Negative: Federal R&D Budget For A.I.

By “Coach Vance” Trefethen

***Resolved: The United States federal government substantially reform the use of Artificial Intelligence technology***

AFF plan massively increases the federal Defense Dept. and non-Defense budget for A.I. research and development (R&D).

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 Negative: Federal R&D Budget for A.I.

INHERENCY

A/T “Lack of national strategy”

Biden recently established new federal oversight agency for AI development strategy and resources

National Science Foundation 2021 (federal research agency) 10 June 2021 “The Biden administration launches the National Artificial Intelligence Research Resource Task Force” <https://www.nsf.gov/news/news_summ.jsp?cntn_id=302882&org=NSF> (accessed 17 June 2021)

The U.S. National Science Foundation and the White House Office of Science and Technology Policy today announced the formation of the National Artificial Intelligence Research Resource Task Force. As directed by Congress in the "National AI Initiative Act of 2020," the task force will serve as a federal advisory committee, developing an implementation roadmap for the National AI Research Resource, a shared research infrastructure providing AI researchers and students across all scientific disciplines with access to computational resources, high-quality data, educational tools and user support. The task force will provide recommendations for establishing and sustaining the National AI Research Resource, including technical capabilities, governance, administration, assessment and requirements for security, privacy, civil rights and civil liberties. It will also submit two reports to Congress that will comprise a comprehensive roadmap and implementation plan. The task force will deliver an interim report in May 2022 and a final report in November 2022.  “America’s economic prosperity hinges on foundational investments in our technological leadership,” said Science Advisor to the President and OSTP Director Eric Lander. “The National AI Research Resource will expand access to the resources and tools that fuel AI research and development, opening opportunities for bright minds from across America to pursue the next breakthroughs in science and technology.”

HARMS / SIGNIFICANCE

A/T “Losing AI race to China”

China’s big advantage is a lot of hype

Alison DeNisco Rayome 2019 (senior editor at CNET, leading a team covering software, apps and services ) 5 Apr 2019 “How China tried and failed to win the AI race: The inside story“ (accessed 22 June 2021) (brackets added) <https://www.techrepublic.com/article/how-china-tried-and-failed-to-win-the-ai-race-the-inside-story/>

Cutting through the hype
Despite the ambitious plan and the hyped headlines, China is not as far along in its AI ventures as its state media would lead you to believe, [managing director of Stieler Enterprise Management Consulting China, Georg] Stieler said. "There are a lot of half-truths and clear exaggerations that I see every day," Stieler said. "Things that don't work in the West also don't work in China yet." These are the key elements of AI development where China lags behind the US, despite rampant media coverage.

Chinese AI technical papers aren’t really as good or as numerous as they appear

Alison DeNisco Rayome 2019 (senior editor at CNET, leading a team covering software, apps and services ) 5 Apr 2019 “How China tried and failed to win the AI race: The inside story“ (accessed 22 June 2021) <https://www.techrepublic.com/article/how-china-tried-and-failed-to-win-the-ai-race-the-inside-story/>

Some of the fear of China's growing AI dominance has stemmed from research stating that the number of AI research papers from China has outpaced those from the US and other nations in recent years. A December 2018 study from information analytics firm Elsevier found that between 1998 and 2017, the US published 106,600 AI research papers, while China published 134,990. However, "When you measure the quality of the papers by self-citations, and when you apply an index that takes into consideration the reputation of the journals where the articles have been published, suddenly the number of Chinese papers drops, and falls below the numbers of the US," Stieler said. "The quality of the papers is still higher in the US." The US also has a structural advantage for research due to the number of top universities, Ding said. "Stanford, Carnegie Mellon, and MIT attract some of the best and brightest Chinese researchers, who then end up working in the US," he added.

China isn’t getting the top AI talent like the U.S. is

Alison DeNisco Rayome 2019 (senior editor at CNET, leading a team covering software, apps and services ) 5 Apr 2019 “How China tried and failed to win the AI race: The inside story“ (accessed 22 June 2021) <https://www.techrepublic.com/article/how-china-tried-and-failed-to-win-the-ai-race-the-inside-story/> (brackets added)

While five of the top 10 global machine learning talent-producing universities are in China, their graduates are not staying there, according to a 2018 [Diffbot report](https://www.techrepublic.com/article/62-of-chinas-machine-learning-graduates-leave-to-work-in-the-us/). Four of these schools--Tsinghua University, Peking University, Shanghai Jiao Tong University, and the University of Science and Technology of China--produced a total of 12,521 graduates in recent years; however, only 31% of these graduates stayed in China, while 62% left for the US, the report found. "If there is an arms race in AI right now, the battlefield is talent," [adjunct fellow with the Center for a New American Security's Technology and National Security Program, Elsa] Kania said. The war for talent is occurring both among major tech companies and between a number of Chinese government initiatives trying to recruit students and researchers, she added. "The US has a major advantage here, because the majority of the world's top universities and critical mass of talent remain in the US," Kania said.

China’s big tech pushes failed in the past. And they lack institutions and culture to win AI race now

Alison DeNisco Rayome 2019 (senior editor at CNET, leading a team covering software, apps and services) 5 Apr 2019 “How China tried and failed to win the AI race: The inside story“ (accessed 22 June 2021) <https://www.techrepublic.com/article/how-china-tried-and-failed-to-win-the-ai-race-the-inside-story/>

Since 2017, China has made an aggressive push to position itself as a global AI superpower, with a government plan investing billions of dollars in the field. But upon digging deeper, it's not difficult to find that the US remains at the forefront of the AI race, with more investment sources, a larger workforce, more thorough research papers, and more advanced chipsets. "There are countless industries where they said 'We want to become world leaders,' and it did not work--they basically burned billions," said Georg Stieler, managing director of Stieler Enterprise Management Consulting China, referencing China. "You need an institutional framework and cultural foundations so that many independent actors can coordinate their work. China's still not there yet."

A/T “US Hegemony”

No reason to celebrate US hegemony: No one anointed us to rule the world. People should solve their own problems

Doug Bandow 2020 (J.D. from Stanford Univ.; Senior Fellow at the Cato Institute; former Special Assistant to President Ronald Reagan) The U.S. Should Not Lead the World 23 July 2020 <https://www.cato.org/publications/commentary/us-should-not-lead-world?queryID=af31074dc65e4c368cd4d36a59759e4a> (accessed 23 June 2021)

Nevertheless, many of the complaints about inadequate U.S. leadership really are about something else. They reflect frustration that the U.S. will no longer automatically take care of other nations’ problems. Indeed, complaints about inadequate American leadership reflect a pervasive problem predating Trump’s election. Even the most prosperous and populous nations prefer to send crises to Washington for solution by the global hegemon. And American policymakers, overflowing with hubris and sanctimony, are only too happy to oblige.
**[END QUOTE. HE GOES ON TO CONCLUDE LATER IN THE SAME CONTEXT QUOTE:]**
Despite the tsunami of criticism, Donald Trump and his administration have good reason to be skeptical of the ubiquitous call for American leadership. Indeed, the extraordinary and ostentatious failures of the Trump administration when it has attempted to “lead” demonstrates why there should be much greater skepticism of global demands for greater U.S. leadership. The world needs better leadership. From all countries and peoples. It is not Washington’s duty to run the world. Other nations must pick up after themselves, pay their bills, fulfill their responsibilities, and shape their futures. American leadership is no substitute for better leadership by all.

Don’t need US hegemony for world peace / stability. They can, and should, find it on their own just fine without us

Doug Bandow 2020 (J.D. from Stanford Univ.; Senior Fellow at the Cato Institute; former Special Assistant to President Ronald Reagan) The U.S. Should Not Lead the World 23 July 2020 <https://www.cato.org/publications/commentary/us-should-not-lead-world?queryID=af31074dc65e4c368cd4d36a59759e4a> (accessed 23 June 2021)

Countries facing serious common threats should put aside their differences, rather than wait, hoping their mutual protector, almost always Washington, will take their side and pressure the other government. Such public officials should put national necessity before political advantage when facing an international moment of truth. America has no obligation to play nursemaid and beg them to make the right decision. Governments and peoples at war have good reason to make peace without relying on other nations, especially the U.S., to pressure and/​or bribe one or both sides. The overwhelming beneficiaries of peace are the parties themselves. Demanding payment to end combat suggests an attempt to profit from tragedy. Good societies should aid the recovery of those in need, not pay others to do what is right and in their interest.

No apocalyptic consequences without US leadership

Doug Bandow 2020 (J.D. from Stanford Univ.; Senior Fellow at the Cato Institute; former Special Assistant to President Ronald Reagan) The U.S. Should Not Lead the World 23 July 2020 <https://www.cato.org/publications/commentary/us-should-not-lead-world?queryID=af31074dc65e4c368cd4d36a59759e4a> (accessed 23 June 2021)

However, the claim that American leadership is necessary does not reflect the long arc of human history. Even before the U.S. existed, “stuff” happened in the world. Even before Washington was able to take a leading role in international affairs, decisions were made. Even before America chose to exercise its power, events occurred and problems were solved around the world. So there is good reason to be skeptical of the apocalyptic prophesies of doom from the supposed lack of U.S. leadership.

A/T “China Hegemony”

US decline relative to China is inevitable. Turn: Refusing to accept it provokes instability

Minghao Zhao 2019 ( Senior Fellow at the Institute of International Studies, Fudan University) 26 Aug 2019 “Is a New Cold War Inevitable? Chinese Perspectives on US–China Strategic Competition “ CHINESE JOURNAL OF INTERNATIONAL POLITICS <https://academic.oup.com/cjip/article/12/3/371/5544745> (accessed 23 June 2021)

For instance, Tsinghua University Professor Yan Xuetong points out that US–China strategic competition is inevitable due to the structural contradictions between the hegemon and the rising power. That China has been narrowing the gap between its comprehensive national strength and that of the United States might be the root cause of the growing competition between the two nations. He ascribes the instability of China–US relations to the two powers’ policy of ‘pretending to be friends’. Wang Jisi also mentions ‘structural contradictions’, but his elaboration features nuanced differences. He argues that although a large number of Chinese analysts believe that American power has declined, the Americans themselves cannot accept such a view. Therefore, as the United States is unwilling to acknowledge its weakness vis-à-vis China, a kind of strategic competition between the two sides is inevitable.

US/China rivalry isn’t a zero-sum game: China can gain influence without the U.S. being harmed

Minghao Zhao 2019 ( Senior Fellow at the Institute of International Studies, Fudan University) 26 Aug 2019 “Is a New Cold War Inevitable? Chinese Perspectives on US–China Strategic Competition “ CHINESE JOURNAL OF INTERNATIONAL POLITICS <https://academic.oup.com/cjip/article/12/3/371/5544745> (accessed 23 June 2021)

The United States cannot contain China in the region; nor can China exclude the United States from the Asia-Pacific. China needs to respect US interests and traditional influence in the Asia-Pacific and carefully manage the security implications of its expanding economic footprints. In the meantime, there is no need for the United States to see China’s rising influence in the region through a Cold-War lens and deem it a zero-sum game.

China isn’t interested in replacing US hegemony

World Economic Forum 2019 (international organization for public-private cooperation; non-profit foundation headquartered in Switzerland) Is a U.S. – China power transition inevitable? 15 Jan 2019 <https://www.weforum.org/agenda/2019/01/is-a-us-china-power-transition-inevitable/> (accessed 23 June 2021)

Perhaps most critically, though, China has evinced little desire to replace the United States in its present capacity. While increasingly global in scope, Beijing's foreign policy remains parochial in objectives, aimed more at sustaining its growth and cementing its centrality within the Asia-Pacific than at furnishing global public goods. The economist Charles Kindleberger [observed (TXT)](http://bev.berkeley.edu/fp/readings/WorldinDepression.txt) in 1973 that the Great Depression persisted “because the international economic system was rendered unstable by British inability and United States unwillingness to assume responsibility for stabilizing it.” We may witness a variant of this dynamic nine decades on, with neither the lone superpower nor its putative replacement able or willing to invest in the current order's modernization. Should that dynamic indeed prevail, China might continue to chip away at America's margin of pre-eminence without actually ascending to the commanding heights of geopolitics.

A/T “China surging ahead on A.I.”

China’s AI research is inefficient, corrupt, has recruiting problems, and low quality output

Congressional Research Service 2020. (non partisan research agency of Congress) Artificial Intelligence and National Security, last updated 10 Nov 2020 <https://fas.org/sgp/crs/natsec/R45178.pdf> (accessed 15 June 2021)

While most analysts view China’s unified, whole-of-government effort to develop AI as having a distinct advantage over the United States’ AI efforts, many contend that it does have shortcomings. For example, some analysts characterize the Chinese government’s funding management as inefficient. They point out that the system is often corrupt, with favored research institutions receiving a disproportionate share of government funding, and that the government has a potential to overinvest in projects that produce surpluses that exceed market demand. In addition, China faces challenges in recruiting and retaining AI engineers and researchers. Over half of the data scientists in the United States have been working in the field for over 10 years, while roughly the same proportion of data scientists in China have less than 5 years of experience. Furthermore, fewer than 30 Chinese universities produce AI-focused experts and research products. Although China surpassed the United States in the quantity of research papers produced from 2011 to 2015, the quality of its published papers, as judged by peer citations, ranked 34th globally.

China’s central government isn’t directing AI development, and it’s about economic growth, not global hegemony

Prof. Jinghan Zeng 2021. (Professor of China and International Studies in the Department of Politics, Philosophy and Religion at Lancaster University, United Kingdom) “China’s Artificial Intelligence Innovation: A Top-Down National Command Approach?” 23 Jan 2021 <https://onlinelibrary.wiley.com/doi/abs/10.1111/1758-5899.12914> (accessed 9 June 2021)

In this regard, the Chinese approach is summarized as a geopolitically driven national strategy reflecting the ambition of Beijing and Chinese leaders to pursue a China-centred AI order, assuming a concerted national effort to achieve a unified central objective. This article, however, argues that these views are mistaken. It argues that China’s AI strategy is a loose slogan rather than a concrete policy plan. In order to mobilize domestic actors, the slogan is kept deliberately vague and broad to accommodate the interests of domestic stakeholders. Instead of unfolding according to Beijing’s top-level design, China’s AI development is primarily driven by powerful domestic stakeholders with diverse and competing interests. As economic growth is the most important goal of China’s AI plans, the central state has restricted discretion, while local states have primary responsibility for boosting the AI economy in China.

China’s AI policy is a vague political slogan. The real work is being done at the local level with no geopolitical impact

Prof. Jinghan Zeng 2021. (Professor of China and International Studies in the Department of Politics, Philosophy and Religion at Lancaster University, United Kingdom) “China’s Artificial Intelligence Innovation: A Top-Down National Command Approach?” 23 Jan 2021 <https://onlinelibrary.wiley.com/doi/abs/10.1111/1758-5899.12914> (accessed 9 June 2021)

As this article shows, ‘to develop AI’ is a broad and vague political slogan to mobilize Chinese domestic actors. Far from being a specific plan, the State Council’s ‘New Generation AI Development Plan’ is a ‘manifesto about the future’ (Laskai, 2017) or a ‘wish list’ of AI technology that the central state would like to develop with little concrete ideas about how to get it done (Sheehan, 2018). **[END QUOTE**] Its implementation heavily relies on local and subnational actors to interpret the AI slogan and find their own ways to motivate the private sector and accelerate AI activities in their respective jurisdictions. This process often supports local agendas and interests as the mechanism allows a high level of discretion for local actors to decide local AI activities. This slogan mobilization process means that local and subnational actors play an important role in shaping AI politics. In this regard, China’s AI innovation does not simply follow a top-down command approach, which makes it distinctly different from that in the US and Europe. While strategic thinking and national planning mindsets are clearly there backing the Chinese central state’s AI plans, these top-level grand masterplans are not completely unfolded into concrete practices at the local level. [**HE GOES ON LATER TO SAY QUOTE**:] The nature of China’s economic circumstances means that its AI industry is primarily driven by a range of local, subnational and non-state actors who have diverse – and sometimes competing – interests and little diplomatic and geopolitical awareness.[ **END QUOTE**] Their struggle for resources has shaped the development of China’s AI industry. Instead of a top-down command model, the development of China’s AI policies largely follows a bottom-up manner in that existing local AI initiatives successfully won recognition from Beijing and were upgraded to become a national focus. Rather than a concerted national effort to boost the AI industry, the Chinese approach faces the problems of coordination and manipulation. [**AND FINALLY HE CONCLUDES QUOTE**:] Similar to the US and Europe, China’s market forces and entrepreneurs play a key role in boosting the AI industry, and they are pursuing individual commercial interests not the country’s national interests.

China’s central government is so bureaucratic and conflicted that they can’t effectively run an AI policy

Prof. Jinghan Zeng 2021. (Professor of China and International Studies in the Department of Politics, Philosophy and Religion at Lancaster University, United Kingdom) “China’s Artificial Intelligence Innovation: A Top-Down National Command Approach?” 23 Jan 2021 <https://onlinelibrary.wiley.com/doi/abs/10.1111/1758-5899.12914> (accessed 9 June 2021)

It may also be worth mentioning that, even for authoritarian regimes like China’s, coordination and central planning are not as straightforward as many would expect. Even within the central government in Beijing, bureaucratic politics is everywhere. As far as AI is concerned, jurisdiction among the central state’s different departments over China’s AI policy is anything but straightforward. Four central agencies, including the National Development Reform Commission, the Ministry of Science and Technology, the Ministry of Industry and Information Technology and the Cyberspace Administration of China, fought to assert their power in deciding and managing China’s AI policy (Ding, [2018](https://onlinelibrary.wiley.com/doi/full/10.1111/1758-5899.12914#gpol12914-bib-0014)). Different national AI policy papers indicate remarkably interesting conflicts over which agencies have the mandate to command China’s AI policy (Ding, [2018](https://onlinelibrary.wiley.com/doi/full/10.1111/1758-5899.12914#gpol12914-bib-0014)). In other words, central agencies in Beijing are not pursing a single unified goal – let alone the whole national attempt to advance AI in China.

A/T “Russia hegemony”

US massively spends more on military than Russia, and Russia can’t establish much power abroad

Vijay Prashad 2018 (Indian historian, editor and journalist. He is a writing fellow and chief correspondent at [Globetrotter](https://independentmediainstitute.org/globetrotter/), a project of the Independent Media Institute) A paranoid America is greatly exaggerating Russian power 22 Feb 2018 <https://www.salon.com/2018/02/22/a-paranoid-america-is-greatly-exaggerating-russian-power_partner/>

One of the central features of Putin’s reforms was to strengthen the military, whose capacity had declined in the post-Soviet era. This included Russia’s weapons production, which withered for lack of investment. Putin put in resources towards both the arms industry and the military — although the numbers here are minuscule compared to those in the United States. It is important to point out that the increase of the US military budget insisted upon by Donald Trump is greater than the total Russian military budget. The new US budget will spend $105 billion more on the military than it did last year, taking US military spending to $716 billion; Russia’s total military spending is $69 billion. Even Russia’s interventions — in Ukraine and in Syria — are less acts of belligerence than acts of defense. The two warm-water ports that Russia is able to access for its navy are in Sevastopol (Ukraine) and Tartus (Syria). If the West had been able to draw Ukraine and Syria away from mild Russian influence, Russia would have lost its navy. The United States, meanwhile, has 40 warm-water bases on its own territory and an additional 31 naval bases across the world (from Peru to Japan, from Spain to Diego Garcia). Russia’s attempt to create the Collective Security Treaty Organization, a rival to NATO, has not gained traction. Eastern Ukraine remains in distress, while Syria is still in the midst of a terrible war. Russia has prevented American hegemony in these zones, but it has not been able to establish its own power here either.

Neither China nor Russia are a threat to the US, just moving the world back into healthy balance of power

Vijay Prashad 2018 (Indian historian, editor and journalist. He is a writing fellow and chief correspondent at [Globetrotter](https://independentmediainstitute.org/globetrotter/), a project of the Independent Media Institute) A paranoid America is greatly exaggerating Russian power 22 Feb 2018 <https://www.salon.com/2018/02/22/a-paranoid-america-is-greatly-exaggerating-russian-power_partner/>

But it remains a defensive statement. Neither China nor Russia is making a push to become the global powerhouse. They are merely seeking to rebalance a world order that has — since the end of the Cold War — tilted unhealthily towards the United States. So is Russia a threat? Is China a threat? The question really is, to whom? They are threats to any assertion of US dominance over the planet. But they are no threat to the United States as such. They are committed to a multi-polar planet: a sensible solution in our very unstable and dangerous times.

SOLVENCY

1. US Decline Inevitable

Rise of China is inevitable. We should simply embrace it like Britain did after World War 2

Adrian Monck 2018. (head of communications at the World Economic Forum) 28 Aug 2018 “The Choice Facing a Declining United States” THE ATLANTIC <https://www.theatlantic.com/ideas/archive/2018/08/americas-global-influence-is-declining/568708/>

In Africa, the evidence is everywhere. China will put nearly $90 billion into the continent this year, the United States nothing close. China is betting big on economic partnerships and dependencies along its new Silk Road, christened “One Belt, One Road.” The U.S., meanwhile, spends many of its dollars on expensive wars, to the detriment of soft-power projects like USAID, or domestic welfare programs like Medicaid. America’s global influence is certain to decline relatively in the years ahead; it is the inevitable consequence of the return of the Middle Kingdom. As that happens, the U.S. should be more deliberate about the policy choices it makes. It’s a lesson I’ve seen my own country—which was once an empire, too—learn the hard way. On the way down from global hegemony, Britain came around too slowly to investing in domestic welfare. The U.S. should apply those lessons sooner.

US military will face inevitable federal budget cuts forced by consequences of Covid 19

Ashley J. Tellis 2020 (Counselor, The National Bureau of Asian Research; Senior Fellow, Carnegie Endowment for International Peace) 4 May 2020 “Covid-19 Knocks on American Hegemony” <https://www.nbr.org/publication/covid-19-knocks-on-american-hegemony/>

Even if the more optimistic analysis from J.P. Morgan, for example, comes to pass—that the United States could begin to bounce back from the pandemic in the second half of the year—the cumulative economic losses that the country suffers would total roughly $11 trillion over a decade. More pessimistic assessments offered under some scenarios by McKinsey, in contrast, suggest that such losses would reach almost $19 trillion over the same time period. Under such conditions, it is unlikely that U.S. defense expenditures at the 2019 level of $676 billion could be sustained over the next decade.

US hegemony can’t be sustained due to long-term negative economic effects of Covid 19

Ashley J. Tellis 2020 (Counselor, The National Bureau of Asian Research; Senior Fellow, Carnegie Endowment for International Peace) 4 May 2020 “Covid-19 Knocks on American Hegemony” <https://www.nbr.org/publication/covid-19-knocks-on-american-hegemony/>

As scholars of international competition have long understood, successful hegemonies arise—and can be successfully maintained—only by states that dominate the cycles of innovation to create new leading sectors in the economy. These transformations produce supernormal returns, which are then utilized for satisfying internal needs and expanding external influence. By the best accounts, the United States has exemplified this pattern since around 1945. But if the country is in fact now trapped in a period of low productivity growth and persistent weaknesses in aggregate demand—each for different reasons—the net result may be a diminished capacity to sustain both the increasing domestic obligations and its extant international interests simultaneously. Or, in other words, the task of preserving U.S. primacy over the next few decades will prove to be harder than before. This constraint will only be amplified if the disconcerting findings of a working paper from the Federal Reserve Bank of San Francisco prove to be true of the Covid-19 pandemic: that the deleterious macroeconomic consequences of pandemics appear to persist for around 40 years.

US ability to lead is declining because of our bad reputation for botching the response to Covid 19

Ashley J. Tellis 2020 (Counselor, The National Bureau of Asian Research; Senior Fellow, Carnegie Endowment for International Peace) 4 May 2020 “Covid-19 Knocks on American Hegemony” <https://www.nbr.org/publication/covid-19-knocks-on-american-hegemony/>

While the damage caused to the U.S. economy and the human losses will make the task of preserving U.S. hegemony after the pandemic harder—at a time when most assessments suggest that countries like China are likely to recover faster than the United States—the reputational damage to Washington is just as serious. Although variables like competency are hard to quantify, they are vital in international politics because they induce awe in others and make cooperation, if not compliance, easier. After all, the generation of hegemonic power is owed not merely to the strength of a nation’s material base but even more fundamentally to the effectiveness of its state authority, which directs the transformation of latent resources into realized capabilities. Thomas Hobbes underlined this insight powerfully in the *Leviathan* when he declared, “Reputation of power, is Power.” China has lost no time in claiming that its authoritarian model of politics is far more effective in dealing with upheavals than its democratic rivals. While this argument is unlikely to have many takers in democratic countries, the fact remains nonetheless that the United States, with its dismal performance in managing the pandemic, has lost its sheen as a proficient power.

2. Can’t hire enough skilled people

Dept of Defense (DOD) can’t hire enough skilled employees because they won’t want to work there

Congressional Research Service 2020. (non partisan research agency of Congress) Artificial Intelligence and National Security, last updated 10 Nov 2020 <https://fas.org/sgp/crs/natsec/R45178.pdf> (accessed 15 June 2021)

Some reports indicate that DOD and the defense industry also face challenges when it comes to recruiting and retaining personnel with expertise in AI due to research funding and salaries that significantly lag behind those of commercial companies. Other reports suggest that such challenges stem from quality-of-life factors, as well as from a belief among many technology workers that “they can achieve large-scale change faster and better outside the government than within it.” This sentiment echoes the findings of the National Security Commission on Artificial Intelligence, which notes that “AI experts would be willing to serve in government if officials could create a more compelling sense of purpose and a technical environment within government that would maximize their talents.” Regardless, observers note that if DOD and defense industry are unable to recruit and retain the appropriate experts, military AI applications could be delayed, “deficient, or lacking in appropriate safeguards and testing.”

3. Defense Dept. failures

J.A.I.C. is the wrong actor (and so are all the other DoD AI bureaucracies): Create delay and confusion

[MARC LOSITO](https://warontherocks.com/author/marc-losito/) & [JOHN ANDERSON](https://warontherocks.com/author/john-anderson/) 2021. (*Losito is a first-year Master of Public Policy candidate at Duke University and an active-duty U.S. Army Warrant Officer; holds a degree from Norwich University and has served in the military and Special Operations Forces for 20 years. Anderson is a U.S. Army Reserve military officer focused on applying AI and machine learning to mission critical problems.  He has served in the U.S. Army for nearly 20 years; holds degrees from Univ of North Carolina at Chapel Hill and Columbia Business School* ) 10 May 2021 THE DEPARTMENT OF DEFENSE’S LOOMING AI WINTER <https://warontherocks.com/2021/05/the-department-of-defenses-looming-ai-winter/> (accessed 23 June 2021)

Bureaucracy can be a beautiful thing — structure, talent, mission, and resources coming together in a cohesive, logical manner to deliver mission-critical capabilities. With that said, Department of Defense bureaucracies have a way of calcifying around [programs and people](https://www.gao.gov/assets/gao-18-592.pdf), not actual capabilities. The consequence of the AI bureaucracy — which consists of several one-off groups organized around the task of bringing AI to the department, but which are stovepiped away from the people they’re actually trying to buy AI for — is an unnecessary buffer between users and developers. This convoluted system confuses what should be a direct feedback loop to ensure that capabilities are acutely focused on mission-critical requirements. The department should shrink centralized groups like the Joint AI Center and the Army Futures Command [AI Task Force](https://www.c4isrnet.com/artificial-intelligence/2020/06/10/the-army-ai-task-force-takes-on-two-key-projects/) and instead send their authorities, decision-making power, and resources down to operational units.

Dept of Defense uses the wrong paradigm and methodology, so they won’t use AI effectively

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The Department of Defense is approaching the [development of AI](https://warontherocks.com/2020/06/the-humble-task-of-implementation-is-the-key-to-ai-dominance/) through the lens of traditional weapons development. But AI cannot be developed in the same manner as tanks and battleships — from the top down through exhaustive requirements lists, programs of record, and long development timelines before finally fielding the capability to the warfighter on the battlefield. The department should invert this paradigm and partner with operational commanders — the leaders of those who will use or [employ AI](https://www.ai.mil/docs/2020_DoD_AI_Training_and_Education_Strategy_and_Infographic_10_27_20.pdf) tools — from the beginning of the process, then iterate alongside real users to lead, create, and drive AI. If the department does not get this right, U.S. warfighters will be using badly designed and poorly integrated AI weapon systems, while near-peer AI-enabled adversaries seize competitive advantages.

Cultural factors inside the Defense establishment block implementation of AI

Congressional Research Service 2020. (non partisan research agency of Congress) Artificial Intelligence and National Security, last updated 10 Nov 2020 <https://fas.org/sgp/crs/natsec/R45178.pdf> (accessed 15 June 2021)

Cultural factors within the defense establishment itself may also impede AI integration. The integration of AI into existing systems alters standardized procedures and upends well-defined personnel roles. Members of Project Maven have reported a resistance to AI integration because integration can be disruptive without always providing an immediately recognizable benefit. Deputy Director for CIA technology development Dawn Meyerriecks has also expressed concern about the willingness of senior leaders to accept AI-generated analysis, arguing that the defense establishment’s risk-averse culture may pose greater challenges to future competitiveness than the pace of adversary technology development.

Defense Dept (DOD) will only use AI for incremental improvement at best

Congressional Research Service 2020. (non partisan research agency of Congress) Artificial Intelligence and National Security, last updated 10 Nov 2020 <https://fas.org/sgp/crs/natsec/R45178.pdf> (accessed 15 June 2021)

Finally, some analysts are concerned that DOD will not capitalize on AI’s potential to produce game-changing warfighting benefits and will instead simply use AI to incrementally improve existing processes or reinforce current operational concepts. Furthermore, the services may reject certain AI applications altogether if the technology threatens service-favored hardware or missions.

4. Can’t solve the one area China leads on AI

China leads on data quantity because they have 1.4 billion people. AFF can’t quadruple the US population – so we’ll never catch up

Alison DeNisco Rayome 2019 (senior editor at CNET, leading a team covering software, apps and services ) 5 Apr 2019 “How China tried and failed to win the AI race: The inside story“ (accessed 22 June 2021) <https://www.techrepublic.com/article/how-china-tried-and-failed-to-win-the-ai-race-the-inside-story/> (brackets added)

China's major advantage in AI research and implementation is the sheer quantity of data created by its population of 1.4 billion and far more lax regulations on that data than exist in the US. "China has approximately 20% of the world's data, and could have 30% by 2030," [adjunct fellow with the Center for a New American Security's Technology and National Security Program, Elsa] Kania said. "Because data is the fuel for the development of AI, particularly for machine learning, that could provide China a critical advantage." While certain elements of AI, like facial recognition, require massive quantities of data, others require more advanced algorithms, which the US has an advantage over China on, Kania said.

5. Federal R&D inefficiency

Federally funded R&D is less effective because it can’t correct its mistakes as fast as markets

Clyde Wayne Crews 2021 (MBA; vice president for policy and a senior fellow at the Competitive Enterprise Institute) 19 May 2021 The Endless Frontier Act to Boost Science and Tech Can Mean Endless Regulation <https://cei.org/blog/the-endless-frontier-act-to-boost-science-and-tech-can-mean-endless-regulation/>

Bureaucrats’ ability at spending others’ money is suspect. It puts the cart before the horse by short-circuiting the organic evolution of new technologies. Governments, unlike private sector investors, are also is incapable of rapid course correction, including abandoning unproductive projects. The Endless Frontier Act still has a way to go in terms of debate and amendment. Policy makers need to do a better job in addressing the downsides of government funding and oversight of frontier sectors. CEI’s founder Fred Smith has often noted the primacy of tying research and deployment to human needs, and how private investors are best situated to do that, able to test low-probability projects and letting the rare success offset multiple failures. Markets are good at killing bad projects.

Federal hi-tech R&D historically fails: 1) political intervention; 2) lack of knowledge; 3) crowding out private investment

Scott Lincicome 2021 (J.D.; senior visiting lecturer at Duke University Law School; senior fellow in economic studies at Cato Institute) 26 May 2021 “The ‘Endless Frontier’ and American Industrial Policy” <https://www.cato.org/commentary/endless-frontier-american-industrial-policy> (brackets in original) (accessed 24 June 2021)

Past U.S. industrial policy efforts show how public choice issues can thwart planners’ intentions, especially in the high‐​tech space. For example, in critiquing the Endless Frontier Act’s structure back in 2020, technology experts Patrick Windham, Christopher T. Hill, David Cheney [noted](https://issues.org/improving-the-endless-frontier-act/) that “US efforts in the 1990s to identify ‘critical technologies’ did not succeed, partly because it is hard to predict which technologies will be most valuable in the future [note: this “[Knowledge Problem](https://www.econlib.org/library/Essays/hykKnw.html)” is another common industrial policy hurdle] and partly because decisions about R&D funding priorities inevitably become political, as groups and leaders vie to have their favorites supported.”  Once legislation is passed, moreover, politics can still intervene. In the 1991 book, [The Technology Pork Barrel](https://www.brookings.edu/book/the-technology-pork-barrel/), for example, the authors—sympathetic to industrial policy—examined six federal programs from the 1960s and 1970s intended to develop commercial technologies for the private sector. They found that none were truly successful, while four were “almost unqualified failures,” costing billions, crowding out more meritorious R&D projects, yet enduring long after fiscal, technological, and commercial failure was established—a survival owed to political pressure (especially financial benefits accruing to numerous congressional districts) and captured regulators.

DISADVANTAGES

1. Wrong R&D priorities

Must focus federal R&D on the most likely threats. Impact: R&D to solve a pandemic that kills a million people has way more impact

Andrew Eversden 2020 (journalist) 29 Nov 2020 “How the Biden administration is expected to approach tech research and development” <https://cset.georgetown.edu/article/how-the-biden-administration-is-expected-to-approach-tech-research-and-development/> (brackets added) (accessed 22 June 2021)

Commercial partners from DARPA’s 3-year-old [pandemic prevention platform](https://www.c4isrnet.com/industry/2020/04/07/how-past-investments-positioned-darpa-to-take-on-coronavirus/) program announced they developed a COVID-19 therapeutic using new techniques. “There’s absolutely going to be a rethink,” [Connecticut Rep. Jim] Himes told C4ISRNET in an interview. “Are we correctly allocating money between the possibility that there could be a pandemic that kills a million Americans, versus the possibility that we’re going to have to fight the Russians in the Fulda Gap? I think there’s going be a lot of thinking about that. And there should be thinking about that because our money should go to those areas where there’s the highest probability of dead Americans.”

2. Hype backfire

Link & Brink: Defense Dept. is already over-hyped about AI. Further emphasis will create despair when it doesn’t meet the hyped expectations

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The Department of Defense is on a full-tilt sugar high about the potential for AI to secure America’s competitive edge over potential adversaries. AI does hold exciting possibilities. But an artificial AI winter looms for the department, potentially restraining it from joining the rest of the world in the embrace of an AI spring. The department’s [frenzy for AI](http://www.foreignaffairs.com/articles/united-states/2021-04-06/perils-overhyping-artificial-intelligence) is distracting it from underlying issues preventing operationalization of AI at scale. When these efforts fail to meet expectations, the sugar rush will collapse into despair.

Link: Hype let-down will lead to future de-prioritizing of AI weapons systems

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The resultant feedback loop will deprioritize and defund AI as a critical weapon system. This is known as an “AI winter,” and the Department of Defense has been here twice before. If it happens again, it won’t be because the technology wasn’t ready, but because the Department of Defense doesn’t know enough about AI, has allowed a bureaucracy to grow up between the people who will use AI and those developing it for them, and is trying to tack “AI-ready” components onto legacy systems on the cheap.

Impact: Turn AFF harms

AFF claims AI is critical to military superiority, so anything that sets it back makes the AFF harms worse.