



Write to Educate

Scholarship Contest Winner

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Essay Topic: Examine the role of technology in your own life: Does technology have a positive or negative effect on personal safety? How would you handle texting and driving, whether yourself or others?

In the field of computer graphics, when graphics are made to look more and more realistic, they look better and better to our human eyes - until they're almost perfect, but not quite. At this point, you know something's off when you look at it, but you can't quite tell what. It throws your mind through a loop, and it actually looks worse than less realistic images. This is known as the "Uncanny Valley." In terms of personal safety, I believe that technology is deep in its own uncanny valley: There's great potential for benefit, but that potential itself spoils much of the benefit.

For instance, take driver assists in cars. Almost every car comes equipped with cruise control, and most new cars have automatic collision avoidance, lane-keeping assists, and more. These assists should make a huge improvement on safety, since they can keep drivers safe if they stop paying attention. The issue is, these are only meant to assist drivers who are paying attention - not let the driver stop paying attention. The illusion of safety that these technologies provide gives the impression that drivers don't need to be as attentive or as prepared if a dangerous situation occurs. Even the best driver assistance technology isn't perfect, but the fact that it seems close to perfect can mean that it does more harm than good.

The uncanny valley of safety technology isn't limited to automobiles, either. A prime example is with the tragic crashes of two Boeing 737-MAX airplanes. The 737-MAX had a tendency to stall shortly after takeoff. This was nothing that an adept pilot could not deal with, but Boeing didn't want their pilots to have to go through additional training to fly the plane. Instead of training their pilots, Boeing implemented software that could automatically prevent the aircraft from stalling. This technology itself was a good idea, and it could have helped make the 737-MAX safer. Boeing's failing in this situation was that they assumed the technology was perfect when it wasn't. Instead of training their pilots how to fly the plane without the system or how to deal with the system failing, they substituted human skill and judgement for imperfect technology. Boeing's trip through the uncanny valley ultimately cost over 300 lives when this assumption broke down.

Boeing responded to their 737-MAX incident not only by fixing the underlying software flaw, but implementing additional training for the airplane's pilots so that they understand how the technology could fail. You can be more responsible when you're driving, too: Although cars' driver assistance features are becoming more reliable, there's no substitute for your own human attention. If you're talking, texting, or otherwise using technology at the wheel, you're making the same mistake that Boeing did.

Safety technology is deep in the uncanny valley. As the lead programmer on my school's robotics team, I know that it's a long and difficult climb up the other side of the valley, and the higher you climb, the harder you fall. But I also know that technology will improve, and I've seen first hand how technology and people can work together to achieve amazing things - but at least for the foreseeable future, the best course of action is to be cautious.

Technology has a great potential to improve personal safety today, and it's improving every day. But in the present, that potential lies in working along with attentive humans, not instead of them.

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