HCI, Robots, Online Education

- Human Computer Interfaces/Interaction
- Robots everywhere?
- Is Education the next “industry” to be disrupted by the web?

Will M00Cs Destroy Academia?

“If I had my wish, I would wave a wand and make MOOCs disappear, but I am afraid that we have let the genie out of the bottle.”

Moshe Y. Vardi, Editor-in-chief CACM 11/2012

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- MOOC vs Book?
- Self forming communities
- data driven mode
  - what are common misconceptions
  - same wrong answer by many – targeted feedback
- Use tech to achieve 2 sigma results similar to one-on-one teaching

“The King of MOOCs Abdicates the Throne

“Sebastian Thrun, godfather of the massive open online course, has quietly spread a plastic tarp on the floor, nudged his most famous educational invention into the center, and is about to pull the trigger. Thrun—former Stanford superprofessor, Silicon Valley demigod, and now CEO of online-course purveyor Udacity—just admitted to Fast Company’s openly smitten Max Chafkin that his company’s courses are often a ‘lousy product.’”

Rebecca Schuman slate.com
AIMS: Cover the **Seven Big Ideas** in computing

As defined by the College Board for new AP test
1. Computing is a **creative** human activity that enables innovation
2. **Abstraction** is a way to understand and solve problems
3. Data and information help to create knowledge
4. **Algorithms** are tools for developing and expressing solutions to computational problems
5. **Programming** is a creative process that produces computational artifacts
6. Digital devices, systems, and the networks that interconnect them enable and foster computational approaches to solving problems
7. Computing enables innovation in other fields, like science, engineering, humanities, etc.

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**Summary**

- **Programming**
  - LightBot, Processing (aka Java)
    - variables, functions, loops, if-statements
    - 2D drawing primitives
  - A bit of computer history
  - Social impacts, privacy
  - Ghosts in the machine
    - meta data, models of (un)reality
  - Representing data
    - Huffman coding, ascii, images, binary, logic

- HTML, How the Web works
- The power of searching
- **Algorithms**
  - Huffman, sorting, searching, complexity
- **Networks**
  - protocols, DNS, packets
- **AI**
  - Turing test, creativity, intelligent vs algorithmic
- **HCI, Robots, MOOCs**