

Ethics Paper #1

Prof Bill - Mar 2017

CSC 495 Spring 2017 term

Assignment logistics:

- **Due:** Mon Apr 3 at the beginning of class. Print your paper and bring it to class.
- **Points:** Your paper is worth 5 points, 5% of your class grade
- **Details:** Your paper should be at least 1 page, but not more than 3 pages. Please use double spacing and a reasonable (12 pt?) font size. Put your name on the first page.

The Singularity

In 1993, [Vernor Vinge](#), a computer scientist from San Diego State, published an article called “The Coming Technological Singularity: How to Survive in the Post-Human Era”.

Abstract

Within thirty years, we will have the technological means to create superhuman intelligence. Shortly after, the human era will be ended.

Is such progress avoidable? If not to be avoided, can events be guided so that we may survive? These questions are investigated. Some possible answers (and some further dangers) are presented.

This is Vinge’s original paper (I think):

www-rohan.sdsu.edu/faculty/vinge/misc/singularity.html

And the format of this version is a little more eye-friendly:

www.frc.ri.cmu.edu/~hpm/book98/com.ch1/vinge.singularity.html

What is a singularity?

- In mathematics: “a singularity is in general a point at which a given mathematical object is not defined” [[en.wikipedia.org/wiki/Singularity_\(mathematics\)](http://en.wikipedia.org/wiki/Singularity_(mathematics))]
- In physics: “In the centre of a black hole is a gravitational singularity, a one-dimensional point which contains a huge mass in an infinitely small space, where density and gravity become infinite and space-time curves infinitely, and where the laws of physics as we know them cease to operate. As the eminent

American physicist Kip Thorne describes it, it is "the point where all laws of physics break down".

[www.physicsoftheuniverse.com/topics_blackholes_singularities.html]

- The **technological singularity** is "the hypothesis that the invention of artificial superintelligence will abruptly trigger runaway technological growth, resulting in unfathomable changes to human civilization." [en.wikipedia.org/wiki/Technological_singularity]

Vinge's singularity is, in part, the point where computers "wake up".

"It's fair to call this event a singularity ("the Singularity" for the purposes of this piece). It is a point where our old models must be discarded and a new reality rules, a point that will loom vaster and vaster over human affairs until the notion becomes a commonplace. Yet when it finally happens, it may still be a great surprise and a greater unknown."

- Vernor Vinge

Computer scientist Ray Kurzweil adds much to this concept with his book "The Singularity is Near" [Amazon, <http://a.co/4Vdw4wx>]. He has a website with lots of great stuff, too: www.singularity.com. Interestingly, Kurzweil's view of the singularity is the opposite of Vinge's. He is incredibly optimistic about our technological future.

Your paper

Please read Read Vinge's fascinating essay and describe your reaction. Do you agree with Vinge? Disagree? What are the ethical implications of the singularity? What are the viewpoints of tech leaders like Ray Kurzweil, Bill Gates, Elon Musk, Bill Joy, etc.

Vinge's essay is 25 years old. What predictions would you make about technology 25 years from now, in 2042? You can supplement your reading by investigating Kurzweil's writings on this topic.

This is not a dry technical exercise. **Be creative!**

If you have any questions, please email me: wtkrieger@noctrl.edu

thanks... yow, bill

PS - Kismet. Just surfed into this one. "I think human extinction will probably occur, and technology will likely play a part in this." - Elon Musk,

www.vanityfair.com/news/2017/03/elon-musk-billion-dollar-crusade-to-stop-ai-space-x