important role in
12 research and development.

13 (2) Federal research and development invest-
14 ments need to be significantly increased to ensure
15 United States leadership in artificial intelligence.

16 (3) Federally supported research will play an
17 important role in supporting artificial intelligence
18 techniques that are critical to United States artifi-
19 cial intelligence leadership, including by exploring
20 novel techniques that leverage smaller data sets to
21 train artificial intelligence systems and making more
22 efficient use of computing resources.

23 (4) Artificial intelligence advances are enabled
24 by Federal research and development investments in
25 other technology sectors because United States eco-

1 nomic competitiveness and national security will de-
2 pend on strong capabilities across a range of tech-
3 nologies.

4 (5) Computing power is essential to progress in
5 artificial intelligence development, and the amount
6 of computing power required for artificial intel-
7 ligence training runs is increasing exponentially.

8 (6) A new wave of technological advances could
9 be fostered by combining and increasing access to
10 government-owned and government-funded com-
11 puting and data resources.

12 (7) Expanding access to digital infrastructure,
13 such as broadband, will be essential to creating new
14 job opportunities and stimulating the growth of new
15 technology and innovation clusters to support United
16 States leadership in artificial intelligence.

17 (8) Incentivizing research and development
18 across the private sector, particularly from smaller
19 companies, will further strengthen the United States
20 innovation ecosystem.

21 (9) The United States is an attractive research
22 and development partner because it is home to
23 world-class universities, research institutes, and cor-
24 porations.

1 (10) Decades of experience show that joint
2 work with foreign researchers can be done with
3 great benefit and little detriment to United States
4 economic and national security with the implementa-
5 tion of proper safeguards.

6 (11) Artificial intelligence standards and meas-
7 urement are essential to fostering artificial intel-
8 ligence technologies that are safe, secure, reliable,
9 and comport with the norms and values of the
10 United States.

11 (12) Metrics are how the artificial intelligence
12 research community guides itself and prioritizes re-
13 search.

14 (13) Benchmark tests are necessary to under-
15 stand the performance of an artificial intelligence
16 system.

17 (14) Current tests for measuring artificial intel-
18 ligence range from vague and conceptual to well-de-
19 fined and mature.

20 (15) Artificial intelligence measurement meth-
21 odologies are not static and will require periodic re-
22 examinations and updates of testing methodologies
23 to ensure that artificial intelligence systems are
24 functioning according to best-known practices.

1 (16) United States leadership in global artificial
2 intelligence standards-setting will help ensure that
3 artificial intelligence implementations are in accord-
4 ance with United States strengths and comport with
5 the interests and values of the United States.

6 (17) Public engagement is necessary for devel-
7 oping voluntary consensus standards, guidelines, and
8 frameworks to ensure diverse perspectives are con-
9 sidered.

10 (b) MATTERS TO CONSIDER.—

11 (1) FEDERAL FUNDING.—It is the sense of the
12 House of Representatives that the Federal Govern-
13 ment should increase investments in artificial intel-
14 ligence research and development and related fields.

15 (2) COLLABORATION WITH OTHER ENTITIES.—
16 It is the sense of the House of Representatives that
17 departments and agencies of the Federal Govern-
18 ment should collaborate—

19 (A) with the private sector, civil society,
20 and academia—

21 (i) to ensure that the United States
22 innovation ecosystem leads the world in ar-
23 tificial intelligence research and develop-
24 ment; and

1 (ii) to develop voluntary consensus
2 standards, guidelines, and frameworks that
3 will help create shared conceptual founda-
4 tions, terminology, and best practices for
5 artificial intelligence fairness and bias miti-
6 gation; and

7 (B) with science funding organizations in
8 like-minded countries to establish multilateral
9 teams of artificial intelligence researchers from
10 the public and private sectors to promote addi-
11 tional talent development and foster partner-
12 ships on artificial intelligence research and de-
13 velopment.

14 (3) EXPANDING DIGITAL ACCESS.—It is the
15 sense of the House of Representatives that the Fed-
16 eral Government should—

17 (A) expand access to broadband in rural
18 and underserved areas;

19 (B) expand the availability of affordable
20 graphics processing units and high-performance
21 computers in rural and underserved areas;

22 (C) improve digital infrastructure in the
23 United States; and

24 (D) make data created by federally funded
25 scientific and technical research publicly avail-

1 able with appropriate privacy protections to
2 provide artificial intelligence researchers with
3 new data sets to train their systems.

4 (4) NATIONAL COMPUTING AND DATA RE-
5 SOURCE.—It is the sense of the House of Represent-
6 atives that Congress should consider establishing a
7 national computing and data resource.

8 (5) ACCESS TO NATIONAL LABORATORIES.—It
9 is the sense of the House of Representatives that the
10 existing supercomputing labs at the national labora-
11 tories and technology centers of the Department of
12 Energy should expand opportunities for academics
13 and researchers to access such labs for artificial in-
14 telligence research and research related to artificial
15 intelligence.

16 (6) TAX INCENTIVES.—It is the sense of the
17 House of Representatives that Congress should ex-
18 amine whether targeted incentives and reforms to
19 the Internal Revenue Code of 1986 would increase
20 private sector research and development, particularly
21 with respect to small cap corporations.

22 **SEC. 6. ETHICS, REDUCED BIAS, FAIRNESS, AND PRIVACY.**

23 (a) FINDINGS.—The House of Representatives finds
24 the following:

1 (1) The rise of artificial intelligence has great
2 potential to improve quality of life for individuals in
3 the United States, provided it is developed and used
4 in a manner that is ethical, reduces bias, promotes
5 fairness, and protects privacy.

6 (2) A diverse artificial intelligence workforce is
7 important for mitigating bias.

8 (3) The United States is uniquely positioned to
9 leverage its diverse workforce to lead in artificial in-
10 telligence.

11 (4) The starting point for Federal oversight of
12 artificial intelligence should be to review existing
13 regulatory frameworks.

14 (5) Regulatory sandboxes, in general, refer to
15 regulatory structures where a participant obtains
16 limited or temporary access to a market in exchange
17 for reduced regulatory uncertainty, and can be used
18 to test a product designed to mitigate unintended
19 bias or promote fairness in a small-scale environ-
20 ment and under the supervision of regulators.

21 (6) Federal programs should have necessary
22 safeguards and oversight processes.

23 (7) Artificial intelligence regulatory approaches
24 should consider the level of risk associated with dif-
25 ferent artificial intelligence applications.

1 (b) MATTERS TO CONSIDER.—

2 (1) BIAS MITIGATION.—It is the sense of the
3 House of Representatives that departments and
4 agencies of the Federal Government should—

5 (A) support technical and non-technical re-
6 search and development to address potential
7 bias, fairness, and privacy issues in artificial in-
8 telligence;

9 (B) improve access to a broad range of
10 non-sensitive government data assets to help
11 train artificial intelligence systems;

12 (C) implement title II of the Foundations
13 for Evidence-Based Policymaking Act of 2018
14 (Public Law 115–435; 132 Stat. 5529);

15 (D) develop policies to identify the data
16 used to train artificial intelligence algorithms as
17 well as data analyzed by artificial intelligence
18 algorithms and systems in use by departments
19 and agencies; and

20 (E) further develop and release to the pub-
21 lic available benchmark data assets with the
22 proper safeguards to protect privacy, mitigate
23 bias, and promote inclusivity.

1 (2) REGULATION AND LEGISLATION REVIEW.—

2 It is the sense of the House of Representatives that
3 congressional committees should—

4 (A) review the range of existing Federal
5 regulations and laws that potentially apply to
6 artificial intelligence;

7 (B) determine which laws apply to artifi-
8 cial intelligence;

9 (C) determine if any gaps in appropriate
10 legislation and regulation exist and how such
11 gaps could be addressed;

12 (D) advance Federal privacy reforms that
13 build trust, prevent harm, and maintain United
14 States global leadership in artificial intelligence;
15 and

16 (E) conduct regular oversight of artificial
17 intelligence policies in the executive branch
18 within their jurisdiction.

19 (3) FEDERAL FUNDING.—It is the sense of the
20 House of Representatives that Congress should sup-
21 port funding for departments and agencies of the
22 Federal Government interested in adopting pro-
23 grams, including regulatory sandboxes, for the pur-

- 1 poses of testing artificial intelligence tools in limited
- 2 markets.

