

HIST 355: Digital Labor
Professor Hicks
Spring 2017
Thursdays 1:50-4:30pm
E1/Retaliata 027
Illinois Institute of Technology



Operating and programming early computers in the UK (Powers Samas Magazine, 1957 & ICT Data Processing Journal, 1964)



IBM's Watson Computer, c. 2013 (ibm.com) and Paro, a therapeutic robot designed in Japan, c. 2013 (nyt.com)



*Mining for precious metals and other minerals used in electronic devices in Watsa, DRC (National Geographic, 2013)
Preparing outgoing shipments at Amazon Fulfillment Warehouse in Nevada, USA (wired.com, 2015)
Foxconn workers manufacturing electronics in Yantai, China (Times of London, 2012)*

Course Description:

What is digital labor? Since the mid-twentieth century, labor forces have radically changed in relation to new digital, electronic computing technologies. Perhaps the clearest example of this change is the evolution of computer programming as a respected and highly paid profession. But those who work directly with computers are not the only ones affected. As computerized systems have steadily reorganized many aspects of society and the economy, the idea of what counts as labor has changed.

This course introduces you to historical and contemporary issues in the history of technology to explore how national and global workforces are shaped by computing. We will look at everything from electronic codebreaking during World War II to present-day struggles over net neutrality. We will also look at the "hidden labor" behind our digital technologies, from hardware's origins in African mines and Chinese factories, to the strenuous manual and psychological labor hidden in the back end of many ubiquitous online services. Throughout, we will discover how seemingly unrelated changes share a common history.

Readings must be completed for the day that they are listed. There may be unannounced reading quizzes to ensure that everyone is keeping up. Readings will be on reserve on our Blackboard site, or linked from the syllabus. Note: Due to the nature of the topic, this course is reading intensive. If you are not prepared to do a significant amount of reading, you may wish to choose a different course.

Your grade in this course will be comprised of:

Class participation and attendance, including quizzes and in-class exercises: 25%

Small Projects & Short Papers: 25%

Midterm: 25%

Final Project 25%

Resources that you will be expected to use in this class include the databases linked from Galvin Library's History Research Guide: <http://guides.library.iit.edu/content.php?pid=114040&sid=986140>. Contact Nichole Novak (nnovak2@iit.edu), the humanities librarian, for further help with these resources.

You can get help with improving your writing at the **Humanities Department Writing Center** located in Siegel 232-233. I highly recommend this resource to everyone in the class, regardless of whether or not English is your first language: http://www.iit.edu/csl/hum/resources/writing_center.shtml

Reasonable accommodations will be made for students with verified disabilities. In order to access these resources or get special provisions in class you must register with the Disability Service Office ([312 567.5744](tel:3125675744) or disabilities@iit.edu) at the **beginning of the semester** and you must **speak with me at the beginning of the semester** as well so we can plan for the needed accommodations.

Cheating, plagiarism, and academic dishonesty are serious offenses and will not be tolerated. They will result in a failing grade on the assignment and possibly in the course (at my discretion) and the University will levy sanctions as well. If you are in doubt about what constitutes plagiarism or academic dishonesty, reread the code of student conduct and the sections on academic honesty in the student handbook: http://www.iit.edu/student_affairs/handbook/pdfs/handbook_fy13.pdf (page 27). If you are still confused, speak with me **before** you pass in an assignment. Remember that it is *never* appropriate to use someone's ideas or words without giving them credit, and that copying text from sources or peers—in addition to being plagiarism and cheating--short-circuits the learning process and is the exact opposite of what I want to see.

Class Schedule:

Jan 12

Class 1: What is Digital Labor?

Read in class:

“Do you know what a 'Pip squeak' was?” from BT.com (British Telecom)

<http://home.bt.com/news/bt-life/history-of-bt/do-you-know-what-a-pip-squeak-was-11363997864072#.VdG6Yp5kZ30.twitter>

“Utah Considers Cutting Off Water to the NSA’s Monster Data Center” in *Wired*, November 2014

<http://www.wired.com/2014/11/utah-considers-cutting-water-nsas-monster-data-center/>

(resources/infrastructure machines take up)

“I’ve left Twitter. It is unusable for anyone but trolls, robots and dictators” in *The Guardian*, December

2017. <https://www.theguardian.com/commentisfree/2017/jan/03/ive-left-twitter-unusable-anyone-but-trolls-robots-dictators-lindy-west>

Jan 19

Class 2: Theories of Labor and Technology

Readings:

U. Huws, “Labor in the Global Digital Economy,” Chapter 1

B. Latour, “Where are the Missing Masses”

N. Balabanian, “On The Presumed Neutrality of Technology”

Article Exercise: Using insights from the three articles you’ve read for today, find one current news article (from within the past 3 years) that relates in some way to an idea from the readings that you’d like to discuss in class on Jan. 26. Write a short essay (no more than 500 words) explaining the link between your article and one of the articles above. Discuss how your news article illustrates or builds on one of the points made by Huws, Latour, or Balabanian. (Due at the beginning of class, Jan. 26th)

Jan 26

Class 3: The Work Machines Can Do For Us

Watch Clip from *Moon* in Class

Readings:

S. Turkle, Chapter 6 from *Alone Together*

“Will The Internet of Things Result in Predictable People (Reverse Turing Test),” *The Guardian*, August 2015

<http://www.theguardian.com/technology/2015/aug/10/internet-of-things-predictable-people>

See Turing’s original 1950 paper, in which he lays out the Turing Test, here:

<http://phil415.pbworks.com/f/TuringComputing.pdf>

ACLU Stop and Frisk App:

<https://www.aclu.org/blog/stop-and-frisk-watch-keep-tabs-nypd-your-smart-phone>

<https://www.aclu.org/issues/racial-justice/race-and-criminal-justice/racial-profiling>

<http://www.nyclu.org/content/nyclu-campaign>

“Hackers Remotely Kill a Jeep on the Highway—With Me in It,” *Wired* July 2015:

<http://www.wired.com/2015/07/hackers-remotely-kill-jeep-highway/>

Feb 2

Class 4: The Work We Do for Machines

Guest Lecture, Sarah Roberts (University of Western Ontario)

Readings:

Adrian Chen, "The Internet's Invisible Sin-Eaters," *The Awl* October 2014

Interview: <http://www.theawl.com/2014/10/the-internets-invisible-sin-eaters>

S. Roberts, "Commercial Content Moderation: Digital Laborers' Dirty Work," in *The Intersectional Internet: Race, Sex, Class and Culture Online*.

"How Crowdworkers Became the Ghosts in the Digital Machine" in *The Nation*

www.thenation.com/article/how-crowdworkers-became-ghosts-digital-machine

New York Times "Inside Amazon," August 2015

http://mobile.nytimes.com/2015/08/16/technology/inside-amazon-wrestling-big-ideas-in-a-bruising-workplace.html?_r=0&referrer=

Mother Jones, "I Was a Warehouse Wage Slave," April 2012

<http://www.motherjones.com/politics/2012/02/mac-mccllland-free-online-shipping-warehouses-labor>

Feb 9

Class 5: When Culture Collides with Computing: The Inequities in Algorithms

Readings:

Matthew Kay, Cynthia Matuszek, and Sean A. Munson, "Unequal Representation and Gender Stereotypes in Image Search Results for Occupations," *CHI 2015 Proceedings*:

<http://dub.washington.edu/djangosite/media/papers/unequalrepresentation.pdf>

Amit Datta, Michael Carl Tschantz, and Anupam Datta "Automated Experiments on Ad Privacy Settings, A Tale of Opacity, Choice, and Discrimination" in *Proceedings on Privacy Enhancing Technologies*.

Volume 2015, Issue 1, Pages 92–112.

[http://www.degruyter.com/dg/viewarticle.fullcontentlink:pdfeventlink/\\$002fj\\$002fpopets.2015.1.issue-1\\$002fpopets-2015-0007\\$002fpopets-2015-0007.pdf?t:ac=j\\$002fpopets.2015.1.issue-1\\$002fpopets-2015-0007\\$002fpopets-2015-0007.xml](http://www.degruyter.com/dg/viewarticle.fullcontentlink:pdfeventlink/$002fj$002fpopets.2015.1.issue-1$002fpopets-2015-0007$002fpopets-2015-0007.pdf?t:ac=j$002fpopets.2015.1.issue-1$002fpopets-2015-0007$002fpopets-2015-0007.xml) or <http://arxiv.org/pdf/1408.6491v2.pdf>

"Algorithms and Bias: Q. and A. With Cynthia Dwork," *NYT*, August 2015

<http://www.nytimes.com/2015/08/11/upshot/algorithms-and-bias-q-and-a-with-cynthia-dwork.html?abt=0002&abg=1>

Google Image search exercise in class

Feb 16

Class 6: Digital Pasts: The Unexpected

Readings:

Excerpts from M. Shetterly, *Hidden Figures*

L. Nakamura on Navajo women in hardware manufacturing at Fairchild Semiconductor:

<http://www.computerhistory.org/atcm/indigenous-circuits/>

<https://lnakamur.files.wordpress.com/2011/01/indigenous-circuits-nakamura-aq.pdf>

Feb 23

Class 7: Digital Pasts: Reorienting Accepted Narratives

M. Hicks, *Programmed Inequality*, Introduction and Chapters 1, 2 (book is available in bookstore & library reserves)

G. Coleman, "Geek" essay from *Digital Keywords*

(Optional reading if you are interested in learning about the U.S. side of WWII era computer workers:

Jennifer Light's article on the ENIAC women, "When Computers Were Women," *Technology and Culture*, 1999. You can find it in JSTOR, through the library's website.)

March 2

Class 8: Digital Pasts: Problems with Seeing

M. Hicks, *Programmed Inequality*, Introduction and Chapter 3, excerpts from 4 and 5, and Conclusion
I. Wenger, "I Look Like an Engineer," <https://medium.com/the-coffeelicious/you-may-have-seen-my-face-on-bart-8b9561003e0f#.q9sqasu13>

March 9

Class 11: Modern Cyberwarfare

Readings:

M. Sauter, *The Coming Swarm* (DDOS excerpts)

Stuxnet Video

Articles on fake news and cyberwarfare (in folder on Blackboard)

Final Project Assigned

Spring Break March 11-19

March 23

Class 12: When Culture Collides with Computing , part 2

Brief Midterm Review (2nd half of class)

Readings:

Tynes, Schuschke, & Noble, "Digital Intersectionality Theory and the #Blacklivesmatter Movement"

T. Chante'Tanksley "Black Girls in Popular Instagram Memes" in *The Intersectional Internet*

Sweeney L. "Discrimination in online ad delivery," *Communications of the ACM*, 2013; 56(5): 44-54. <http://dx.doi.org/10.2139/ssrn.2208240>

J. Blake, "Racism without Racists" CNN November 2014: <http://www.cnn.com/2014/11/26/us/ferguson-racism-or-racial-bias/>

March 30

Class 8:

MIDTERM EXAM in class

April 6

Class 9: NO CLASS, but, do the thought exercise below:

In an unbroken period of 24 hours, do one thing that does not involve digital labor anywhere in the supply chain. And, write down as many things that you can think of that you did in these 24 hours that *did* involve digital labor. Write down your findings so that you will be prepared to talk about them in class. This is a mental exercise to help you review all the things we've talked about so far. Once you've done the mental and physical part of this exercise, your assignment is to write a 500-800 word essay and post it to www.digitalhistorylab.com. It should discuss what you did (or didn't do) and why, and talk about what kinds of questions you had to ask yourself to do this assignment well. Did this assignment allow you to come up with any new insights? If so, what were they. Post your short essay on www.digitalhistorylab.com by April 9th at 6pm.

April 13

Class 10: The Telecommunications Infrastructure That Structures Labor

Discuss Technology Fast assignment

Readings:

L. Nakamura, "Economies of Digital Production in East Asia: iPhone Girls and the Transnational Circuits of Cool," <http://www.mediafieldsjournal.org/economies-of-digital/>

M. Villa-Nicholas, Ch. 11: The Invisible Information Worker: Latinas in Telecommunications, in *The Intersectional Internet* (pp. 195-214)

Losse, "The Male Gazed," <https://modelviewculture.com/pieces/the-male-gazed>

A. Aytes, "Return of the Crowds: MTurk and Neoliberal States of Exception" essay from *Digital Labor*

April 20

Class 12: Your Choice

Assignment: Bring in one article on a topic of your choice. Write a short essay (no more than 300 words) on how your article relates to the course and what new questions or issues it brings up that you would like to talk about. Be prepared to share your thoughts with classmates.

Readings:

"AT&T Helped U.S. Spy on Internet on a Vast Scale," *NYT*, August 2015

http://www.nytimes.com/2015/08/16/us/politics/att-helped-nsa-spy-on-an-array-of-internet-traffic.html?action=click&contentCollection=U.S.&module=MostPopularFB&version=Full®ion=Marginalia&src=me&pgtype=article&assetType=nyt_now

J. Kirby, "An Inside Look at Facebook's Approach to Automation and Human Work," *Harvard Business Review* June 12, 2015

<https://hbr.org/2015/06/an-inside-look-at-facebooks-approach-to-automation-and-human-work>

April 27

Class 13

Readings: In folder marked "final class" on Blackboard

Final Projects will be due at beginning of our scheduled final exam period (the time set by the registrar for our final exam)

Have a good summer break!