

CS 401 & 501: Contemporary Issues in Computer Science

Fall: 2013

Assignment #1, due at the beginning of class Sept 9

View the TED video: “Shyam Sankar: The Rise of Human-Computer Cooperation”

http://www.ted.com/talks/shyam_sankar_the_rise_of_human_computer_cooperation.htm

Assignment: Write a three-page paper answer the following questions. You can work in pairs.

1. What do you think Sankar means by the “friction” between human and machine? How does one go about reducing this friction?
2. Sankar says that there are certain kinds of patterns that humans can detect and exploit effectively, but computers can't. What kinds of patterns are these?
3. What do you think about the proper role of computers as aids to human thinking instead of replacements?

Background

Since the early days of computing, computer scientists imagined building “thinking machines” that would take the place of humans in carrying out reasoning tasks. Early applications were mechanical in nature, such as ballistics calculations and computing tables of logarithms. Researchers in Artificial Intelligence, such as M.I.T.'s Marvin Minsky (1927) pursue the goal of putting computers in charge of “thinking” tasks such as playing chess and interpreting images. This inevitably raises questions about the proper role of computers. For example, in the 1968 film “2001: A Space Odyssey”, a thinking computer, the HAL 9000, turns malicious.

Other researchers, such as J.C.R. Licklider (1915-1990) studied computers as a tool to augment human reason, in the form of a partnership, where computers do what they do best (rapidly sifting through and managing data), and humans contribute their strengths, such as insight, imagination, and nonlinear reasoning.

In this video, Shyan Sankar seems to be making the case for computer augmentation of human capabilities instead of computers as a replacement for human reasoning.