



CAMPAIGN TO STOP KILLER ROBOTS

13 March 2018

Dr. Sergey Brin, President of Alphabet Inc.
Mr. Sundar Pichai, Chief Executive Officer of Google Inc.
1600 Amphitheatre Parkway
Mountain View, CA 94043
UNITED STATES

Sent via fax: +1-650-253-0001; +1-302-636-5454

Dear Dr. Brin and Mr. Pichai,

I am writing on behalf of the Campaign to Stop Killer Robots with respect to Google's participation in a US Department of Defense program entitled Project Maven or the "Algorithmic Warfare Cross-Function Team." We seek your response to concerns that this project could contribute to the development of fully autonomous weapons, also known as lethal autonomous weapons systems.

Last year, Project Maven began its first phase of operations by helping the Pentagon to process video footage collected by its remote-controlled aerial drones. According to [the Department of Defense](#) this has involved "developing and integrating computer-vision algorithms needed to help military and civilian analysts encumbered by the sheer volume of full-motion video data that DoD collects every day in support of counterinsurgency and counterterrorism operations."

Google supports Project Maven by providing open source "TensorFlow APIs" that a Google spokesperson [told Gizmodo in a statement](#) "can assist in object recognition on unclassified data." According to the spokesperson, the technology "flags images for human review, and is for non-offensive uses only."

Project Maven raises important ethical and other questions about the use of machine learning and artificial intelligence (AI) for military purposes. There is a concern that AI-driven identification of objects could quickly blur into AI-driven identification of 'targets' as a basis for the direction of lethal force.

As you know, around the world, concerns are mounting over the prospect of weapons systems that, once activated, would identify, select and engage targets without further human intervention. Since 2014, more than 80 states have participated in a series of Convention on Conventional Weapons (CCW) meetings on lethal autonomous weapons systems along with UN agencies, the ICRC, and our Campaign to Stop Killer Robots.

In the [statement provided to Gizmodo](#), Google's spokesperson acknowledged that the "military use of machine learning naturally raises valid concerns" and said, "we're actively discussing this important topic internally and with others as we continue to develop policies and safeguards around the development and use of our machine learning technologies."

Our campaign urges Google to explain its involvement in Project Maven and elaborate on these “policies and safeguards.” This year, Project Maven is [set to move into its second phase](#) and “expand its scope, turning the enormous volume of data available to DoD into actionable intelligence and decision-quality insights at speed.”

We have followed closely and appreciate the recent expressions of concern from Google executives at the use of autonomy and artificial intelligence in weapons systems:

- At the World Economic Forum in January, Sundar Pichai [commented](#) that “countries need to demilitarize AI” and called that “a common goal countries should work towards.”
- At the Munich Security Conference in February, Alphabet’s Eric Schmidt was asked for his stance on the call to ban fully autonomous weapons. He [responded that](#) “these technologies have serious errors in them and should not be used in life decisions.” He also said that such weapons should not be “put in charge of command and control.” We understand that Schmidt stepped down as the executive chairman of [Alphabet](#) in December 2017, but still chairs the Defense Innovation Board.
- In [a 2016 submission to a UK parliamentary committee](#), Google DeepMind stated: “We support a ban by international treaty on lethal autonomous weapons systems that select and locate targets and deploy lethal force against them without meaningful human control. We believe this is the best approach to averting the harmful consequences that would arise from the development and use of such weapons. We recommend the government support all efforts towards such a ban.”
- In 2015, DeepMind chief executive Demis Hassabis and 21 of his company’s engineers, developers and research scientists [co-signed an open letter](#) endorsed by more than 3,000 AI experts, roboticists and scientists affirming that they have “no interest in building AI weapons and do not want others to tarnish their field by doing so.” The letter called for a ban on autonomous weapons that select and engage targets without human intervention.

We invite Google to publicly support the effort to conclude a legally binding instrument and other normative standards to prohibit fully autonomous weapons through the CCW or another means. We recommend that Google adopt a proactive public policy committing not to engage in work aimed at the development and acquisition of fully autonomous weapons systems.

We are willing to discuss the campaign and these concerns with Google and Alphabet in person.

Sincerely,



Mary Wareham
Coordinator, Campaign to Stop Killer Robots

c/o Human Rights Watch
1630 Connecticut Avenue, Suite 500
Washington DC 20009
Tel. +1 (646) 203-8292 (mobile)
wareham@hrw.org
www.stopkillerrobots.org