Does the Future Need Us?

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Fear of “Thinking Machines”
Concerned Technologists

- Bill Joy, Cofounder of Sun Microsystems, April 2000: “Why the Future Does Not Need Us”

- Jaron Lanier, inventor of virtual reality, August 2011: “Let's suppose that machines get good enough that one can say a lot of people are extraneous”

- Slate Magazine, Sept. 2011: Will Robots Steal Your Job?
1958, H. A. Simon and A. Newell: "within ten years a digital computer will be the world's chess champion"

1967, M. Minsky: "Within a generation ... the problem of creating 'artificial intelligence' will substantially be solved."
“AI Winters”

- The first AI winter 1974-1980: slow progress and dearth of funding

- The second AI winter 1987-1993: the “Fifth-Generation bust” and dearth of funding
AI Breakthroughs

- 2005: Stanford autonomous vehicle drives 131 miles along an unrehearsed desert trail.
- 2007: CMU autonomous vehicle drives 55 miles in an urban environment while adhering to traffic hazards and traffic laws.
- 2011: IBM’s Watson defeats the two greatest Jeopardy! champions, Brad Rutter and Ken Jennings, by a significant margin.
Impact on Jobs


"technological progress is accelerating innovation even as it leaves many types of workers behind"
My Big Question

- H.A. Simon, 1956: "machines will be capable .. of doing any work a man can do"
- T. Kaczynski, 1995: “Let us postulate that the computer scientists succeed in developing intelligent machines that can do all things better than human beings can do them.”
- M.Y. Vardi, 2012: There is no reason to believe that they are not right! If machines can do any work humans can do, what will we do? Does the future need us?
A Cheap Response

- **Cheap Response:** "You are a Luddite"
  - **Luddism:** distrust or fear of the inevitable changes brought about by new technology

- **I am asking for a thoughtful response!**
  - **What is the future of humanity in a world where machines can do everything that people can do?**