Negative: Red Teams (Defense Dept Cybersecurity)

By “Coach Vance” Trefethen

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

Case Summary: The AFF plan has the federal government contract use an AI strategy called “Red Teams” to find flaws in US Defense Dept and military computer systems to enhance cybersecurity (and thereby benefit US national security). A “Red Team” is a group the US would put together who would run simulated hacking attacks as if they were an enemy, in order to expose vulnerabilities. Concept is recommended by the US National Security Commission on AI in Chapter 7 of this document here:
<https://www.nscai.gov/wp-content/uploads/2021/03/Full-Report-Digital-1.pdf>

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Negative: Red Teams (Defense Dept Cybersecurity)

TOPICALITY

1. “Protecting” not “using”

AFF’s goal and mandates are “protecting” AI, not “using” it

All they’re allowed to do is reform the “use” of AI. This means the ‘Red Teams’ they establish would only be able to run AI programs, not do test-hacking or other non-AI methods to enhance security.

Everyday examples show why guarding / protecting is not the same as “using”

The Secret Service “protects” the President of the United States, but they do not “use” him. A guard in an armored car “protects” the cash he is delivering, but he had better not be “using” that cash!

Impact: If no one is affirming, then Negative ballot is the only option

No one in the round is advocating reform of the ‘use’ of AI, so there is effectively no Affirmative team in this debate. No matter who wins, you should write Negative on the ballot.

2. “Effects topicality”

AFF is hoping their plan will affect the use of AI, some day

Their plan doesn’t fiat directly any changes in AI. It’s really a plan to set up a study and investigation process to determine what, if any, changes are needed in AI at some point in the future. Their plan then does not actually fiat that those changes get made – which is obvious, since they don’t know what’s needed.

Violation: Hoping a plan will affect the topic of the resolution some day is an abusive strategy known as “effects topicality”

Effects Topicality opens our debate to an infinite number of things that could affect the use of AI some day. Climate change, interest rates, foreign policy, trade policies… This is abusive because it means there are no limits on the scope of debate, and Negative teams cannot possibly research and prepare for anything in the world that could somehow affect AI. We can’t have good wholesome debates when the AFF is allowed to affirm anything they want without following the resolution.

Voting impact: Negative ballot as a teaching tool

You can teach Affirmatives not to do this kind of abusive behavior by simply casting a Negative ballot on the grounds of Topicality. They’ll get the message and start writing better cases.

3. Nothing reformed – Endorsing the Status Quo

Link: Pentagon is deploying AI cybersecurity Red Teams as of 2022

Jaspreet Gill 2022 (journalist) 28 Jan 2022 “[Pentagon’s cybersecurity tests aren’t realistic, tough enough: Report](https://breakingdefense.com/2022/01/pentagons-cybersecurity-tests-arent-realistic-tough-enough-report/)” <https://breakingdefense.com/2022/01/pentagons-cybersecurity-tests-arent-realistic-tough-enough-report/> (accessed 21 Feb 2022) (brackets added)

DOT&E led a team of cyber analysts at the request of the DoD chief information officer to develop machine learning tools and tactics, techniques and procedures for an analysis of DoD network traffic data. The results were briefed to the DoD CIO, the office of the defense secretary and mission partners, the report states. The Pentagon in FY[Fiscal Year]22 is deploying teams of AI and data experts to all 11 Combatant Commands as part of its [AI and Data Acceleration initiative](https://breakingdefense.com/2021/06/hicks-will-send-ai-data-experts-to-combatant-commanders/). DOT&E in its report stated it would work with those teams to identify opportunities to assess the cybersecurity of technologies in addition to the assessments it already performs with the Combatant Commands.

Topicality Violation: Endorsing the Status Quo isn’t substantial reform

The AFF Plan says it’s doing exactly what the Defense Dept. is already doing as of January 2022. But the Affirmative was supposed to advocate changing the Status Quo, not endorsing it. They must provide evidence AFTER JANUARY 2022 showing how their Red Teams are different and better than Status Quo Red Teams.

A/T “But we do it better or We do it more” – No evidence and still no reform

We know AFF is going to respond “But we do it more” or “We do it better.” 3 Responses:
1) They offer no evidence dated after January 2022 that says their plan is better than the teams the Pentagon is deploying as of that date
2) Doing more of the same thing is not the definition of reform in any dictionary on earth.
3) Duplication of effort is certainly not what the framers of the resolution had in mind when they put the word “reform” in the resolution.

Impact: Abandons the entire debate to the Negative

The AFF was supposed to advocate change and the NEG was supposed to endorse Status Quo. Now that both teams are endorsing the Status Quo, it appears our position is so good that is has convinced the Affirmative team to adopt it. If they agree with us that the Status Quo is doing the right policy, then you should too, Judge, and vote for us.

HARMS / SIGNIFICANCE

1. No military impact. AI (even when it’s used and works) doesn’t contribute much to military power

Only rare situations where AI would replace humans in a military context. It can’t solve most military problems

Avi Goldfarb & Jon Lindsay 2020 (Goldfarb - Rotman School of Management at the University of Toronto Professor of Marketing and Chief Data Scientist - Creative Destruction Lab. Lindsay - Assistant Professor - Munk School of Global Affairs and Public Policy, University of Toronto Assistant Professor - Department of Political Science, University of Toronto) Nov 2020 “Artificial intelligence in war: Human judgment as an organizational strength and a strategic liability” <https://www.brookings.edu/research/artificial-intelligence-in-war-human-judgment-as-an-organizational-strength-and-a-strategic-liability/> (accessed 17 Sept 2021)

Artificial intelligence has the potential to change the conduct of war. Recent excitement about AI is driven by advances in the ability to infer predictions from data. Yet this does not necessarily mean that machines can replace human decisionmakers. The effectiveness of AI depends not only on the sophistication of the technology but also on the ways in which organizations use it for particular tasks. In cases where decision problems are well-defined and plentiful relevant data is available, it may indeed be possible for machines to replace humans. In the military context, however, such situations are rare. Military problems tend to be more ambiguous while reliable data is sparse. Therefore, we expect AI to enhance the need for military personnel to determine which data to collect, which predictions to make, and which decisions to take.

Advances in AI will be met by our adversaries using devious counter-measures, so no net benefit

Avi Goldfarb & Jon Lindsay 2020 (Goldfarb - Rotman School of Management at the University of Toronto Professor of Marketing and Chief Data Scientist - Creative Destruction Lab. Lindsay - Assistant Professor - Munk School of Global Affairs and Public Policy, University of Toronto Assistant Professor - Department of Political Science, University of Toronto) Nov 2020 “Artificial intelligence in war: Human judgment as an organizational strength and a strategic liability” <https://www.brookings.edu/wp-content/uploads/2020/11/fp_20201130_artificial_intelligence_in_war.pdf> (accessed 17 Sept 2021)

If prediction machines provide better information, then adversaries will produce more disinformation. If prediction enhances intelligence, adversaries will engage in more devious counterintelligence. If prediction enables more efficient targeting, then adversaries will present more controversial and morally fraught targets.23 If automated systems operate under tightly controlled rules of engagement, then adversaries will attempt to change the normative frameworks that legitimize the use of force. AI enabled conflicts have the potential to drag on with ambiguous results, embroiled in controversy and plagued by crises of legitimacy.

2. Barely used

The US Defense Dept. hardly uses A.I. for any national defense purposes today

National Security Commission on Artificial Intelligence 2021. “Final Report National Security Commission on Artificial Intelligence” March 2021 <https://www.nscai.gov/wp-content/uploads/2021/03/Full-Report-Digital-1.pdf> (accessed 21 Feb 2022)

Despite exciting experimentation and a few small AI programs, the U.S. government is a long way from being “AI-ready.” The Commission’s business leaders are most frustrated by slow government progress because they know it’s possible for large institutions to adopt AI. AI integration is hard in any sector—and the national security arena poses some unique challenges. Nevertheless, committed leaders can drive change. We need those leaders in the Pentagon and across the Federal Government to build the technical infrastructure and connect ideas and experimentation to new concepts and operations. By 2025, the Department of Defense and the Intelligence Community must be AI-ready.

SOLVENCY

1. Lack of qualified staff

Affirmative’s “Red Team” advocacy source admits we can’t do it right now because we need to develop the skills first

National Security Commission on Artificial Intelligence 2021. “Final Report National Security Commission on Artificial Intelligence” March 2021 <https://www.nscai.gov/wp-content/uploads/2021/03/Full-Report-Digital-1.pdf> (accessed 21 Feb 2022)

Because of the scarcity of required expertise and experience for AI red teams, the DoD and ODNI should consider establishing enterprise-wide communities of AI red teaming and vulnerability testing capabilities that could be applied to multiple AI developments.

But that’s a problem because the government can’t find and hire them fast enough to do wise AI policy

Prof. Ryan Calo 2017. (Associate Professor, University of Washington School of Law; hosted the first White House workshop on artificial intelligence policy, organized AI workshops for the National Science Foundation) Artificial Intelligence Policy: A Primer and Roadmap <https://lawreview.law.ucdavis.edu/issues/51/2/Symposium/51-2_Calo.pdf> (accessed 8 Aug 2021)

The better-grounded observation is that government lacks the requisite expertise to manage society in such a deeply technically-mediated world. Government bodies are slow to hire up and face steep competition from industry. When the state does not have its own experts, it must either rely on the self-interested word of private firms (or their proxies) or experience a paralysis of decision and action that ill-serves innovation. Thus, one overarching policy challenge is how best to introduce expertise about AI and robotics into all branches and levels of government so they can make better decisions with greater confidence. [**END QUOTE**] The solution could involve new advisory bodies, such as an official Federal Advisory Committee on Artificial Intelligence with an existing department or even a standalone Federal Robotics Commission. Or it could involve resuscitating the Office of Technology Assessment, building out the Congressional Research Service, or growing the Office of Science and Technology Policy. Yet another approach involves each branch hiring its own technical staff at every level. [**HE GOES ON TO CONCLUDE IN THE SAME CONTEXT QUOTE:]** The technical knowledge and affordances of the government — from the ability to test claims in a laboratory to a working understanding of AI in lawmakers and the judiciary — will ultimately affect the government’s capacity to generate wise AI policy.

AI talent deficit blocks government from success. The entire federal talent pipeline needs to be rebuilt first

National Security Commission on Artificial Intelligence 2021 (bipartisan commission of 15 technologists, national security professionals, business executives, and academic leaders) March 2021 “Final Report” <https://www.nscai.gov/wp-content/uploads/2021/03/Full-Report-Digital-1.pdf> (accessed 17 June 2021)

The human talent deficit is the government’s most conspicuous AI deficit and the single greatest inhibitor to buying, building, and fielding AI-enabled technologies for national security purposes. This is not a time to add a few new positions in national security departments and agencies for Silicon Valley technologists and call it a day. We need to build entirely new talent pipelines from scratch.

2. Other factors block military/national defense use of AI

US Defense Dept adoption of AI is blocked by: 1) lack of skilled workforce 2) lack of technical infrastructure

Center for Strategic & International Studies, Defense-Industrial Initiatives Group 2018. (PROJECT DIRECTOR - ANDREW P. HUNTER. LEAD AUTHOR - LINDSEY R. SHEPPARD. CONTRIBUTING AUTHORS: ROBERT KARLÉN ANDREW P. HUNTER LEONARDO BALIEIRO. CSIS is a non-profit research organization; its president is former US Deputy Sec. of Defense John J. Hamre) ARTIFICIAL INTELLIGENCE AND NATIONAL SECURITY THE IMPORTANCE OF THE AI ECOSYSTEM <https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/181102_AI_interior.pdf> (accessed 17 Sept 2021)

For many potential AI users, there are two outstanding debts to be paid before successful AI adoption is likely. The first is workforce debt—a past failure to attract and retain the technical and management talent within the organization to successfully develop and implement AI in its systems. The second is technical infrastructure debt—the weakness of the organization’s digital capability, i.e., its data and its computing and networking capabilities. Paying down these twin debts is critical to successful AI adoption. For the U.S. government, and particularly for the Department of Defense, these debts are major barriers to AI adoption.

Increasing AI is useless while the federal government cuts infrastructure and digital capabilities

Center for Strategic & International Studies, Defense-Industrial Initiatives Group 2018. (PROJECT DIRECTOR - ANDREW P. HUNTER. LEAD AUTHOR - LINDSEY R. SHEPPARD. CONTRIBUTING AUTHORS: ROBERT KARLÉN ANDREW P. HUNTER LEONARDO BALIEIRO. CSIS is a non-profit research organization; its president is former US Deputy Sec. of Defense John J. Hamre) ARTIFICIAL INTELLIGENCE AND NATIONAL SECURITY THE IMPORTANCE OF THE AI ECOSYSTEM <https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/181102_AI_interior.pdf> (accessed 17 Sept 2021)

Additional sourcing on investment in the AI ecosystem is available through the Networking and Information Technology Research and Development (NITRD) Program, a group of U.S. federal agencies supporting the development of Information Technology (IT) capabilities in the federal government. It also includes both unclassified and classified R&D, with classified R&D generally being smaller than unclassified. However, given the importance of infrastructure and digital capability, NITRD funding trends are problematic in that IT spending is decreasing while AI spending is increasing. The success of AI applications depends in part on having the right infrastructure to support access to data and computing and the productivity of the workforce. AI is grounded in basic computer science, so it is problematic and unsustainable for investment in foundational digital capability spending to decrease while AI spending is increasing.

Before Defense Dept. can go all-in on AI, they have to resolve underlying infrastructure problems

Center for Strategic & International Studies, Defense-Industrial Initiatives Group 2018. (PROJECT DIRECTOR - ANDREW P. HUNTER. LEAD AUTHOR - LINDSEY R. SHEPPARD. CONTRIBUTING AUTHORS: ROBERT KARLÉN ANDREW P. HUNTER LEONARDO BALIEIRO. CSIS is a non-profit research organization; its president is former US Deputy Sec. of Defense John J. Hamre) ARTIFICIAL INTELLIGENCE AND NATIONAL SECURITY THE IMPORTANCE OF THE AI ECOSYSTEM <https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/181102_AI_interior.pdf> (accessed 17 Sept 2021)

Investment is needed in things like network infrastructure, data collection, and data processing. Unfortunately, these investments are not glamorous, but strengthening the AI ecosystem in this way is critical to successful deployment of AI. There is a solid culture of experimentation, but this does not help if the underlying architecture cannot can translate the data from system to system. For example, the F-22 and F-35 fifth-generation fighter jets face interoperability challenges among themselves, let alone with fourth-generation fighters, as their underlying network architectures do not line up and the incoming data is not processed the same way. Before the Department of Defense goes all in with AI on its current path, the underlying architectures need to be assimilated.

DISADVANTAGES

1. Federal deficits and economic harm

Link: Solvency arguments prove the plan is a waste of money

We’d be spending billions on something that adds no value

Impact: Every dollar in the plan could have been used to reduce the deficit and reduce harm to the US economy

Dr William Gale and Benjamin Harris 2010. (Gale - PhD in economics, Stanford Univ.; senior fellow at the Brookings Institution and co-director of the Urban-Brookings Tax Policy Center; former assistant professor of Economics at UCLA, and a senior economist for the Council of Economic Advisers under President George H.W. Bush; Harris - master’s degree in economics from Cornell Univ and master’s degree in quantitative methods from Columbia University; senior research associate with the Economics Studies Program at the Brookings Institution) “A VAT for the United States: Part of the Solution” (notes about the date: This article is one of several in the overall publication at this source. The publication date was 2011, but this article was written in 2010) <https://www.taxpolicycenter.org/sites/default/files/alfresco/publication-pdfs/1001418-A-Value-Added-Tax-for-the-United-States-Part-of-the-Solution.PDF> (accessed 26 Jan 2022)

But even in the absence of a crisis, sustained deficits have deleterious effects, as they translate into lower national savings, higher interest rates, and increased indebtedness to foreign investors, all of which serve to reduce future national income. Gale and Orszag (2004a) estimate that a 1 percent of GDP increase in the deficit will raise interest rates by 25 to 35 basis points and reduce national saving by 0.5 to 0.8 percentage points of GDP.

2. Hype

Link: Our opponents argue AI is a critical voting issue in the round because of its link to national security

It’s in their arguments

Link: Hyping AI link to military strength was already tried and failed. Doing it again sets back US national security when the inevitable disappointment occurs

[Julia Ciocca, Michael C. Horowitz, and Lauren Kahn](https://www.foreignaffairs.com/articles/united-states/2021-04-06/perils-overhyping-artificial-intelligence#author-info) 2021 (CIOCCA is a Research Fellow at Perry World House at Univ of Pennsylvania. HOROWITZ is Richard Perry Professor and Director of Perry World House at Univ of Pennsylvania. KAHN is a Research Fellow at Perry World House at the University of Pennsylvania.) 6 Apr 2021 <https://www.foreignaffairs.com/articles/united-states/2021-04-06/perils-overhyping-artificial-intelligence> (accessed 17 Sept 2021)

In 1983, the U.S. military’s research and development arm began a ten-year, $1 billion [machine intelligence program](https://ondoc.logand.com/d/2721/pdf) aimed at keeping the United States ahead of its technological rivals. From the start, computer scientists criticized the project as unrealistic. It promised big and ultimately failed hard in the eyes of the Pentagon, ushering in a long artificial intelligence (AI) “winter” during which potential funders, including the U.S. military, shied away from big investments in the field and abandoned promising areas of research.   Today, AI is once again the darling of the national security services. And once again, it risks sliding backward as a result of a destructive “hype cycle” in which [overpromising](https://warontherocks.com/2020/05/cautionary-tale-on-ambitious-feats-of-ai-the-strategic-computing-program/) conspires with inevitable setbacks to undermine the long-term success of a transformative new technology.

Impact: Reduced US national security

Whatever impact our opponents were claiming for US national security, it gets worse if you vote for them.

3. Overconfidence in AI

Link: Goal of AFF case is to increase Defense Dept. confidence in our AI systems

But more reliance on AI, because we think it’s safer and better, is a bad thing because it weakens national security as we see in…

Reliance on AI can make conflict less decisive

Avi Goldfarb & Jon Lindsay 2020 (Goldfarb - Rotman School of Management at the University of Toronto Professor of Marketing and Chief Data Scientist - Creative Destruction Lab. Lindsay - Assistant Professor - Munk School of Global Affairs and Public Policy, University of Toronto Assistant Professor - Department of Political Science, University of Toronto) Nov 2020 “Artificial intelligence in war: Human judgment as an organizational strength and a strategic liability” <https://www.brookings.edu/wp-content/uploads/2020/11/fp_20201130_artificial_intelligence_in_war.pdf> (accessed 17 Sept 2021)

Prediction has been made easier and cheaper by advances in machine learning and an abundance of data, yet we suggest that the complementary component— human judgment—is becoming more valuable. Because friction and controversy are inevitable in national security, we expect the military use of AI to make human judgment even more crucial and challenging. Ironically, however, the same organizational capacity that enables judgment, and thereby makes war fighting more predictable and controllable, also has the potential to make conflict more ambiguous and less decisive. In short, the ability to automate aspects of decision-making can make it harder to come to a decision within an organization or on the battlefield.

AI-enabled conflict could become more prolonged and less decisive, making the entire military enterprise less certain

Avi Goldfarb & Jon Lindsay 2020 (Goldfarb - Rotman School of Management at the University of Toronto Professor of Marketing and Chief Data Scientist - Creative Destruction Lab. Lindsay - Assistant Professor - Munk School of Global Affairs and Public Policy, University of Toronto Assistant Professor - Department of Political Science, University of Toronto) Nov 2020 “Artificial intelligence in war: Human judgment as an organizational strength and a strategic liability” <https://www.brookings.edu/wp-content/uploads/2020/11/fp_20201130_artificial_intelligence_in_war.pdf> (accessed 17 Sept 2021)

War is ultimately a struggle of power and will between rival organizations and societies. Strategic adversaries have incentives to avoid playing to enemy strengths, and to undermine them if possible. In short, if judgment becomes a source of strength for an AI-enabled military organization, then an intelligent adversary will make judgment more difficult. Many commentators expect AI to make war faster and more volatile. This is possible, but our focus on strategic interaction suggests that AI-enabled conflict also has the potential to become more protracted and less decisive. We anticipate that making particular aspects of military operations more certain will make the entire enterprise less certain.

Reliance on AI diffuses responsibility, making it harder to understand what’s going on

Avi Goldfarb & Jon Lindsay 2020 (Goldfarb - Rotman School of Management at the University of Toronto Professor of Marketing and Chief Data Scientist - Creative Destruction Lab. Lindsay - Assistant Professor - Munk School of Global Affairs and Public Policy, University of Toronto Assistant Professor - Department of Political Science, University of Toronto) Nov 2020 “Artificial intelligence in war: Human judgment as an organizational strength and a strategic liability” <https://www.brookings.edu/wp-content/uploads/2020/11/fp_20201130_artificial_intelligence_in_war.pdf> (accessed 17 Sept 2021)

Reliance on AI could so diffuse responsibility for action that personal responsibility and accountability is undermined. As judgment becomes more distributed, everyone is responsible, and no one is. This can make it harder for the organization to develop a clear collective understanding of what it is doing, and why. Furthermore, judgment is likely to be distributed not only within a military organization but also across the civil-military divide. If judgment is more distributed, then the “unequal dialogue” of civil military relations will necessarily extend into more tactical and technical realms.

AI weakens decision-making in national security situations

Avi Goldfarb & Jon Lindsay 2020 (Goldfarb - Rotman School of Management at the University of Toronto Professor of Marketing and Chief Data Scientist - Creative Destruction Lab. Lindsay - Assistant Professor - Munk School of Global Affairs and Public Policy, University of Toronto Assistant Professor - Department of Political Science, University of Toronto) Nov 2020 “Artificial intelligence in war: Human judgment as an organizational strength and a strategic liability” <https://www.brookings.edu/wp-content/uploads/2020/11/fp_20201130_artificial_intelligence_in_war.pdf> (accessed 17 Sept 2021)

On one hand, civilians will have to develop a better understanding of the military consequences of the judgments that inform AI prediction. On the other, military personnel will have to become more involved in political conversations about goals and values to understand what judgments need to be made. Yet this is also a recipe for politicization from above and below. The distribution of judgment connects more veto players for any given decision. This could promote second-guessing and a reticence to take bold action (decision paralysis), or logrolling and manipulation to promote parochial organizational and political interests in the name of national security.