Paul Fyfe, Dept of English, paul.fyfe@ncsu.edu

HON 202-006, Fall 2020
Hybrid: in person and online
Class times: Mon + Wed 10:15a - 11:30a
In-person location: Park Shops 200
With online instruction

Data and the Human

In current conditions of coronavirus, this class will alternately take place in person and online. We will meet in our assigned classroom on Mondays, following NC State's coronavirus protocols including masks and social distancing (please see policies below). Wednesdays we will sometimes have synchronous class meetings over Zoom, and sometimes other assignments that you can do asynchronously. I appreciate everyone's flexibility as we adapt to this challenge. Please stay in touch about how things are going!

Course description

We are living in the era of big data. At the same time, big data is shaping how we live, how we define the boundaries of private and public selves, how we make decisions, and how we are governed and manipulated. In other words, "data" no longer refers to electronic information alone, but to the emerging conditions that are redefining our humanity. This seminar invites students to explore how to identify and understand these changes across contexts including democracy and surveillance, identity and algorithms, education, artificial intelligence, and more. We will read a range of materials from science fiction to tech journalism to cultural studies. Additionally, with the help of hands-on workshops, we will try several entry-level experiments with data, from trying to acquire and control our own, to visualizing and researching open data sets. No previous experience or special technical skills are required beyond basic familiarity with a computer.

Who is this for?

"Data and the Human" aims to reward students moving into a variety of disciplines and programs. It tries to make NC State's "Think and Do" motto into a discovery experience for honors students. The course also provides a framework for critical thinking as part of NC State University's QEP program called "TH!NK." This framework structures the course's program of activities, many of which are also designed to help you reflect on critical thinking itself (i.e. metacognition). I'm happy to discuss these nuts and bolts further with anyone who is interested.

This course has no prerequisites. It is open to students enrolled in the University Honors Program (UHP) as well as to other interested students with the UHP's permission.

Our goals

The course's goals are for students, having completed all course requirements, to:

1. Identify some of the major cultural impacts of big data and machine learning
2. Analyze and debate the social repercussions of these impacts
3. Acquire, transform, and visualize simple data sets

Learning Outcomes

Students leaving the course should have working analytical vocabulary and diverse introductory skill set for their continuing work at NC State and beyond. In addition, the course aims to deliver learning outcomes generalizable to all continuing courses of study, including the abilities to:

1. Raise questions and formulate problems
2. Gather and assess relevant information
3. Synthesize and generate ideas
4. Consider alternatives
5. Reach reasoned conclusions
6. Effectively communicate

Your instructor

Paul Fyfe, Associate Professor of English
Office: virtual contact only for Fall 2020
Hours: anytime most weekdays by appointment
paul.fyfe@ncsu.edu
http://go.ncsu.edu/pfyfe

You can call me Paul, Professor, Dr. Fyfe, he, him, &c—whatever you are comfortable with. Please let me know if you wish to be referred to using a name and/or pronouns other than what is listed in the student directory.

Our materials

The course requires the following novel, available through the NC State bookstores:

1. Louisa Hall, *Speak*. Ecco/HarperCollins, 2015. ISBN 978-0062391209.

Because we're all on screens all the time now, I would urge you to gift yourself the experience of ordering and reading this in paperback.

Most other materials will be provided electronically, ranging from podcasts, videos, articles, websites, and chapters scanned to PDF on Moodle. If you ever run into errors or can't find something, please let me know asap!

What I need from you

1. Attendance. This course allows for three in-class absences for any reason; no excuses necessary. Additional absences will cost 1/3 letter per infraction. I reserve the right to treat repeated lateness as an absence. We can probably accommodate

conflicts with class time—professional, personal, etc.—but please talk with me in advance. The university's policy on Attendance Regulation (REG02.20.3) is available online http://policies.ncsu.edu/regulation/reg-02-20-03

2. Participation. Our class will be conducted as a seminar which will thrive on the participation of its members. Participation means thoughtfully preparing any reading materials, exploring study objects, and communicating with the seminar. I will provide a template for you to assess your own participation weekly.

3. Fortitude. Because of its occasional engagement with technologies, this course may (ok, will) include some moments of frustration or even outright failure. These exercises may require your patience and fortitude in ways that other classes do not. It will also reward them. But never stew in isolation. If you get confused or stuck, let's talk. We'll figure it out together.

4. Course journal. Instead of taking reading quizzes, I will ask you to take notes on certain assigned readings and/or record class activities in a Google Doc that I'll provide. These should be completed before class on the day they're assigned.

5. Class forum. We will use forums on Moodle to extend discussions into our asynchronous classes. Some portion of the class will post contextualized questions, and the other portion will thoughtfully respond. Responsibilities for each will rotate on a schedule I'll provide early in the semester.

6. Data auto-ethnography. The first course project asks you to write a paper about who you are—an "auto ethnography"—but primarily based on the data you send out into the mediascape. You will collect, analyze, and reflect upon this data following a separate assignment sheet to be provided.

7. Data practice. The second project will build upon data cleaning and visualization workshops provided by NC State University Libraries. We will try some hands-on experiments manipulating and asking questions of open data sets. You will present sample visualizations and your written reflections about the kinds of questions we could ask, the kinds of knowledge your data could (or could not) generate.

8. Professor Fyfe Turing Test. The final paper asks you to write a paper with the help of artificial intelligence—and the goal of deceiving your professor about who wrote what. The goal here is less to learn how to cheat than to reveal the thorny issues associated with AI, authorship, reason, &c. You will share your paper and reflections in a paper.

What you can expect from me

In these crazy times, you can expect flexibility and compassion. This is an odd format for our seminar and a challenging environment to maintain the headspace to study. I

understand that and will work with you in whatever way to help you succeed. As your instructor, I commit to punctual appearance at class times as well as preparation of assigned texts and contexts. Emails will be answered within two business days. All graded assignments will be completed and returned within one week of submission. Though sometimes I'll need flexibility too.

Effort > grades

In this course, we will use an effort-based grading system in which you can decide, from the start, what grade you want to achieve this semester. These grades are based on benchmarks for completed assignments. For instance, someone who wants to put in "A" level effort will complete a certain number of things, while someone agreeing to "B" level effort will complete slightly fewer, and so on, as per the guidelines below. Each of these assignments will be graded as satisfactory or not (S/U), rather than earning an individual score. I'll provide a basic rubric for each kind of assignment about what qualifies as satisfactory work. We will keep track of your efforts together on a shared Google spreadsheet.

Effort-based grading is designed to help with a few things. First, it tries to address the contentiousness about grade decisions made only by the instructor. You become part of the decision and there are no judgments about your choice. Second, it offers students flexibility in terms of how extensively to engage the course and when to complete the assignments. Assignments do not necessarily have to be submitted on their designated days; late work can be accepted. But given our compressed fall semester format, it's best to stick with the course schedule whenever possible.

Now, some things are flexible, but others are not. To pass the course or achieve any of the following grades, all students must complete the following as a baseline:

- When you join our class, you are prepared to discuss any assigned materials and actively participate in our experiments.
- Have a virtual check-in meeting with me halfway through the semester.
- Submit each of the three papers.
- Revise any unsatisfactory assignments until we both agree they achieve a satisfactory level and thus count towards your record of effort.

To choose an "A" for this course, your effort must include satisfactory completion of

- 12/13 quality participation assessments
- all course journal entries
- 4 quality forum discussion posts
- 10 or more quality forum replies
- not more than one missed class*

To choose an "B" for this course, your effort must include satisfactory completion of

- 10/13 quality participation assessments
- all but two course journal entries
- 3 forum discussion posts
- 8 or more forum replies
- not more than two missed classes

To choose an "C" for this course, your effort must include satisfactory completion of

- 8/13 satisfactory participation assessments
- half the course journal entries
- 2 forum discussion posts
- 5 or more forum replies
- not more than three missed classes

Given our remote learning format and other COVID-related challenges, "missed class" refers to an unexcused absence rather than non-attendance at a Zoom meeting. If you have any conflicts with those meetings, please let me know and we can make arrangements.

I reserve the right to reward exceptional or mediocre work using plus or minus grading conventions at the end of the semester. For example, if you choose B effort but submit work that exceeds expectations, I may elect to award a B+ grade. Conversely, if you submit satisfactory but mediocre work, the final submitted grade may reflect a B-. Also, I reserve the right to impose a grade of D or F to anyone who fails to meet the minimum agreed-upon effort in a systematic way.

You can make decisions about your effort commitments at three points of the semester. First, when you choose your plan. Second, when we meet at mid-semester to discuss your progress. Third, when you submit a final assessment of your work, explaining to me how you've met the expectations for your effort level.

For the inspiration for this approach to grading as well as examples from another class, please see Ryan Cordell's class page. Complete details on NC State's grading policies, including conversions to GPA and grade change policies, can be found online: https://policies.ncsu.edu/regulation/reg-02-50-03/ (02.50.03 – Grades and Grade Point Average)

Getting help

Your well-being comes first. A colleague has assembled a list of all the support resources that NC State is now offering in the wake of COVID-19, everything from getting help with money and housing to handling the disorientation and stress. Take care of yourself first, and let me know if you're having trouble.

Your success in this class is important to me. We will all need accommodations because we all learn differently. If there are aspects of this course that prevent you from learning

or exclude you, please let me know as soon as possible. Together we'll develop strategies to meet both your needs and the requirements of the course.

Reasonable accommodations will be made for students with verifiable disabilities. In order to take advantage of available accommodations, students must register with Disability Services for Students at 1900 Student Health Center, Campus Box 7509, 919-515-7653. For more information on NC State's policy on working with students with disabilities, please see the Academic Accommodations for Students with Disabilities Regulation (REG02.20.01).

All the policies—including plagiarism (boo)

All students are responsible for reviewing the NCSU Polices, Regulations, and Rules (PRRs) which pertain to their course rights and responsibilities. These include: http://policies.ncsu.edu/policy/pol-04-25-05 (Equal Opportunity and Non-Discrimination Policy Statement), http://oied.ncsu.edu/oied/policies.php (Office for Institutional Equity and Diversity), http://policies.ncsu.edu/policy/pol-11-35-01 (Code of Student Conduct), and http://policies.ncsu.edu/regulation/reg-02-50-03 (Grades and Grade Point Average).

Incomplete work

As stated by the university grading policy, "An IN must not be used…as a substitute for an F when the student's performance in the course is deserving of failing. An IN is only appropriate when the student's record in the course is such that the successful completion of particular assignments, projects, or tests missed as a result of a documented serious event would enable that student to pass the course." In this class, a grade of "IN" will only be given (1) in response to a written student request [e-mail is fine] submitted to the instructor before 4:00 on the last day of classes; (2) at the instructor's discretion; and (3) because of a serious interruption a student's work not caused by his/her own negligence. The university's policy on incompletes REG 02.50.03) can be found at http://policies.ncsu.edu/regulation/reg-02-50-03

When things get tough

As members of the NC State Wolfpack community, we each share a personal responsibility to express concern for one another and to ensure that this classroom and the campus as a whole remains a safe environment for learning. Occasionally, you may come across a fellow classmate who seems in crisis or may need help. In these cases, consider reporting to NC State Students of Concern (http://studentsofconcern.ncsu.edu/). If you are needing help or just someone to talk to, please get in touch with the Counseling Center at Student Health (http://healthcenter.ncsu.edu/counseling-center/) which offers confidential services.

Our open classroom

NC State University provides equality of opportunity in education and employment for all students and employees. Accordingly, NC State affirms its commitment to maintain a work environment for all employees and an academic environment for all students that is free from all forms of discrimination. Discrimination based on race, color, religion, creed, sex, national origin, age, disability, veteran status, or sexual orientation is a violation of state and federal law and/or NC State University policy and will not be tolerated. Harassment of any person (either in the form of quid pro quo or creation of a hostile environment) based on race, color, religion, creed, sex, national origin, age, disability, veteran status, or sexual orientation also is a violation of state and federal law and/or NC State University policy and will not be tolerated. Retaliation against any person who complains about discrimination is also prohibited. NC State's policies and regulations covering discrimination, harassment, and retaliation may be accessed at http://www.ncsu.edu/policies/campus_environ or http://www.ncsu.edu/equal_op. Any person who feels that he or she has been the subject of prohibited discrimination, harassment, or retaliation should contact the Office for Equal Opportunity (OEO) at 515-3148.

Additionally, I consider it part of my responsibility as instructor to address the learning needs of all of the students in this course. The course presents materials that are respectful of diversity: race, color, ethnicity, gender, age, disability, religious beliefs, political preference, sexual orientation, gender identity, citizenship, or national origin among other personal characteristics. I also believe that the diversity of student experiences and perspectives is essential to the deepening of knowledge in a course. Any suggestions that you have about other ways to include the value of diversity in this course are welcome. In scheduling midterms and other exams, I have tried to avoid conflicts with major religious holidays. If there is a conflict with your religious observances, please let me know as soon as possible so that we can work together to make arrangements.

Electronic Hosting Statement

Students may be required to disclose personally identifiable information to other students in the course, via electronic tools like email or web-postings, where relevant to the course. Examples include online discussions of class topics, and posting of student coursework. All students are expected to respect the privacy of each other by not sharing or using such information outside the course.

This course may also involve electronic sharing or posting of personally identifiable student work or other information with persons not taking or administering the course. Students will be asked to sign a consent form allowing disclosure of their personally identifiable work. No student is required to sign the consent form as a condition of taking the course. If a student does not want to sign the consent form, he or she has the right to ask the instructor for an alternative, private means of completing the coursework.

About that whole COVID thing

NC State University has put the following policies in place for COVID-19: Due to the Coronavirus pandemic, public health measures have been implemented across campus. Students should stay current with these practices and expectations through the Protect the Pack website (https://www.ncsu.edu/coronavirus/). The sections below provide expectations and conduct related to COVID-19 issues.

Health and Participation in Class

We are most concerned about your health and the health of your classmates and instructors/TAs.

- If you test positive for COVID-19, or are told by a healthcare provider that you are presumed positive for the virus, please work with your instructor on health accommodations and follow other university guidelines, including self-reporting: https://healthypack.dasa.ncsu.edu/coronavirus/. Self-reporting is not only to help provide support to you, but also to assist in contact tracing for containing the spread of the virus.
- If you feel unwell, even if you have not been knowingly exposed to COVID-19, please do not come to class.
- If you are in quarantine, have been notified that you may have been exposed to COVID-19, or have a personal or family situation related to COVID-19 that prevents you from attending this course in person (or synchronously), please connect with your instructor to discuss the situation and make alternative plans, as necessary.
- If you need to make a request for an academic consideration related to COVID-19, such as a discussion about possible options for remote learning, please talk with your advisor for the appropriate process to make a COVID-19 request.

Health and Well-Being Resources

These are difficult times, and academic and personal stress is a natural result. Everyone is encouraged to take care of themselves and their peers. If you need additional support, there are many resources on campus to help you:

- Counseling Center (https://counseling.dasa.ncsu.edu/)
- Health Center (https://healthypack.dasa.ncsu.edu/)
- If the personal behavior of a classmate concerns or worries you, either for the classmate's well-being or yours, we encourage you to report this behavior to the NC State CARES team: (go.ncsu.edu/NCSUcares).
- If you or someone you know are experiencing food, housing or financial insecurity, please see the Pack Essentials Program (https://dasa.ncsu.edu/pack-essentials/).

Community Standards related to COVID-19

We are all responsible for protecting ourselves and our community. Please see the community expectations and Rule 04.21.01 regarding Personal Safety Requirements Related to COVID-19 https://policies.ncsu.edu/rule/rul-04-21-01/

Course Expectations Related to COVID-19

- Face Coverings: As a member of the NC State academic community you are required to follow all university guidelines for personal safety with face coverings, physical distancing, and sanitation. Face coverings are required in this class and in all NC State buildings. Face coverings should be worn to cover the nose and mouth and be close fitting to the face with minimal gaps on the sides. Please follow the cleaning guidelines described by the University.
- Course Attendance: NC State attendance policies can be found at: https://policies.ncsu.edu/regulation/reg-02-20-03-attendance-regulations/ . Please refer to this course's attendance, absence, and deadline policies for additional details. If you are quarantined or otherwise need to miss class because you have been advised that you may have been exposed to COVID-19, you should not be penalized regarding attendance or class participation. However, you will be expected to develop a plan to keep up with your coursework during any such absences. If you become ill with COVID-19, you should follow the steps outlined in the "Health and Participation in Class" section above. COVID 19-related absences will be considered excused; documentation need only involve communication with your instructor.
- Course Meeting Schedule: Your course might not have a traditional meeting schedule in Fall 2020. Be sure to pay attention to any updates to the course schedule as the information in this syllabus may have changed. Please discuss any questions you have with the instructor.
- Classroom Seating: To support efficient, effective contact tracing, please sit in the same seat when possible and take note of who is sitting around you; instructors may also assign seats for this purpose.
- Technology Requirements: This course may require particular technologies to complete coursework. Be sure to review the syllabus for these expectations, and see go.ncsu.edu/syllabus-tech-requirements to find out more about technical requirements for your course. If you need access to additional technological support, please contact the Libraries' Technology Lending Service: https://www.lib.ncsu.edu/devices.

Course Delivery Changes Related to COVID-19

Please be aware that the situation regarding COVID-19 is frequently changing, and the delivery mode of this course may need to change accordingly, including from in-person to online. Regardless of the delivery method, we will strive to provide a high-quality learning experience.

Grading/Scheduling Changing Options Related to COVID-19

If the delivery mode has a negative impact on your academic performance in this course, the university has provided tools to potentially reduce the impact:

- Enhanced S/U Grading Option: https://studentservices.ncsu.edu/your-resources/covid-19/spring2020-sat-grading/
- Late Drop: https://studentservices.ncsu.edu/your-resources/covid-19/spring2020-latedrop/

In some cases, another option may be to request an incomplete in the course. Before using any of these tools, discuss the options with your instructor and your academic advisor. Be aware that if you use the enhanced S/U, you will still need to complete the course and receive at least a C- to pass the course.

Other Important Resources

- Keep Learning: https://dasa.ncsu.edu/students/keep-learning/
- Protect the Pack FAQs: https://www.ncsu.edu/coronavirus/frequently-asked-questions/

What did you think?

Online class evaluations will be available for students to complete during the last two weeks of class. Students will receive an email message directing them to a website where they can login using their Unity ID and complete evaluations. All evaluations are confidential; instructors will never know how any one student responded to any question, and students will never know the ratings for any particular instructors.

- Evaluation website: https://classeval.ncsu.edu
- Student help desk: classeval@ncsu.edu
- More information about ClassEval: http://www2.acs.ncsu.edu/UPA/classeval/index.htm

THE PLAN (subject to change)

Unless otherwise noted, all readings should be completed before class on the day they are assigned.

Part 1: Data and Surveillance

WEEK 1: OUR DATA, OUR SELVES

Mon Aug 10: Course intro and overview

Homework (HW): Get acquainted with the course Moodle site, read through syllabus, bring your mask :)

Class time: Course orientation, introductions, group exercise: who we are as data, communication platforms

Wed Aug 12: Your digital shadow

HW: Read the following adventure story (it's fun):

> Ratliff, Evan. "Vanish." In *The Best Technology Writing 2010*, edited by Julian Dibbell, 9–37. New Haven: Yale University Press, 2010. http://ebookcentral.proquest.com/lib/ncsu/detail.action?docID=3420911 [probably easier to use the PDF version I've uploaded to Moodle]

Synchronous class time: On-screen introductions. Introduce your pets! Let's then talk about how virtual discussion and participation will work best.

Then, discussion of "Vanish." In your course journal, make lists of all the ways we shed data or might be trackable. Then, make another list of all the contexts in which you are *not* trackable. Save these lists for reference for your first paper.

Forum: Doxx your professor. Competition between assigned response groups to see who can find the most curious, awkward, funny, or revealing information online about Dr. Fyfe. (You can ask me first if you are uncertain about what's appropriate to post!)

WEEK 2: PRIVACY AND SURVEILLANCE

Mon Aug 17: I know where your cat lives … and more

HW: Read the following report (and browse the follow-up pieces, if you like):

> Thompson, Stuart A., and Charlie Warzel. "Twelve Million Phones, One Dataset, Zero Privacy." *The New York Times*, December 19, 2019. https://www.nytimes.com/interactive/2019/12/19/opinion/location-tracking-cell-phone.html

Then check out the following website. Try to look around your own usual locations (college, home, &c.). Record your results in your course journal:

> Mundy, Owen. I Know Where Your Cat Lives https://iknowwhereyourcatlives.com/ (2014-)

Class time: Data and privacy discussion.

Wed Aug 19: Surveillance capitalism

HW: Read the following article. It's a proper scholarly article and so will require your concentration. Note two or three important quotes in your course journal, and briefly explain their significance:

> Zuboff, Shoshana. "Big Other: Surveillance Capitalism and the Prospects of an Information Civilization." *Journal of Information Technology* 30.1 (2015): 75–89. [PDF on Moodle]

Synchronous class time: Zoom to discuss what how class forums will work, what makes a good forum post and response. Then breakout groups to discuss the important points of the article, how to take notes following the template in your course journal. Take notes together.

Forum: Group 1 each posts a separate discussion question, the rest of the class chooses one to offer a rich response, and another response to reply. Initial discussion questions posted by Wednesday; responses due before the end of the weekend.

Participation self-assessment

WEEK 3: TERMS OF SERVICE

Mon Aug 24: Are your data belong to us

HW: We're going to listen to a podcast as homework. But how do you do that? First, read Abby Mullen's advice:

> Mullen, Abby. "How to Listen to a Podcast for Class." Abby Mullen (blog), August 7, 2020. http://abbymullen.org/how-to-listen-to-a-podcast-for-class/.

Then, in your course journal, take notes on the following podcast, using the points from Mullen's sections "While you're listening" and "When the show is over":

> Goldstein, Jacob, and Alexi Horowitz-Ghazi. "Terms of Service." *Planet Money*, NPR. March 4, 2020. https://www.npr.org/2020/03/04/812264543/episode-976-terms-of-service. (17 minutes)

Synchronous class time: Discussion of ToS. Review different agreements you've made; start and save lists for the first paper. Check out various sites and resources, including:

> Laura Heffernan, "Privacy policy…" Twitter @laheffernan, Feb 13, 2020. https://twitter.com/LAHeffernan/status/1228066800618831872
>
> Artist creates graphic novel based on iTunes terms of service (video explainer, 3.30min) https://video.vice.com/en_us/video/this-artist-turned-ituness-terms-and-conditions-into-a-graphic-novel/59272bc3911b31c30fae9859
>
> Terms of Service Didn't Read – ratings of providers on the web https://tosdr.org/

Wed Aug 26: Adversarial practice

HW: Read the following article:

> Seabrook, John. "Dressing for the Surveillance Age." *The New Yorker*, March 16, 2020. https://www.newyorker.com/magazine/2020/03/16/dressing-for-the-surveillance-age (or listen to the 47 minute reading)

Asynchronous class

Forum: Group 2 members each post a separate discussion question by end-of-day on Wednesday. Topic: What is the role of data surveillance in public spaces? What are the ethical boundaries? In what real-world examples can we see these issues play out? For instance, given so many recent examples of political unrest, what about in context of protests or the policing of those protests?

Participation self-assessment

WEEK 4: ED TECH

Mon Aug 31: CLASS CANCELLED

HW: Review first paper assignment, think about your data sources.

Wed Sept 2: Our programs

HW: watch the following short video:

> Kaiser, Zachary. Our Program, 2016. https://vimeo.com/179276376. (5 min)

Then read the following blog post, noting important points in your course journal:

> Watters, Audrey. "School Work and Surveillance." *Hack Education* (blog), April 30, 2020. http://hackeducation.com/2020/04/30/surveillance.

Synchronous class time: Discussion of school and surveillance. Example of contact tracing and location data, e.g. https://techcrunch.com/2020/08/19/coronavirus-albion-security-flaws-app/ Demonstrate Blackboard's various dashboards. Share perspectives on how NC State might be actively harvesting and using your data, for what purposes, &c.

Forum: Group 3 posts discussion questions on the topic of surveillance and higher ed. What are some of the ways students' information gets collected, used, or even misused? What are the appropriate boundaries? How does our surveillance map of NC State represent these practices at work?

Part 2: Dimensions of Data

WEEK 5: WTF IS DATA?

Mon Sept 7: Defining data

HW: using the reading below, synthesize a definition of data in your own words in your course journal. You don't have to include everything they say. What's crucial? How would you distill it? Try for three sentences or less!

> Gregg, Melissa, and Dawn Nafus. "Data." In *Keywords for Media Studies*, edited by Laurie Ouellette and Jonathan Gray. New York: New York University Press, 2017. https://search-credoreference-com.prox.lib.ncsu.edu/content/entry/27728065 [or PDF on Moodle]

Synchronous class: Defining data discussion. WTF CSV exercise.

Wed Sept 9: Data cleaning

HW: Work on the first paper. Download and install OpenRefine before the workshop (instructions in the link below)

Asynchronous class: OpenRefine workshop with Natalia Lopez and Claire Cahoon, NC State University Libraries. Do the workshop at your own pace. Or—optionally—join us in Zoom during classtime to ask questions, troubleshoot, or do it together. Workshop link: https://go.ncsu.edu/dvs-openrefine

Forum: None. Work on the paper.

Friday Sept 11: Recommended submission for first paper

See separate instructions on Moodle. Submit via email.

Participation self-assessment

WEEK 6: DATA IS HISTORY

Mon Sept 14: Raw data is an oxymoron

HW: Read the following. It's an introduction to an academic book, so some of the discussion refers to further chapters we don't read, but even that discussion is useful. After reading it, create an entry in your course journal. In two to three sentences, explain what you think is the "big takeaway" from the chapter. Then copy three important quotes (with page number citations).

> Gitelman, Lisa, and Virginia Jackson. "Introduction." In *"Raw Data" Is an Oxymoron*, edited by Lisa Gitelman, 1–14. Cambridge, Massachusetts: The MIT Press, 2013. [PDF on Moodle]

Synchronous class: discussion about the relation of data to history. Analysis of a sample data set.

Wed Sept 16: Data and black lives

HW: Watch my short presentation first, then read the following academic article.

> "Data, Commodification, and Black Bodies." Mediasite https://mediasite.wolfware.ncsu.edu/online/Play/08bbd6357392404eb2dac62611283d1b1d (8 minutes)
>
> Johnson, Jessica Marie. "Markup Bodies: Black [Life] Studies and Slavery [Death] Studies at the Digital Crossroads." *Social Text* 36.4 (2018): 57–79. [PDF on Moodle] (concentrate on pages 57-66 if you're pressed for time)

Asynchronous class: The video presentation and article comprise the class. After processing both, head to the class forums.

Forum: Group 1 leads with discussion posts about the history of data, especially who and how these legacies affect the present.

Participation self-assessment

WEEK 7: VISUALIZING DATA

Mon Sept 21: Feminist data viz

HW: Read the following report. After reading it, create an entry in your course journal. In two to three sentences, explain what you think is the "big takeaway" from the chapter. Then copy three important quotes (with page number citations).

> D'Ignazio, Catherine, and Lauren F. Klein. "Feminist Data Visualization." In Workshop on Visualization for the Digital Humanities (VIS4DH). Baltimore, 2016. http://www.kanarinka.com/wp-content/uploads/2015/07/IEEE_Feminist_Data_Visualization.pdf [PDF on Moodle]

Synchronous class: discussion about data viz, epistemology, objectivity. Share and examine sample visualizations from different fields.

Wed Sept 23: Data viz workshop

HW: Install Tableau on your computer, per the workshop instructions. Read the following:

> Albert Cairo, "Introduction" in *How Charts Lie : Getting Smarter about Visual Information*. New York: W.W. Norton, 2019. 1-19. [PDF on Moodle]

Asynchronous class: Tableau workshop with Natalia Lopez and Claire Cahoon, NC State University Libraries. Do the workshop at your own pace. Or—optionally—join us in Zoom during classtime to ask questions, troubleshoot, or do it together. Workshop link to come.

Forum: (Whole class) Share the link to your Tableau visualizations from the workshop. Then, in that same post, explain how you might connect your data visualizations relate to our readings for this week.

Participation self-assessment

WEEK 8: ENVIRONMENTAL MEDIA

Mon Sept 28: Anatomy of an AI

HW: Read the following report. After reading it, create an entry in your course journal. In two to three sentences, explain what you think is the "big takeaway." Then copy three important quotes.

> Crawford, Kate, and Vladan Joler. "Anatomy of an AI System: The Amazon Echo as an Anatomical Map of Human Labor, Data and Planetary Resources." AI Now Institute and Share Lab, 2018. http://www.anatomyof.ai

Synchronous class: discussion about digital materiality, infrastructure, and environmental media.

Wed Sept 30: Media archaeology

HW: None. Work on second lab report.

Synchronous class: Group media archaeology lab. Separate instructions to come.

Forum: none.

Friday Oct 2: Second lab report submissions open

See separate instructions on Moodle. Submit via email.

Participation self-assessment

Part 3: Humans vs. Computers

WEEK 9: HELLO COMPUTER

Mon Oct 5: Voice assistants

HW: Read the following article. After reading it, create an entry in your course journal. In two to three sentences, explain what you think is the "big takeaway." Then copy three important quotes.

> Natale, Simone. "To Believe in Siri: A Critical Analysis of AI Voice Assistants." *Communicative Figurations* 32 (2020). [PDF on Moodle]

Synchronous class: discussion of artificial intelligence, deceit, voice assistants, and projection. Group exercise to have a conversation with a voice assistant.

Wed Oct 7: Falling in love with your OS

HW: Create a new entry in your course journal. Finish the exercise about conversing with a voice assistant.

Synchronous class: Viewing party: Spike Jonze, dir. *Her*. (2013)

Forum: Group 2 leads discussion about human relations to simulated personae.

Participation self-assessment

WEEK 10: ARTIFICIAL INTELLIGENCE

Mon Oct 12: What's in the box

HW: Listen to the following podcast.

> Standage, Tom, and Seth Stevenson. "The Box That AI Lives In." *The Secret History of the Future*. (2018) (35 min)
> http://www.slate.com/articles/podcasts/secret_history_of_the_future/2018/09/a_200_year_old_chess_playing_robot_explains_the_internet.html

Synchronous class: discussion of artificial intelligence, machine learning.

Wed Oct 14: Machine learning

HW: Read the following article. After reading it, create an entry in your course journal. In two to three sentences, explain what you think is the "big takeaway." Then copy three important quotes.

> Crawford, Kate, and Trevor Paglen. "Excavating AI: The Politics of Images in Machine Learning Training Sets." AI Now Institute, 2019. https://www.excavating.ai.

Asynchronous class: discussion in forums.

Forum: Group 3 leads discussion of machine learning.

Participation self-assessment

WEEK 11: ALGORITHMIC BIAS

Mon Oct 19: Algorithmic bias

HW: watch the following presentation. Write a short paragraph summary in your course journal.

> Kate Crawford, "The Trouble With Bias." Keynote lecture at the Neural Information Processing Systems (NIPS) conference, 2017. https://www.youtube.com/watch?v=fMym_BKWQzk (49 min video)

Synchronous class: discussion of algorithms, bias, applications.

Wed Oct 21: Race after technology

HW: Listen to the following podcast.

> Koenig, Rebecca, with Ruha Benjamin. "The New Jim Code? Race and Discriminatory Design." EdSurge Podcast, August 20, 2019. https://www.edsurge.com/news/2019-08-20-the-new-jim-code-race-and-discriminatory-design (27 min podcast)

Asynchronous class: discussion in forums.

Forum: Group 1 leads discussion of discriminatory design. Where does it show up? What kinds of projects, platforms, or software expresses it? And what would you suggest can be done about it?

Participation self-assessment

WEEK 12: AUTOMATIC WRITING

Mon Oct 26: Writing machines

HW: Read the following articles. In your course journal, write a paragraph summary of the Seabrook article and include three key quotes:

> Seabrook, John. "Can a Machine Learn to Write for The New Yorker?" *The New Yorker*, October 14, 2019. https://www.newyorker.com/magazine/2019/10/14/can-a-machine-learn-to-write-for-the-new-yorker.

> Standage, Tom. "An Artificial Intelligence Predicts the Future." The Economist, 2020. https://theworldin.economist.com/edition/2020/article/17521/artificial-intelligence-predicts-future.

Synchronous class: discussion of text generation, GPT-2 and GPT-3.

Wed Oct 28: Essay bots

HW: Read the following articles:

> Hearn, Alex. "New AI Fake Text Generator May Be Too Dangerous to Release, Say Creators." *The Guardian*, February 14, 2019. https://www.theguardian.com/technology/2019/feb/14/elon-musk-backed-ai-writes-convincing-news-fiction

> Otsuki, Grant Jun. "OK, Computer: Let's Bring Text-Generating Artificial Intelligence into the Classroom." *The Conversation* (blog), January 24, 2020. https://phys.org/news/2020-01-text-generating-artificial-intelligence-classroom.html

See https://www.essaybot.com/ for an ethical problem

Synchronous class: review final assignment, chat with Scott Bailey of NC State University Libraries.

Forum: all-class debate. Instructions to come.

WEEK 13: SPEAK

Mon Nov 2: Louisa Hall, Speak

HW: Read

Louisa Hall, *Speak* (Ecco, 2016), pages 1-64

Synchronous class: discussion of novel

Wed Nov 4: Louisa Hall, Speak

HW: Read

Hall, *Speak*, pages 65-128 (through the end of Book Two)

Forum: Group 2. Instructions to come.

WEEK 14: SPEAK, CONT.

Mon Nov 9: Louisa Hall, Speak

HW: Read

Hall, *Speak*, pages 129-192

Synchronous class: discussion of novel. Breakout "empathy equation" exercise in course journal.

Wed Nov 11: Louisa Hall, Speak

HW: Read

Hall, *Speak*, pages 193-252

Forum: Group 3. Instructions to come.

WEEK 15: SPEAK, CONT.

Mon Nov 16: Speak, fin

HW: Read

Hall, *Speak*, pages 253-314 (finish)

Synchronous class: discussion of novel

Fri Nov 20: Third lab report due

Credits

Even new courses come from somewhere. This one evolved from its predecessor, HON 313: Reading Machines, to become more focused on contemporary questions about digital media and social issues. The course gratefully adapts the structures, lesson plans, and creative teaching of several persons, including Mark Sample, Shannon Mattern, Sonoe Nakasone, Whitney Trettien, Ryan Cordell, among many others.

This course also depends on the generosity of people at NC State, especially at the libraries: Natalie Lopez, Scott Bailey, and Claire Cahoon. Thanks also to Anne Auten and the NC State Honors program for its support.

Instructions

In the first module of our course, we are simultaneously learning about data privacy and introducing ourselves to each other. This assignment blends both. It offers both a test of your own data privacy and an introduction to yourself—at least, to the version of yourself shadowed forth by your recoverable data. Imagine you're a stranger. What would someone learn if they never met you, but harvested your data from social media sites, search engines, personal health trackers, browser cookies, ad trackers, location data? How detailed or generalized a picture could they paint? What demographics or groups could they affiliate you with? And, ultimately, how do you feel about this digital shadow of yourself existing in the dataverse?

This assignment is a version of "autoethnography." As one explanation puts it, "autoethnography is an approach to research and writing that seeks to describe and systematically analyze personal experience in order to understand cultural experience." Think of the word's roots: auto = "I" + ethno = "culture" + graphy = "writing." So you are systematically analyzing your persona to make broader connections to culture. In our case, you are analyzing your recoverable personal data to reflect upon the cultural, economic, and/or political impact of data at large.

There are many ways to do an autoethnography, but we'll approach this assignment kind of like a lab report. I'd like you to structure your submission with the following sections:

Materials – this section will note what personal data you recovered from at least three different sources. See the suggestions below. The NC State University Libraries is working on a guide to retrieving some of this data; web searches might help you figure out other ways of accessing this data, too.

Methods – explain how you acquired that data and to whom else it might be accessible. What terms of service did you agree to? To what purposes, other than your own self study, might your data be put?

Analysis — introduce your digital shadow through case studies. You cannot talk about all of your data; nor will we analyze or visualize it computationally for this assignment. So choose some representative, interesting, or surprising aspects of what you've collected to explain who "you" are. How granular are your data? How do you get defined in terms of categories? Or places, times, demographics, &c? How do the data categories already frame who you can be? And/or how your persona relates to other groups or social categories? Use concrete examples from your materials.

Discussion — relate your findings to sources, topics, and/or discussions from our course's first module on "Data and Surveillance." Make specific references or citations. What useful connections do you see? How does your experiment affirm or extend or change the perspectives we've considered in this module? What, in short, can your experiment teach us?

Data Sources

Recommended sources and how to access/download data. These are just starters! Instructions for

- Facebook https://www.facebook.com/help/1701730696756992
- Instagram https://help.instagram.com/181231772500920?helpref
- Twitter https://help.twitter.com/en/managing-your-account/accessing-your-twitter-data

- Snapchat https://support.snapchat.com/en-US/a/download-my-data
- TikTok https://smartphones.gadgethacks.com/how-to/download-your-tiktok-data-activity-report-see-whats-been-collected-about-you-0272725/
- Google ads profile and where it's pulling info https://www.digitalcitizen.life/what-google-advertising-knows-about-you
- Google location history https://www.businessinsider.com/how-do-i-see-my-google-location-history
- Browser cookies https://www.howtogeek.com/111925/
- Web ads https://optout.aboutads.info/?c=2&lang=EN
- Blacklight (website privacy inspector) https://themarkup.org/blacklight/

More advanced:

- Google Takeout https://takeout.google.com/
- Ghostery https://www.ghostery.com/
- Lightbeam https://addons.mozilla.org/en-US/firefox/addon/lightbeam-3-0/

See also the NC State University Libraries' curated resources for downloading personal data: http://go.ncsu.edu/dvs-personaldata

Format and Submission

The whole assignment should aim for 1000-1500 words. If you're referencing texts from our syllabus, there's no need to include a separate works cited page. Otherwise, follow the format for the lab report above. I can accept Word files, PDFs, Google Docs, whatever. Please format them double spaced with 1" margins. Email me an attachment or a link.

I will welcome submissions on Friday, September 11. Please note this is not a hard deadline. If you would like more time to work on it, just ask. We'll work something out.

Evaluation

As a required assignment for this course, your report must meet a minimum standard of quality. I may ask you to revise and resubmit if it still needs work. A good report will meet the following expectations:

Completeness: it executes all the steps of the lab and includes the four required sections of the report.

Evidence: it uses specific examples from your harvested data. The analysis references specific concepts and/or quotes from our assignments and/or class discussions.

Significance: the report uses the exercise and evidence to speculate thoughtfully about their significance and connections to the course.

Length: The report at least 1000 words and long enough to accomplish the above goals.

Instructions

In the second module of our course, we are looking more directly at data sets and how to manipulate them. This includes some basic skills in data cleaning and data visualization, thanks to the workshops from NC State University Libraries. For this lab report, you will apply those skills to transform and visualize a new dataset to the best of your abilities. I'm not expecting technological wizardry! Rather, I want you 1) to experience the process of manipulating and visualizing data and then b) to reflect on the significance of using these tools. How does a dataset get constructed? Why does that matter? What questions can the dataset help you answer? How might you have to clean or change it? How can a dataset be visualized? What ways of understanding the dataset does your process privilege? What stories get emphasized, and what stories get distorted or remain untold?

I will be looking for the quality of your reflections more than any technical sophistication. And if things don't work out the way you'd hoped, or you run into errors or problems, that's fine! We'll try to sort them out, but you can also write about what *didn't work* and what that might teach us about your data. Remember: the assignment's most important goals are intellectual—not technical. How can you put your process in conversation with the ideas from our course's second module? With specific scholars we've read (about whom you've already taken notes in your course journal)? For instance, data always encodes certain ways of understanding what it represents. The very concepts of data and visualization have histories and may privilege certain viewpoints and stories. How do you see these ideas playing out in your experience with these tools?

Your assignment will describe your process, share samples from your results, and reflect on how manipulating and visualizing data affects the questions we ask it or the stories a dataset tells or hides.

Dataset

I will suggest some sample data to use for this assignment, as it includes a reasonable amount of records, requires some data cleaning, and relates to discussions we've had in class. However, you are welcome to use a different dataset if you'd prefer. The sample data set is formatted as CSV (comma separated values) and should easily open within the spreadsheet software of your choice as well as in OpenRefine and Tableau. You can download it directly from the web, then change it in any way you like.

Prisoner records from Eastern State Penitentiary, Pennsylvania, 1830-1839 -- https://repository.upenn.edu/mead/22/ entries on 520 admissions downloadable as CSV. From the McNeil Center for Early American Studies and the Magazine of Early American Datasets at University of Pennsylvania Libraries. The link has some useful background about where your data comes from. For additional (and interesting) context, see the description of the entire collection of the State Penitentiary for the Eastern District of Pennsylvania Records: https://search.amphilsoc.org/collections/view?docId=ead/Mss.365.P381p-ead.xml

Format

As with the previous lab report, I'd like you to structure your submission with the following sections. These are a little different than the first report. They aim to help simplify the experiment:

Dataset – explain the source/s of your data and explain its structure. Before you mess with it, what exactly are you working with? What kinds of categories does it use? How and when did they get created, and by whom?

Transformations – report on how you transformed the dataset with OpenRefine or another program (like a simple spreadsheet). What kinds of questions could you ask with the data? What might you need to "clean" or change about your data set? What problems did you run into, and why are they significant?

Visualizations — use Tableau to generate at least three different visualizations from the dataset and include images in your paper. What questions do these visualizations help you ask or answer?

Discussion — if the prior three sections detail your process, this section reflects more deeply on the significance. I also want you to try connecting specifically to sources, topics, and/or discussions from our course's second module on "Dimensions of Data." What useful connections do you see to the criticism we've read or the discussions we've had? About the structure of data, its histories, and/or epistemologies (i.e. ways of knowing)? What concepts can your experiment illustrate, deepen, or challenge? Use quotes and/or citations.

Submission

The whole assignment should aim for 1000-1500 words. If you're referencing texts from our syllabus, there's no need to include a separate works cited page. Otherwise, follow the format for the lab report above. I can accept Word files, PDFs, Google Docs, whatever. Please format them double spaced with 1" margins. Include your 3+ visualizations within the text or as an appendix. Email me the finished product as an attachment or a link.

I will welcome submissions on Friday, October 2nd. Please note this is not a hard deadline! If you would like more time to work on it, just ask. We'll work something out.

Evaluation

As a required assignment for this course, your report must meet a minimum standard of quality. I may ask you to revise and resubmit if it still needs work. A good report will meet the following expectations:

Completeness: it executes all the steps of the assignment, produces at least three visualizations, and includes the four required sections of the report.

Evidence: it uses specific examples from your dataset. The analysis references specific concepts and/or quotes from our assignments and/or class discussions.

Significance: the report uses the exercise and evidence to speculate thoughtfully about their significance and connections to the course.

Length: The report at least 1000 words and long enough to accomplish the above goals.

Instructions

In the third module of our course, we've considered "artificial intelligence" from several different angles: how it gets represented, what AI suggests about our desires and embodiment, what aspects stay hidden, what drives machine learning, what presumptions and biases AI formalizes, the ethics of using AI, and so on. As with previous assignments, the final lab report asks you to try a hands-on experiment pertaining to the course module, then to reflect on the experiment in a paper. But this one is a little different, in that you will *use AI to write the paper itself*.

Well, kind of. We will use a text-generating language model called GPT-2, customized for us by Scott Bailey of the NC State University Libraries. Separate instructions will be provided on using GPT-2, but basically you'll enter a starter phrase (a "prompt"), then GPT-2 will predict what comes next. It will spit out complete sentences based on the patterns it learned from its training data. For this exercise, GPT-2 will not generate entire papers. Rather, it will produce sentences and paragraphs which you will probably find to be variously useful, strange, confusing, nonsensical, and provocative. Your paper will integrate these outputs into its own prose. Instructions on using this text generator can be found here:

https://colab.research.google.com/drive/1i4HUlcw5CjX4Slw-efa43MOW8uVW_ilf?usp=sharing

Your lab report will look much like the previous reports, except for the order of the sections and the presence of AI-generated text. Basically, you will try to generate content for your paper using GPT-2 and integrate that content as seamlessly as you can throughout the first three sections of the paper. You will likely have to experiment with different prompts to create usable output. And, from that output, you can select words, phrases, sentences, or paragraphs to use in any way you wish. The three sections with AI do not have to be entirely GPT-2's content. Integrate with your own writing as you see fit. Try to use as much GPT-2 output as you think is still convincing. And in those sections, *do not* indicate what content came from GPT-2. Your goal is to fool your professor into not noticing, i.e. for your paper to pass the "Turing Test." The analysis section will be your writing alone.

Format

The sections should include:

Materials (with AI) – explain what tool you are using (GPT-2) and where it gets its training data.

Methods (with AI) – explain how GPT-2 works, what settings you used or changed, and some of the prompts you used to generate text.

Discussion (with AI) – relate your experiment to sources and discussions from our course's third module on "Humans vs. Computers." Use your course journal to refresh your memory and draw key quotes from the relevant critical discussions. Include at least three of these references and engage their ideas.

Analysis (without AI) – reflect on the experience of using AI in your own paper. How easy or not was it to write this way? What worked or didn't? How did the AI-generated content resemble your own? How did it affect what you might have thought about or written? Do you feel like you "cheated"? To what degree is this paper "your" writing? Do you expect a reader would notice GPT-2's text versus your own?

Would you use this tool again, and in what circumstances? And, ultimately, what ideas about writing, AI, or humanness did the experiment test or change?

Appendix – include a "revealed" version of your first three sections with the GPT-2 contributions highlighted.

Submission

The assignment should aim for 1500+ words (not counting the Appendix). If you're referencing texts from our syllabus, there's no need to include a separate works cited page. Otherwise, follow the format for the lab report above. I can accept Word files, PDFs, Google Docs, whatever. Please format them double spaced with 1" margins. Email me the finished product as an attachment or a link.

I welcome submissions anytime before Friday, November 20th. And earlier is so much better! Please note that extensions are harder to manage at the end of the semester. We can still be flexible, but if you anticipate challenges getting this done, let's talk about it in advance, please!

.

Evaluation

As a required assignment for this course, your report must meet a minimum standard of quality. I may ask you to revise and resubmit if it still needs work. A good report will meet the following expectations:

Completeness: it executes all the steps of the assignment, uses GPT-2 generated output in the paper, and includes the five required sections of the report.

Evidence: it engages at least three scholars or discussions from the recent course module. The analysis references specific prompts or GPT-2 generated text.

Significance: the report uses the exercise to speculate thoughtfully about its significance and connections to the course.

Length: The report at least 1500 words and long enough to accomplish the above goals.