Negative: Drones with Facial Recognition Tech

By “Coach Vance” Trefethen

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

Case Summary: The AFF plan requires Facial Recognition Technology to be put onto military drones for better detection when attacking the enemy (avoid civilian casualties or people killed by mistake). Plan uses Turkey as a model, which has recently introduced drones with FRT in some conflict situations (Libya, Syria).

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Air Force announced on Dec 6, 2021 the development of 2 new autonomous drones in the upcoming defense budget 4

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Negative: Drones FRT

TOPICALITY

1. Nothing reformed, just advocating Status Quo

Status Quo policy: U.S. military is already working on integrating AI facial recognition into drones

Thomas Brewster 2021 (Associate editor at Forbes, covering cybercrime, privacy, security and surveillance.) Drones With Facial Recognition Are Primed To Fly—But The World Isn’t Ready Yet 15 Feb 2021 <https://www.forbes.com/sites/thomasbrewster/2021/02/15/drones-with-facial-recognition-are-primed-to-fly-but-the-world-isnt-ready-yet/?sh=65ee6d963d9e> (accessed 9 Dec 2021)

A [patent application](https://pdfaiw.uspto.gov/.aiw?PageNum=1&docid=20210034843&IDKey=9F055AB1185B&HomeUrl=http%3A%2F%2Fappft.uspto.gov%2Fnetacgi%2Fnph-Parser%3FSect1%3DPTO1%2526Sect2%3DHITOFF%2526d%3DPG01%2526p%3D1%2526u%3D%2Fnetahtml%2FPTO%2Fsrchnum.html%2526r%3D1%2526f%3DG%2526l%3D50%2526s1%3D20210034843.PGNR.%2526OS%3D%2526RS%3D), published earlier this month, was filed by Tel Aviv-based AnyVision back in August 2019 in the U.S., detailing tech to help a drone find the best angles for a facial recognition shot, before trying to find a match for the target by referring to faces stored in a database. It was titled, “Adaptive positioning of drones for enhanced facial recognition,” and filed by current and former AnyVision employees, including three from Belfast, U.K.  The patent aims to iron out some of the complexities of identifying faces from a flying machine. Various obvious issues arise when trying to recognize someone from a drone: acquiring an angle at which a face can be properly captured and being able to get good-quality visuals whilst moving or hovering. Both are considerably harder than getting a match from static footage. U.S. military agencies have been trying to come up with solutions, including the [Advanced Tactical Facial Recognition at a Distance Technology project at U.S. Special Operations Command (SOCOM)](https://www.newscientist.com/article/2233639-us-military-face-recognition-system-could-work-from-1-kilometre-away/) and the [Intelligence Advanced Research Projects Activity (IARPA) Biometric Recognition and Identification at Altitude and Range initiative](https://www.nextgov.com/emerging-tech/2020/12/intel-agencies-seek-perfect-biometric-recognition-drones/170712/).

No reform possible: Technical details have to be worked out

The card above says they’re working on it and have to work out the details. There’s nothing that can or should be reformed. AFF cannot fiat that the US military magically makes the technology work faster. And they can’t fiat that Turkey does it for us, assuming their systems are working perfectly and don’t need improvements.

Violation: If there’s no reform, Affirmative cannot uphold the resolution

The resolution requires substantial reform. If their plan won’t do anything differently from Status Quo, then the resolution is not upheld.

Impact: No Affirmative team means Negative ballot

Since no one is affirming substantial reform in this debate round, there is effectively no Affirmative team. No matter who wins, you should write “Negative” on the ballot.

INHERENCY

1. New Air Force drones already in the works

Air Force announced on Dec 6, 2021 the development of 2 new autonomous drones in the upcoming defense budget

Bryan Bender and Lee Hudson 2021 (journalists) 6 Dec 2021 POLITICO “2 new secret combat drones are in the works, Air Force secretary says” <https://www.politico.com/news/2021/12/06/combat-drones-air-force-kendall-523812> (accessed 7 Dec 2021) (brackets in original)

The Air Force will seek funding to develop a pair of classified combat drone programs next year that are designed to operate alongside fighter planes and bombers, Air Force Secretary Frank Kendall told POLITICO. “I’ve got two that I’m going to have in the ‘23 budget in some form,” Kendall said in an interview at the Reagan National Defense Forum on Saturday. “They’re both unmanned air combat vehicles, unmanned platforms that are designed to work in conjunction with fighter aircraft like [the Next Generation Air Dominance fighter] or F-22 or the F-35. On the other hand they work in conjunction with bombers like the B-21.”

Not speculative or hypothetical. They’re already underway. [Referring in context to the 2 drones announced above:]

Bryan Bender and Lee Hudson 2021 (journalists) 6 Dec 2021 POLITICO “2 new secret combat drones are in the works, Air Force secretary says” <https://www.politico.com/news/2021/12/06/combat-drones-air-force-kendall-523812> (accessed 7 Dec 2021)

A hot ticket: Kendall said the prep work for both new programs is already underway. “I will be doing things to try and get them ready to go,” he said. “We will be able to use study money and some science and technology money to set the stage for that.”

2. New drones and old Reaper drones will both have AI soon

Status Quo will have AI drones to replace the MQ-9 (Reaper) by 2031 as well as backfitting it to the MQ-9

Yasmin Tadjdeh 2020 (journalist) “MQ-NEXT: Air Force Sets Sight on Reaper Drone Replacement” 4 Sept 2020 <https://www.nationaldefensemagazine.org/articles/2020/9/4/air-force-sets-sight-on-reaper-drone-replacement> (accessed 7 Dec 2021)

The service is aiming for initial delivery beginning in 2030, and initial operational capability by 2031, according to the RFI. **[END QUOTE]** “In a digitally engineered future, 10 years is an eternity. I would hope we could spiral multiple times within that 10 years,” Roper said. If “we can’t get it done by 2030 then something is wrong with our system. Ten years should never be the time you take for development except for extremely exceptional things.” [**LATER IN THE CONTEXT SHE WRITES QUOTE:]** General Atomics is responding to the RFI and plans to leverage its experience with the MQ-9 as it pursues the effort, according to a company spokesperson. “The technology advancements we propose will leverage open architecture, artificial intelligence, autonomy, modularity and interoperability to maximize both system effectiveness and service investments,” the spokesperson said. “We believe our technology advancements offer lower lifecycle cost and provide warfighters with enhanced unmanned capabilities that enable commonality and joint interoperability on the battlefield.” The company is embracing the possibility of a family of systems for the program, the spokesperson noted. It is planning to leverage more automation in future platforms and is already integrating such technology on the MQ-9. “This includes automatic take-off, landing and remote taxi, and a portable aircraft control system for aircraft launch and recovery that eliminates the need for forward-deployed launch/recovery crews,” they said. “We also developed a single-seat ground control station and have a multi-mission control capability that lets a single pilot control up to six MQ-9s.”

3. A/T “Air Force abandoning/cutting drones”

Quite the opposite: Air Force is committed to expanding drones

Bryan Bender and Lee Hudson 2021 (journalists) 6 Dec 2021 POLITICO “2 new secret combat drones are in the works, Air Force secretary says” <https://www.politico.com/news/2021/12/06/combat-drones-air-force-kendall-523812> (accessed 7 Dec 2021) (“the disclosure” in the first sentence is the announcement of the 2 drones in INHERENCY-1 card)

Why it matters: The disclosure is the strongest indication yet that the service is banking on autonomous weapon systems to give it an edge in the increasingly fierce military competition with China. “Investing in unique and highly capable unmanned aerial vehicles is something people not only expect, but is indicative of the fact that the Air Force is exploiting the technologies out there to give it a decisive technology edge,” said retired Air Force Lt. Gen. Dave Deptula, the former deputy chief of staff for intelligence, surveillance and reconnaissance who now runs the Mitchell Institute for Aerospace Studies, an industry-backed think tank.

HARMS / SIGNIFICANCE

1. A/T “Civilian Casualties with Status Quo drones”

SQ drones are very good at avoiding civilian casualties. AFF must prove they can significantly improve on a 1.5% civilian casualty rate

Michael W. Lewis 2013 (flew fighters for the Navy in the early 1990s. He now teaches international law at Ohio Northern University School of Law ) Drones: Actually the Most Humane Form of Warfare Ever 21 Aug 2013 <https://www.theatlantic.com/international/archive/2013/08/drones-actually-the-most-humane-form-of-warfare-ever/278746/> (accessed 9 Dec 2021)

The three most well respected and independent sources on this issue are the Long War Journal, the New America Foundation and The Bureau of Investigative Journalism (TBIJ). Among these, the U.K.-based TBIJ has consistently produced the highest estimates of civilian casualties for drone strikes. According to TBIJ, between January 2012 and July 2013, there were approximately 65 drone strikes in Pakistan, which they estimate to have killed a minimum of 308 people. Yet of these casualties, even TBIJ estimates that only 4 were civilians. This would amount to a civilian casualty rate of less than 1.5 percent, meaning that only 1 in 65 casualties caused by drones over that 19-month period was a civilian. This speaks to drones effective discrimination between civilian and military targets that no other weapons system can possibly match.

2. A/T “Turkish KILLER ROBOT Drones”

Simple answer: That’s nonsense

[Zachary Kallenborn](https://www.brookings.edu/author/zachary-kallenborn/) 2021 (*research affiliate with the Unconventional Weapons and Technology Division of the National Consortium for the Study of Terrorism and Responses to Terrorism, a policy fellow at the Schar School of Policy and Government, and a U.S. Army Training and Doctrine Command “Mad Scientist.”* ) [Applying arms-control frameworks to autonomous weapons](https://www.brookings.edu/techstream/applying-arms-control-frameworks-to-autonomous-weapons/) October 5, 2021  <https://www.brookings.edu/techstream/applying-arms-control-frameworks-to-autonomous-weapons/> (accessed 9 Dec 2021)

The United Nations report about the Kargu-2 caused an uproar. [Sensationalist headlines](https://www.the-sun.com/news/2975746/terminator-style-ai-drone-hunted-down-human-targets/) compared the Kargu-2 to a “Terminator-style AI drone” that “hunted down human targets without being given orders.” These stories conjured images of out of control, sentient robots killing as they saw fit. To be blunt, that is nonsense. Although artificial intelligence—technically a super intelligent narrow AI—can beat the world’s best human [chess](https://www.wired.com/story/ai-ruined-chess-now-making-game-beautiful/) and [Go](https://deepmind.com/research/case-studies/alphago-the-story-so-far) players, that is far from a generalized, human-level intelligence like the Terminator. In fact, a [sticky note](https://www.theverge.com/2021/3/8/22319173/openai-machine-vision-adversarial-typographic-attacka-clip-multimodal-neuron) is enough to convince a cutting edge machine vision system that an apple is an iPod.

SOLVENCY

1. Civilian casualties not reduced

It’s too early to know whether AI facial recognition on military drones will reduce civilian casualties. Good chance it won’t

Autumn Perkey 2021. (*doctoral student at the University of Maryland*) 5 Aug 2021 **Why AI cannot prevent dehumanization in drone warfare** <https://medium.com/international-affairs-blog/why-ai-cannot-prevent-dehumanization-in-drone-warfare-2edf83c1cf3f> (accessed 9 Dec 2021)

Findings have shown that AI’s face identifications algorithms had errors of 1[% for white men, but 35% for women of colour](https://www.csis.org/blogs/technology-policy-blog/problem-bias-facial-recognition). The failure of AI to accurately determine differences between demographic characteristics can lead to the improper targeting of civilians who are labeled as combatants due to false positives created by this facial recognition bias. Indeed, when incorporating AI into drone warfare there is no way to fully know the risks until such technologies are deployed in the field on a regular basis. Human operators have been shown to be prone to error that has led to collateral damage and the same is likely to occur with the incorporation of AI.

2. Turkey “success” was more than AI facial recognition

Facial recognition is good but: CEO of the Turkish manufacturer says you also need 1) swarms of large numbers and 2) evade GPS jammers. And they didn’t only target single individuals

Alcan Tekingunduz 2021 (journalist) 3 June 2021 “A series of autonomous drones gives Turkey a military edge” <https://www.trtworld.com/magazine/a-series-of-autonomous-drones-gives-turkey-a-military-edge-47201> (accessed 9 Dec 2021)

Defense Technologies and Trade Inc. (STM), a Turkish company that manufactures Kargu-2 drones and supplies them to the Turkish military, told the media last year that their drones also have facial recognition technology, which gives a major advantage to the Turkish security forces in identifying individual targets so they could be neutralised without deploying forces on the ground.  Murat Ikinci, the former CEO of STM,  [was quoted in Turkish media](https://www.airturkhaber.com/haberler/kargu-2020de-goreve-cikiyor/) in 2019 as saying that the main advantages of Karagu-2 swarms is that their sheer number can overwhelm targets and they can evade the GPS jammers.  According to the UN report, the Kargu-2 attack in Libya had achieved the desired results. Heavy military installations, convoys and hordes of mercenaries and armed personnel working for Haftar were "hunted down and remotely engaged by lethal autonomous weapons systems such as the STM Kargu-2".

Turkish drones succeeded by killing tanks, not individuals recognized by AI

New Delhi Times 2021. (Indian news source) Possible First Use of AI-Armed Drones Triggers Alarm Bells 8 June 2021 <https://www.newdelhitimes.com/possible-first-use-of-ai-armed-drones-triggers-alarm-bells/> (accessed 9 Dec 2021) (brackets added)

“Turkey has shown that a mid-sized power, when it puts its mind and money behind it, can develop very sophisticated armed drones,” says [Ulrich] Franke [of the European Council for Foreign Relations]. Last October when the disputed enclave of Nagorno-Karabakh saw the worst fighting there since 1994, Turkish drones were assessed as having given Azerbaijan a key edge over the Armenians. Turkish drones sliced through Armenia’s air defenses and pummeled its Russian-made tanks.

3. Failure without drone strategy overhaul and Turkish stuff won’t help

Must reform strategy first: Drone (UAV) strategy will end in disaster if we don’t first shift our thinking to a centralized mechanism to integrate all the AI data (which Status Quo and AFF Plan both don’t have)

Norine MacDonald and George Howell 2019 (Norine MacDonald Q.C. is a Visiting Distinguished Research Fellow, INSS, National Defense University and founder of RAIN Research. George Howell is a policy analyst and co-founder of RAIN Research, focusing on the nexus between artificial intelligence and strategic defense issues) Killing Me Softly Competition in Artificial Intelligence and Unmanned Aerial Vehicles (article is undated but references material published in Dec 2019) <https://ndupress.ndu.edu/Portals/68/Documents/prism/prism_8-3/prism_8-3_MacDonald-Howell_102-126.pdf> (accessed 8 Dec 2021)

“Multidomain warfare involves colossal amounts of heterogenous data streams that can be exploited only with the help of AI. While the ability to manage this data colossus in real time promises tremendous advantages, failure to draw meaning from that information could spell disaster.” UAVs are sensing organs that receive information from the external world. Currently, AI is moving forward on individual platforms; however, a centralized situational awareness AI core and a decentralized AI nervous system are required to synchronize and aggregate the overwhelming amount of sensor data necessary. A shift in thinking from a platform-centric approach to one creating the core architecture to syndicate such systems is essential: AI-supported weapons, platforms, and operating systems rely on custom-built software and hardware that is specifically designed for each separate system and purpose. There is currently no master mechanism to integrate the scores of AI-powered systems operating on multiple platforms. This AI core and nervous system priority must be part of both short-term and long-term planning, in recognition of its force multiplication potential. It also must be considered as a key element of any manned/unmanned strategy, to avoid being offset by a more AI-empowered and -integrated competitor. The AI core and AI nervous system must be recognized as a strategic necessity, be part of urgent short-term planning, inserted into all medium-term and long-term planning as the highest priority, and properly financed in budgetary allocations.

NEG wins because: Data management strategy should “receive much more attention” than focusing on the latest technology

**[This evidence (you can see by its title) is from a study of the recent conflicts in which Turkish drones were used (mentioned in the AFF case). These experts are drawing “lessons learned” from those drones, and it’s very different from the lessons AFF wants you to learn – but these guys are way better qualified than AFF to tell you what conclusions you should draw from Turkish drones using “new technology.” ]**

Heiko Borchert, Torben Schütz, Joseph Verbovszky 2021 (Borchert - Borchert Consultiing & Research AG. Schutz - [Helmut Schmidt University / University of the Federal Armed Forces Hamburg](https://www.researchgate.net/institution/Helmut-Schmidt-University-University-of-the-Federal-Armed-Forces-Hamburg). Verbovszky – Johns Hopkins Univ. School of Advanced International Studies) May 2021 Beware the Hype- What Military Conflicts in Ukraine, Syria, Libya, and Nagorno-Karabakh (Don’t) Tell Us About the Future of War <https://www.researchgate.net/publication/351614718_Beware_the_Hype_What_Military_Conflicts_in_Ukraine_Syria_Libya_and_Nagorno-Karabakh_Don't_Tell_Us_About_the_Future_of_War> /link/60a0ee9792851cfdf3388438/download (accessed 9 Dec 2021)

Deeply integrating UAV and EW into the force structure is likely to go hand in hand with changes in the command and control procedures and structure in order to provide for seamless interaction. Deep integration is likely to prompt questions with regard to defining the “ownership” of new assets and delineating the areas of responsibilities among the services involved. **[END QUOTE**] These issues are about to become even more important when considering the fact that organizational integration and data-related integration can be separated from each other. One of the major challenges stemming from the ubiquitous use of sensors across all domains is data management. Currently, there is a preference for cloud-based solutions at all levels, but the benefits of clouds might be deceiving given assumptions about the prevalence of heavy adversarial “electromagnetic fire” in future conflicts. In addition, edge-based technologies might enable stronger horizontal interaction in the future that could collide with vertical organizations currently dominating. [**THEY CONTINUE LATER IN THE CONTEXT QUOTE**:] Organizational adaptation and agility should thus receive much more attention as indicators of possible force transformations underway than the current focus on the latest technology.

DISADVANTAGES – Autonomous drones are bad

BIG LINK TO EVERYTHING

Turkish AI drones are autonomous weapons

Jamie Dettmer 2021 (journalist) 7 June 2021 VOA NEWS “Possible First Use of AI-Armed Drones Triggers Alarm Bells” <https://www.voanews.com/a/africa_possible-first-use-ai-armed-drones-triggers-alarm-bells/6206728.html> (accessed 7 Dec 2021)

According to the U.N. report, Turkish-made Kargu-2 lethal autonomous aircraft launched so-called swarm attacks, likely on behalf of Libya’s Government of National Accord, against the warlord Haftar’s militias in March last year, marking the first time AI-equipped drones accomplished a successful attack.

Backup evidence: More details about how Turkish AI drones are autonomous weapons

Jamie Dettmer 2021 (journalist) 7 June 2021 VOA NEWS “Possible First Use of AI-Armed Drones Triggers Alarm Bells” <https://www.voanews.com/a/africa_possible-first-use-ai-armed-drones-triggers-alarm-bells/6206728.html> (accessed 7 Dec 2021)

Western military experts are assessing whether an autonomous drone operated by artificial intelligence, or AI, killed people — in Libya last year — for the first time without a human controller directing it remotely to do so. A report by a United Nations panel of experts issued last week that concluded an advanced drone deployed in Libya “hunted down and remotely engaged” soldiers fighting for Libyan general Khalifa Haftar has prompted a frenetic debate among Western security officials and analysts. Governments at the United Nations have been debating for months whether a global pact should be agreed on the use of armed drones, autonomous and otherwise, and what restrictions should be placed on them. The U.N.’s Libya report is adding urgency to the debate. Drone advances have “a lot of implications regionally and globally,” says Ziya Meral of the Britain’s Royal United Services Institute, a defense think tank. “It is time to assess where things are with Turkish drones and advanced warfare technology and what this means for the region and what it means for NATO,” he said at a RUSI-hosted event in London.

1. Increased targeting of civilians

Autonomous drones using characteristics of the target change the culture of war and legitimize targeting of civilians

Ray Acheson 2019 (Director of Reaching Critical Will, the disarmament program of the Women’s International League for Peace and Freedom) March 2019 “Campaign to Stop Killer Robots” (accessed 8 Dec 2021) https://www.stopkillerrobots.org/wp-content/uploads/2019/04/Campaigners-Kit-FINAL\_EN.pdf

An autonomous weapon, using algorithms and software to determine and engage targets, also goes even further in “emasculating” or dehumanizing the “enemy” than any previous weapon technology. A weapon operating without meaningful human control will rely on characteristics of objects to sense a target, including the objects’ infrared emissions, shape, or biometric information. This reduces people to objects, undermining human dignity. It also, as scholar Lorraine Bayard de Volo points out, “invites and legitimates a masculine response.”Affected populations, viewing the perpetrators of drone strikes as a predatory male, are incentivized to adopt the masculine protector role in their communities, to fight back against the aggressor.   
AUTONOMOUS GENDER-BASED VIOLENCE AND REINFORCING VIOLENT MASCULINITIES  
This in turn reinforces conceptions and practices of violent masculinities, and can lead to genderbased violence against men. In conflict, civilian men are often targeted—or counted in casualty recordings—as militants only because they are men of a certain age.

2. Increased risk of war & conflict escalation

Autonomous weapons using AI increase the risk of conflict escalation over Status Quo

Prof. Cai Cuihong 2019 (professor of international relations with the Center for American Studies at Fudan University, China.) The shaping of strategic stability by artificial intelligence, Oct 2019 THE IMPACT OF ARTIFICIAL INTELLIGENCE ON STRATEGIC STABILITY AND NUCLEAR RISK Volume II East Asian Perspectives (accessed 9 Dec 2021) https://www.sipri.org/sites/default/files/2019-10/the\_impact\_of\_artificial\_intelligence\_on\_strategic\_stability\_and\_nuclear\_risk\_volume\_ii.pdf

Third, the intention behind the use of AI may be misunderstood, increasing the risk of conflict escalation. With the development of technology and the evolution of the global situation, national actors may increasingly use AI weapons. But how well they send unambiguous signals to demonstrate their intent is a challenge when performing these tasks. Instead, these activities may be interpreted as a serious provocation to security interests, leading to a more stringent response from the target country. This could result in unnecessary conflict escalation. Moreover, autonomous weapons are highly dependent on perception and exchange of information about the external environment. As a result, the likelihood of accidents and human-induced malicious interventions increases. For example, if a drone is subjected to a hack or other form of electromagnetic interference while performing a reconnaissance mission and this results in abnormal behaviour such as a crash, an impact or an explosion, the target may misjudge or make an escalatory response.