Lecture 4:
CS 5306 / INFO 5306:
Crowdsourcing and
Human Computation

Course Blog

- Instructor:
  - Prof. Haym Hirsh, haym.hirsh at cornell dot edu
  - Gates 352
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- TAs:
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Course Blog

- CrowdsourcingandHumanComputation.wordpress.com
- First posts:
  - **JUDGE TOSSES PROPOSED CLASS ACTION ACCUSING GOOGLE OF CAPTCHA FRAUD**
  - **A BRIEF HISTORY OF 'WHAT TIME IS THE SUPER BOWL?'**
- Send me news stories relevant to course content

Readings for Next Time

- Thursday, February 11:
  Human Computation, Chapter 2

- Thursday, February 18:
  Human Computation, Chapter 3

Human Computation

- “Computer” vs “Computation”

Human Computation

- “Computer” vs “Computation”
- What is “Computation”?

Human Computation

Computation:

- “explicit set of instructions, leaving little to interpretation”
- Mapping an input to an output using an algorithm
- Explicit control (*cf* Wikipedia)
- Decomposing an algorithm into base operations
- Considerations of accuracy, efficiency, etc.

Human Computation

Computation: *not*

- Distributed computing on donated cycles
  - BOINC, SETI@Home, Folding@Home
- Participatory sensing
  - If participants are conscious of what they are doing for the computation
- Wikipedia

Human Computation

What? Who? How?

Human Computation: What?

- What are capacities of people vs computers to do parts of the task?
- How do we break up tasks into smaller pieces? (We don't understand the human machine code well)
- How do we manage human "noise" – innate differences in outputs, differently motivated behaviors

Human Computation: Who?

- Who do we recruit?
- Who should do what?
- What do we know or learn about each worker that can help us do this better?

Human Computation: How?

- What design decisions make the most efficient use of workers?
- What design decisions get the most accuracy out of workers?

Sample Domains for Human Computation

- Vision:
  - Use human perception directly
  - Human data curation
  - Evaluation
- Human language:
  - Human curation
  - Evaluation
- Transform computationally hard problems so that people can (try to) solve them