To the Editor, August 10, 2020

Autonomous Computers

Autonomous [aw-ton-uh-muh s] adjective
self-governing; independent; subject to its own laws only
having autonomy; not subject to control from outside; independent
https://www.dictionary.com/browse/autonomous?s=t

Humans write computer code, humans are flawed so it follows that computer code is often flawed or buggy. Computers make mistakes, because humans design, build, code, and control computers. The old computer tech acronym is GIGO, which stands for Garbage In, Garbage Out.

The term "bug" was first used by computer pioneer Grace Hopper, who wrote an account of a malfunction in an early electromechanical computer. One version of the story is that in 1946, computer operators traced an error in the Mark II computer to a moth trapped in a relay, and coined the term bug.

A software bug is an error, flaw, failure, or fault in a computer program that causes it to produce incorrect or unexpected results. Most bugs arise due to mistakes and human errors made in the writing of its source code. A program that contains a large number of bugs is referred to as buggy (defective).

A 2002 study commissioned by the US Department of Commerce's NIST concluded software bugs, or errors, are so prevalent and so detrimental that they cost the US economy an estimated $59 billion each year. It is generally expected that typical software has from 1 to 5 bugs per 1000 lines of code. Modern software has millions and even tens of million lines of code.

As an example of a bug, remember the Y2K bug which was related to the formatting and storage of computer calendar data. Problems arose, because software in that era often referenced the four-digit year with only the final two digits—making the year 2000 indistinguishable from 1900. The assumption of a twentieth-century date in such programs caused various errors, such as the incorrect display of dates and the inaccurate ordering of automated dated records or real-time events.

Another is a BSoD stop error, commonly called the blue screen of death. This is an error screen displayed on a Windows computer system following a fatal system error. It indicates a system crash, in which the operating system has reached a condition where it can no longer operate safely.

What is an Autonomous Computer?

A computer network that is administered by a single set of management rules that are controlled by one person, group, or organization is said to be autonomous. Autonomous systems often use only one routing protocol, although multiple protocols can be used. The core of the Internet is made up of many autonomous systems. The common dominator currently is that they are computer code dependent.

What this really means in the future is a computer whose operation is not code defendant. Autonomous computers of the future, like all computers depend on computer code, but also sensor input. This is the same kind of sensor input that has crashed several commercial airliners in the past few years, and caused several fatal self-driving vehicle accidents.

This Horrifying 'Slaughterbot' Video Is The Best Warning Against Autonomous Weapons

We're on the verge of creating autonomous robotic weapons that can kill without any help from humans. Thousands of experts are concerned about this - and the latest campaign effort against this Terminator-like computer technology is a chilling video demonstrating the kind of future we're heading for.

https://www.sciencealert.com/chilling-drone-video-shows-a-disturbing-vision-of-an-ai-controlled-future

In 2017, a loose coalition of tech company CEOs and artificial intelligence experts wrote an open letter to the UN Convention on Certain Conventional Weapons. Their concern is the development of autonomous weapons systems--robot war machines capable of locating and killing without human intervention.

Elon Musk, who has become in some ways the public face of this movement, tweeted out "If you're not concerned about AI safety, you should be. Vastly more risk than North Korea." Yet this is a technology that continues to advance at a pace that few people are even aware of.

https://futureoflife.org/autonomous-weapons-open-letter-2017/?cn-reloaded=1

What makes this particularly scary, it that when a present day computer malfunctions you can typically go back and look at the code to see the cause of the problem. With sensor input control, you may never learn what caused the problem. You may never know why an autonomous vehicle ran over a pedestrian in a cross walk, or exactly why a commercial airliner crashed.