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SAVE YOUR UNIVERSITY FROM KILLER ROBOTS

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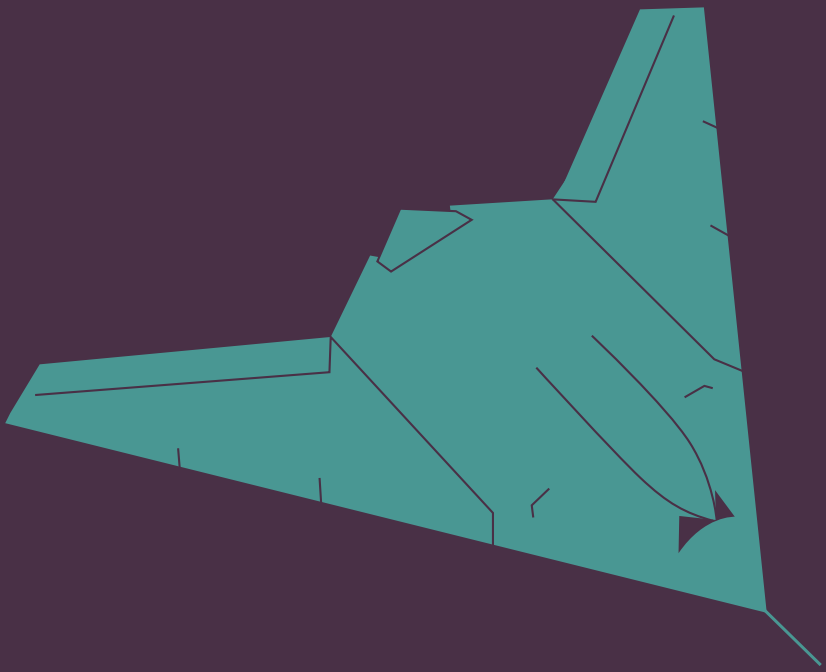


NEURON

AUTONOMOUS STEALTH COMBAT DRONE

UNDER DEVELOPMENT BY DASSAULT AVIATION (FRANCE)

AI and related technologies are progressing rapidly and have enormous potential for helping humanity in countless ways if used wisely. In recent years, there has been increasing debate about the impact of AI on our societies, and where to draw the line between acceptable and unacceptable uses. One issue that has caused concerns is the development of killer robots.

WHAT ARE KILLER ROBOTS?

KILLER ROBOTS ARE WEAPON SYSTEMS THAT WOULD SELECT AND ATTACK TARGETS WITHOUT MEANINGFUL HUMAN CONTROL

This means the decision to use deadly force would be delegated to a machine. Another term used to describe these weapons is lethal autonomous weapon systems (LAWS). Autonomous selection and engagement of targets could be applied to various platforms, for instance a battle tank, a fighter jet or a ship. These weapons do not exist – yet. But the technology that could make them reality is being developed rapidly. This far-reaching development would fundamentally change the way war is conducted and has been called the third revolution in warfare, after gunpowder and the atomic bomb.

A COMMON MISUNDERSTANDING IS THAT KILLER ROBOTS ARE DRONES OR THE TERMINATOR

Today's armed drones still have a human operator controlling the weapon system from a distance who is responsible for selecting and identifying targets as well as pulling the trigger to fire. The problem is about weapon systems that can choose and attack targets without meaningful human control. Unlike science fiction scenarios like the Terminator, these systems are already under development and could be deployed in the coming years.

WHAT ARE THE CONCERNS?

ETHICAL CONCERNS

A machine should never be allowed to make decisions over life and death. Such decisions should not be reduced to an algorithm. This would go against the principles of human dignity and the right to life. A robot does not understand or respect the value of human life. This means that a robot will not be able to make a 'kill decision' that takes into account, implicitly or explicitly, human dignity. It is simply completing the task it was programmed to do. This devalues and dehumanizes the decision, and does not respect the value we place on human life.

SECURITY CONCERNS

Killer robots would lower the threshold of going to war, because it would reduce casualties among the attacking forces. That way, they could lead to a preference for military rather than political solutions. These weapons could also lead to accidental and rapid escalation of conflict as lethal autonomous weapons react and interact with each other at speeds beyond human control. The rush to be the first country to have these weapons could lead to an international arms race, which would have destabilising effects and threaten international peace and security. Once developed, killer robots may be relatively cheap to produce and simple to copy. This increases the likelihood of their proliferation to a wide variety of actors, including dictators and non-state actors.

LEGAL CONCERNS

Killer robots are unlikely to be able to adhere to fundamental principles of International Humanitarian Law (the laws of war). Also who would be responsible for an unlawful act: the manufacturer, developer, military commander or the robot itself?

THE ROLE OF UNI-VERSITIES /

Universities shape society. They train future generations and play a key role in driving innovation. Many important innovations used in everyday life, from seatbelts to touchscreens, come from university research, illustrating the many positive impacts and applications university research can have.

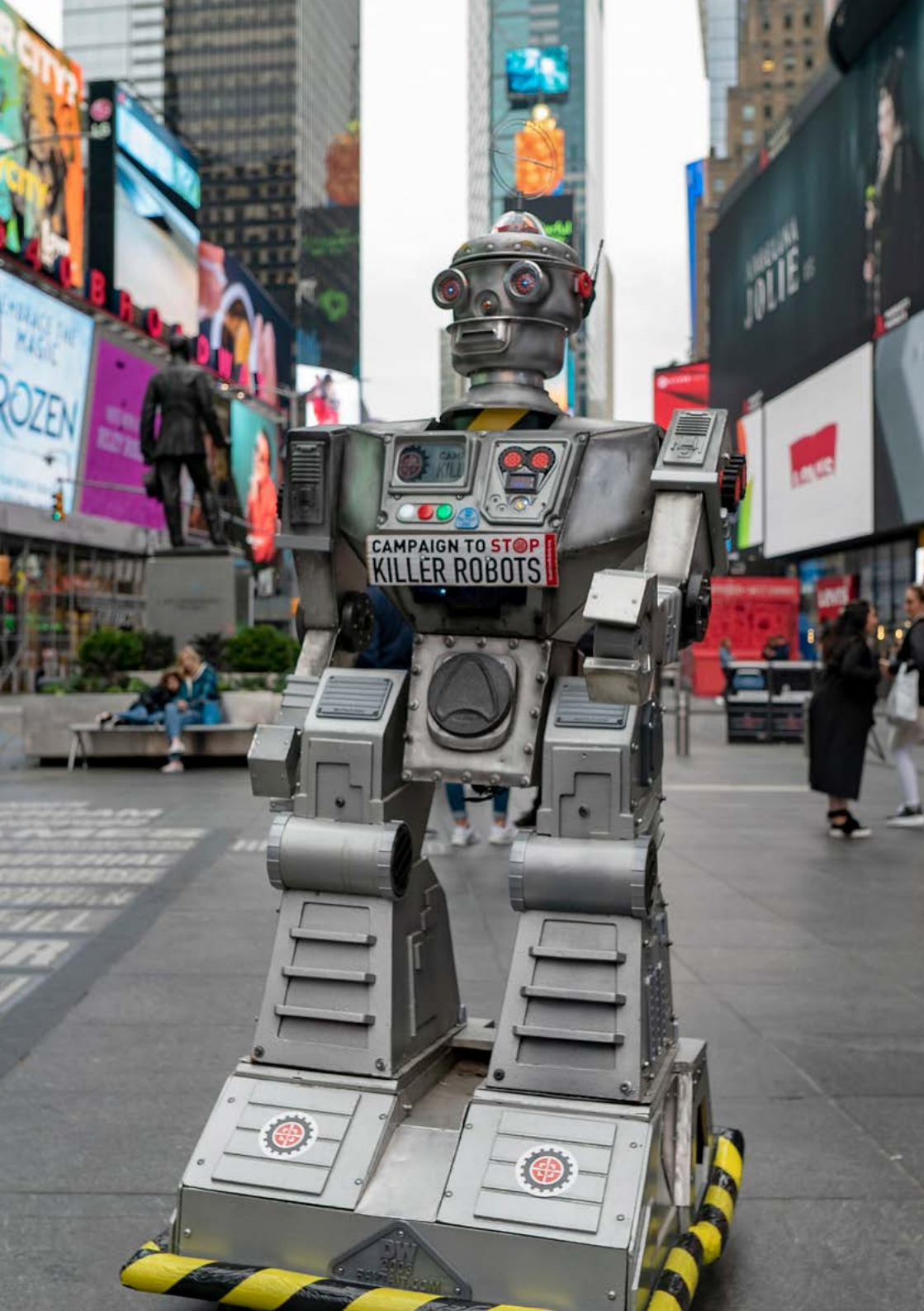
SCIENCE IS BUSINESS

Universities increasingly embrace entrepreneurship and collaborations with the private sector. In the past 10 years industry funding of university research has vastly grown. Such collaborations with commercial partners are mostly considered a positive influence. At the same time there are areas of concern.

SPONSORED BY THE DEFENCE INDUSTRY

Many universities receive substantial amounts of money from defence departments or arms producers for their research. Defence departments may also open up university-affiliated research centres on campuses, such as the Applied Physics Laboratory at John Hopkins University. Collaboration with the military sector is not always problematic, for example when applied to autonomous take-off and landing, navigation or logistics. However, it is crucial for universities to be aware of how the technology they develop could be used in the future. Cutting edge research in for example computer science, artificial intelligence and robotics is a key influence for developments in the defence industry that are rapidly changing the nature of warfare. In particular, the development of lethal autonomous weapons has raised deep concerns. Therefore it is crucial that universities implement measures to ensure they do not contribute to this development.

UNIVERSITIES SHOULD PUBLISH CLEAR POLICIES, CLARIFYING WHERE THEY DRAW THE LINE BETWEEN WHAT TECHNOLOGY THEY WILL AND WILL NOT DEVELOP.


CAMPAIGN TO STOP
KILLER ROBOTS

WHICH SIDE ARE YOU ON?

THE KAIST CONTROVERSY

In 2018, the Korean Advanced Institute of Science and Technology (KAIST) announced a collaboration with arms producer Hanwha Systems. The goal was to "co-develop artificial intelligence technologies to be applied to military weapons, joining the global competition to develop autonomous arms". The announcement led to a boycott by professors and students worldwide and this eventually pushed the university to make public reassurances that it would not develop killer robots. It implemented a policy that states "AI in any events should not injure people".

BUILDING KILLER ROBOTS

In February 2019, the University of Queensland and the University of New South Wales (Australia) announced a joint collaboration with the aim of embedding ethics into autonomous weapons. This 9 million Australian dollars (around 6 million US dollars) project is a five-year study funded by Australian Defence. The aim of the project is to look into "how to make autonomous weapons […] behave ethically in warfare". The idea that programming ethics and the laws of war into machines would solve the concerns related to killer robots has been critiqued by various prominent AI experts.

INCREASING CONCERN AMONG THE TECH COMMUNITY

The threat of killer robots has sparked active discussions in various sectors, including the tech sector. In 2018, thousands of Google staff signed a letter that called on Google to cancel its collaboration with the Pentagon on Project Maven. In response Google cancelled the project and installed a policy saying its technology may not be used for weapons systems. Although the devil is in the detail and it remains to be seen how Google implements the policy, this story shows the power of collective action by workers in the tech sector.

SCIENTISTS

Already in 2015, thousands of artificial intelligence experts signed an open letter on autonomous weapons, which warns against a military AI arms race and asks that it be prevented through an international ban on offensive autonomous weapons. Also thousands of scientists have signed the 'lethal autonomous weapons pledge', committing to not contribute to the development of killer robots through their own research.

Scientists have also spoken out in their own countries. In December 2017, scientists in Belgium signed an open letter which called on the Belgian government to preventively prohibit killer robots. Similar action has been taken in Norway, where a scientist letter signed more than 750 times calls for a ban on killer robots.

"Pursuing the development of lethal autonomous weapons would drastically reduce international, national, local, and personal security"

PROFESSOR STUART RUSSELL

PROFESSOR OF COMPUTER SCIENCE (UNIVERSITY OF CALIFORNIA IN BERKELEY)

"Starting a military AI arms race is a bad idea, and should be prevented by a ban on offensive autonomous weapons beyond meaningful human control"

OPEN LETTER SIGNED BY 4502 AI/ROBOTICS RESEARCHERS

"We need to make it immoral to have killer robots. We need to change the culture, and that includes changing laws and treaties"

JOSHUA BENGIO

PROFESSOR OF COMPUTER SCIENCE (UNIVERSITY OF MONTREAL) WINNER OF A.M. TURING AWARD

"These can be weapons of terror, weapons that despots and terrorists use against innocent populations, and weapons hacked to behave in undesirable ways. We do not have long to act. Once this Pandora's box is opened, it will be hard to close"

OPEN LETTER BY 116 TECH COMPANIES

INCLUDING GOOGLE DEEPMIND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AIGN TO STOP
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CAMPAIGN TO STOP
KILLER ROBOTS
StopKillerRobots.org

3 STEP ACT

TO SAVE YOUR UNIVERSIT

1. INFORM YOURSELF

2. RA AWAR

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TY FROM KILLER ROBOTS!

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3. TAKE
ACTION

INFORM YOURSELF /

SEE WWW.REPROGRAMMINGWAR.ORG
FOR MORE IDEAS AND MATERIALS

IN 1 MINUTE

- Read this booklet
- Follow Reprogramming War on twitter at @Reprogram War

IN 10 MINUTES

- Watch this New York Times video "A.I. Is Making It Easier to Kill (You). Here's How."
- Visit www.stopkillerrobots.org

IF YOU HAVE MORE TIME

- Check out the reports on www.reprogrammingwar.org
- 'Army of None' by Paul Scharre, a former soldier and policy advisor to the US Department of Defense, is a great book if you're interested in discovering more.

RAISE AWARE-NESS /

SEE WWW.REPROGRAMMINGWAR.ORG
FOR MORE IDEAS AND MATERIALS

IN 1 MINUTE

- Share our infographic on social media with the hashtag of the name of your university and #StopKillerRobots
- Pass the booklet on to a classmate

IN 10 MINUTES

- Ask a question in class about lethal autonomous weapons systems.

  For example, if you study computer science, ask how your university makes sure research only contributes to peaceful purposes.

- Discuss with classmates what they think of the impact of new technologies on society

IF YOU HAVE MORE TIME

- Organise an event at your university to inform other students and faculty about killer robots and distribute our booklets. Some ideas are on our website.

TAKE ACTION!

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SEE WWW.REPROGRAMMINGWAR.ORG
FOR MORE IDEAS AND MATERIALS

IN 1 MINUTE

- Ask your faculty to sign the 'lethal autonomous weapons pledge' online.

IN 10 MINUTES

- Ask to have a discussion in class on the societal impacts of new technologies. An example could be the effects of AI on peace and security.

- Send an email/letter to your university asking them to implement measures to ensure research does not contribute to killer robots

IF YOU HAVE MORE TIME

- Most universities have an ethics committee that assesses research projects. Ask your university's committee to include in its guidelines that technology developed can only be used for peaceful purposes.

PRODUCED BY PAX, A CO-FOUNDER OF THE CAMPAIGN TO STOP KILLER ROBOTS.

ABOUT PAX

➔ PAX is a Dutch peace organisation that works in 15 conflict areas around the world, including Syria, Iraq, South Sudan, and DR Congo. PAX brings together people who have the courage to stand for peace. PAX also works on the issue of disarmament with a focus on weapons that cause unnecessary suffering among civilians. In the past PAX was involved in the processes leading to the treaties banning landmines (1997), cluster munitions (2008) and nuclear weapons (2017). PAX works on a wide range of disarmament issues, including arms trade, nuclear weapons, drones and the link between the financial sector and arms producers. PAX is co-founder and steering committee member of the Campaign to Stop Killer Robots.

PAXFORPEACE.NL

ABOUT THE CAMPAIGN TO STOP KILLER ROBOTS

➔ The Campaign to Stop Killer Robots is an international coalition of more than 140 non-governmental organisations in more than 60 countries that is working to pre-emptively ban development, production and use of fully autonomous weapons. Launched in 2013, the campaign is coordinated by Human Rights Watch. www.stopkillerrobots.org

STOPKILLERROBOTS.ORG