



# **Why we must ban autonomous weapons**



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Autonomous machines with the power and discretion to select targets and take lives without human involvement are politically unacceptable, morally repugnant and should be prohibited by international law. [bit.ly/2JGExMD](https://bit.ly/2JGExMD)

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# About me

- Computer scientist, software engineer in industry for over 15 years
- Specialist in distributed systems reliability
- Member of International Committee for Robot Arms Control
- MA Ethics student, Dublin City University





# Establishment of Project Maven

- April 2017: Robert O. Work, deputy US secretary of defense, establishes the 'Algorithmic Warfare Cross-Functional Team' (a.k.a. Maven) in a memo
- Its stated mission: “accelerate DoD’s integration of big data and machine learning.”
- Its first project: provide computer vision algorithms for turning drone video footage into ‘actionable intelligence and insights’
- Then moving into ‘other defense mission areas’

## **In other words...**

Maven is a way to get the tech industry's AI and tech expertise into warfare fast, and bypass all the usual lengthy, slow military procurement processes.

## **In even more other words...**

*"Take your ad-targeting snake-oil and repurpose it to execute brown people with drones."*

-- Jamie Zawinski, Mozilla/Netscape founder

[Sincerest apologies for any offence caused, but I believe that this does in fact nicely summarise the US DoD's thought process]



# In their own words

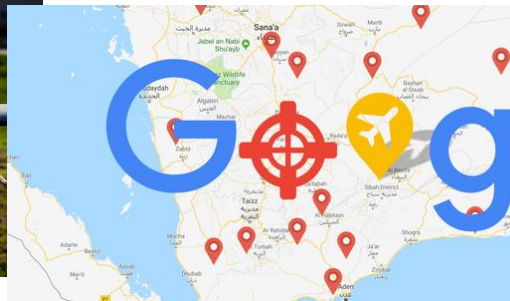
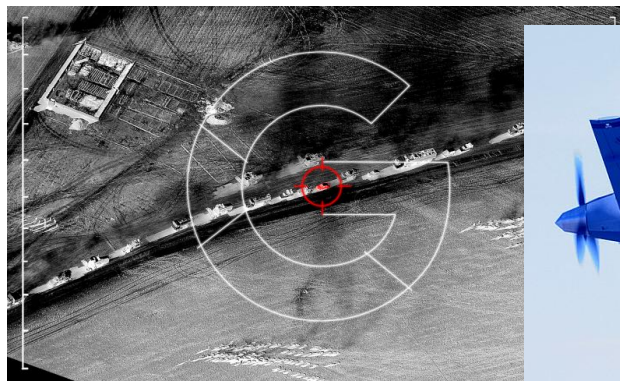
“This program is truly about increasing the lethality of our department”

--DoD Chief Management Officer John Gibson, speaking of the JEDI cloud computing contract, on which Google was bidding



**DON'T BE EVIL**

End the work on the Pentagon's drone project











# KARGU

Autonomous Rotary Wing  
**Attack Drone**

# Moral problems

- Is it morally acceptable to delegate the authority to kill to a machine?
- Machines are not moral actors - they cannot 'decide' in any meaningful way
- They lack context, judgment
- They lack empathy or any understanding of what it is to be human, the meaning of life
- What is the moral basis for killing in conflict if only one side ever risks their lives?

# Technical problems

- Autonomous weapons are likely to be unpredictable
  - These will be very complex systems operating in very complex environments
  - Many autonomous weapons are likely to incorporate machine learning algorithms that are 'black boxes/'
- Attacks must comply with the Laws of Armed Conflict but these are far too complex for machines
- Automation bias
  - What is 'meaningful' human control?



*“When we believe the lie that war can be totally wired and digitized ... no one will be held responsible for saying yes to war. The lie that technology will save friendly, civilian, and even enemy lives serves only the politicians and corporate chieftains who profit from war. The lie that technology can prevent war, or even create compassionate combat, is a perverse and profane abuse of scientific thinking.”*

-- Anthony Swofford



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