

Introduction to Digital Humanities

Part II: Computational Approaches to Culture

The cultural record of humanity is undergoing a massive and epochal transformation into shared analog and digital realities. While we are familiar with the history and realities of the analog record—libraries, archives, historical artifacts—the digital cultural record remains largely unexamined and relatively mysterious to humanities scholars. In this course you will be introduced to the broad field of Digital Humanities, theory and practice, through a stepwise exploration of the new architectures and genres of scholarly and humanistic production in the 21st century.

The course combines a seminar preceded by a brief lecture, and a digital studio. Every week we will move through our discussions in tandem with hands-on exercises that will serve to illuminate our readings and help you gain a measure of computational proficiency useful in humanities scholarship. You will learn about the basics of plain text, file and operating systems, data structures and internet infrastructure. You will also learn to understand, produce and evaluate a few popular genres of Digital Humanities, including, digital editions of literary or historical texts, collections and exhibits of primary sources and interactive maps. Finally, and perhaps the most important lesson of the semester, you will learn to collaborate with each other on a common research project.

General

Course Info

Yale University

Introduction to Digital Humanities II Computational Approaches to Culture

Spring 2023

SPAN 846

William L. Harkness Hall 002

Wednesdays, 1:30PM–3:20PM

Instructor

Prof. Alex Gil

Office: Humanities Quadrangle, Room 439

In Person Office Hours: Mondays, 1:30pm–3:30PM.

For asynchronous help, please join our course Yale X-DH Slack.

e-mail: alex.gil@yale.edu

Course Format

This course will take two distinct forms: a seminar, where we will read and explore together, and a digital studio, where you will receive tutorials and work in teams to practice and learn. In addition, you will be asked to participate in asynchronous community on our Slack channel.

Requisites

An interest in questions of art, history, law, culture, philology and philosophy—in short, all that we shape, which shapes us in return... and a computer.

Course Materials

All readings in this course will be provided free to you. With a few exceptions, you will find the appropriate links for all course materials in the course schedule.

Assessment and Grading

- 20% Class Engagement
- 20% Pair Presentations

- 20% Breaking Down a Text or Corpus Analysis Paper
- 20% Midterm Exam
- 20% (Editing the) Final Paper
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- +20% Bonus Round

To learn more, please visit the [assignments page](#).

Fundamentals of Computing

Even though there are no technical requirements prior to you joining the class, you will be expected to play with new tools and learn new concrete technical skills throughout the semester. Even though you will be exposed to several “user friendly” tools and genres of Digital Humanities, the accent will be placed on symbolic computation. This will involve a completely different way of understanding and using your computer for many of you. The course is designed to guide you through these beginner steps in a way that hopefully minimizes the sense of alienation you may feel. These “fundamentals” serve as the basis for most artisanal practices in the Digital Humanities and beyond. In this sense, the course also serves as a friendly introduction to computation for Humanities majors or graduate students. You will not be expected to be a full-time programmer at the end of the course, or even “learn how to code,” not even close, but you will be expected to understand many related concepts, and even do a thing or two using symbols instead of clicks. For example, you will learn how to read tutorials, solve problems, re-use the code of others, and if we work hard it together, even write some simple scripts—humble fragments of working code.

Modalities of Engagement

I learned the ropes of Digital Humanities with a cohort of graduate students, as part of the Praxis Program at the University of Virginia. Over the course of

an academic year, our cohort worked to build a tool that allowed users to annotate a shared text, and compare their annotations after—team and project were central to my own learning. In order to be able to build Prism, the Praxis Program taught us the fundamentals of computing, design, project management, and *collaboration*. Since then, collaboration has been a mainstay of my professional practice. I do not expect any of you to be a natural at it. My own cohort surely had growing pains. True collaboration, presence and engagement with each other will be our overriding aspiration in this course. Below are some considerations in the form of a code of conduct to get us started thinking about our work together.

This code of conduct borrows from the stellar model outlined by Northeastern's Feminist Coding Collective combined with our tenets at the xpmethod lab at Columbia University, with a special shoutout to this tweet by Miriam Posner.

- **It's okay not to know:** Assume that no one inherently knows what we're learning. We all come to this class with different backgrounds and abilities; none of us (including the instructor) will know everything and that is okay! Encourage a space where it's okay to ask questions.
- **Be respectful:** Do not use harmful language or stereotypes that target people of all different gender, abilities, races, ages, ethnicities, languages, socioeconomic classes, bodies, sexualities, and other aspects of identity. Respect each other in both physical and digital spaces.
- **Architectures of power:** Be mindful of the room's physical arrangement. HQ307 was designed for a now musty pedagogical model. At the beginning of digital studio and seminar we will re-arrange chairs away from the

unidirectional arrangement. Locations of power, such as the lectern or the center of the room, should be systematically ceded or inverted.

- **Economy of attention:** Think carefully of other people's time. Yield the floor and delegate authority. Come to definite conclusions that let people know that you are done. Conversations should move to various islands. Structure and preparation is a sign of respect for your audience. Ask questions. Listen more than you speak.
- **Polyglossia:** Help bring a multiplicity of voices into the space. Allowing other voices to be heard means also moderating one's own. Be aware of the strength and the reach of your voice. Soliloquies should be punctured by moments of quietude and reflection, giving time and space to those hesitant to join in the discussion. Watch for cues of others trying to speak but being interrupted or denied the opportunity.
- **Ethics of shared labor:** Make labor visible. Keep a manifest of project work done, to the extent possible. Be aware of credit hierarchies. Prioritize the exposure of junior colleagues. Outside of class, credit the involved collectives and encourage others to read through the records carefully for granular attribution.
- **COVID-19 awareness:** This semester will be an experiment in more ways than one. One of them will be our transition to the post- we've been waiting for and which will probably remain that, the condition of waiting. Please be mindful of other's own comfort or discomfort with our new proximities.
- **Academic Integrity:** Please refer to Yale's regulations for more information.

Accessibility

Our institution values diversity and inclusion; we are committed to a climate of mutual respect and full participation. Our goal is to create learning environments that are usable, equitable, inclusive and welcoming. If there are aspects of the

instruction or design of this course that result in barriers to your inclusion or accurate assessment or achievement, please notify me, your instructor, as soon as possible. Disabled students are also welcome to contact Student Accessibility Services to discuss a range of options to removing barriers in the course, including accommodations.

Acknowledgments

In developing this course, I learned from many people, but I particularly thank Roopika Risam, Ryan Cordell, Miriam Posner, Jentery Sayers, Lauren Klein, Marisa Parham and Whitney Trettien for graduate syllabi and ideas from which I drew particular inspiration. In general, I would not be introducing you to Digital Humanities today if it wasn't for Bethany Nowviskie, Jeremy Boggs, Wayne Graham, David McClure, and the rest of the Scholars Lab crew at the University of Virginia, circa 2010. They taught me many of the fundamentals I hope to pass on to you this academic year.

Assignments

Class Engagement

This course requires us to be present for each other. This doesn't mean speaking during seminar. You really don't have to if you don't feel like it. What's the point of requiring you to? That said, it is important that we are there for each other, helping each other out, doing our part, asking questions when we don't understand something, answering them when we do. For the duration of the semester we are a collective, the team we have—Yankees or Bad News Bears, we are what we got.

Pair Presentations

Working in pairs, you will lead discussion once during the semester. To prepare for the section you choose, you are encouraged to seek and prepare additional material that compliments that week's readings. You are welcome to consult me on possible avenues of ancillary research.

Breaking Down a Text or Corpus Analysis Paper

On the fourth week of class you will annotate one article from a digital humanities journal working in pairs. Your job is to highlight concepts and words you don't understand, and to try to help each other fill those gaps.

Midterm Exercise

Before Spring break we will look at a [dozen of pain-point keywords](#) that surfaced from the annotation exercise and in class discussions. The exercise is take-home, and we will discuss the results in class after Spring Break.

(Editing the) Final Paper

The final paper for this class may be the strangest final paper you have submitted for a grade in your whole life. You won't be writing this one alone. You won't be writing it with another person either, not directly in any case. You also won't even be writing the first draft. No, AI will do that. The way this works is simple: pick a topic related to your current research. Using GPT3, or GPT4 (if it's out already) you will have the machine write the first pass. Your job is to correct and edit the work to bring it up to your standards. You will submit the original AI draft, and your final version.

Bonus Round

Find a Useful Method

To earn the bonus round points—an additional 20% that all but guarantees you will receive the highest honors in this class—you must convince me of a use for AI text or image generation in Humanities research. Let me break that challenge down for you:

1. “You must convince me”: Convincing yourself or each other won’t be enough. I lean skeptic, but I always welcome a good argument.
2. “AI text or image generation”: Right now this usually evokes something like ChatGPT or Midway at the consumer level. I want you to go beyond these consumer tools and look at the underlying machine learning, labor structure and language models themselves. You are welcome to imagine that you command some resources—smaller than Google, of course.
3. “in Humanities research”: the method has to potentially contribute to the research agenda of an existing researcher in the Humanities at large.

Reading Schedule

Week 0: Overview of the Course and Introductions (Jan 17–19)

Week 1: The Short Arc of Computing Words (Jan 24–26)

Seminar

To Read

Heffernan, Laura and Rachel Sagner Buurma. [“Search and Replace: Josephine Miles and the Origins of Distant Reading.”](#) *Modernism/Modernity*, Apr. 2018. modernismmodernity.org.

Hockey, Susan. [“The History of Humanities Computing.”](#) *A Companion to Digital Humanities*. Susan Schreibman, et al., eds. Wiley, 2004.

Crimble, Adam. “The Origin Myths of Computing in Historical Research.” [Technology and the Historian: Transformations in the Digital Age](#). University of Illinois Press, 2021.

Terras, Melissa, and Julianne Nyhan. “Father Busa’s Female Punch Card Operatives.” *Debates in the Digital Humanities*, 2016.

[Optional] Kizhner, Inna, et al. [“The History and Context of the Digital Humanities in Russia”](#) and [“Debating and Developing Digital Humanities in China: New or Old?”](#) *Global Debates in the Digital Humanities*. Domenico Fiormonte, et al., eds., 2023.

Studio

Tutorial

Let’s count words!

Week 2: The Electric Loom (Jan 31–Feb 2)

Seminar

To Read

Turing, Alan M. [“Computing Machinery and Intelligence.”](#) *Mind*, no. 59, 1950, pp. 433–60.

Tenen, Dennis. [“The Emergence of American Formalism.”](#) *Modern Philology* 117, no. 2 (Nov. 2019): 257–283.

Hayles, N. Katherine. [Writing Machines](#). MIT Press, 2002. (Chapters 1–4)

To Skim

Getty Museum. [“Decoding the Medieval Volselle.”](#)

To watch

IET. [“The Story of Ada Lovelace: The World’s First Computer Programmer.”](#) YouTube.

Computer History Museum. [“False Dawn: The Babbage Engine.”](#) YouTube.

To play

[AI Dungeon](#)

Studio

Tutorial

Let’s build a simple word machine

Week 3: The Sense and Nonsense of Text (Feb 7–9)

Seminar

To Do

Working in pairs, pick a contemporary article of thematic interest to both of you engaging with text or corpus analysis from [Digital Humanities Quarterly](#) or the [Journal of Cultural Analytics](#). Read it online. Highlight the concepts you don’t understand using [hypothes.is](#). If you see a concept you can explain, write a comment to start a dialogue.

To Read

Ramsay, Stephen. "Algorithmic Criticism." [*Reading Machines: Toward an Algorithmic Criticism*](#). University of Illinois Press, 2011.

To Watch

Muralidharan, Aditi. [WordSeer Features](#). **YouTube.

Studio

Tutorial

How to read text analysis blogs and articles

In-class case study

McClure, David. ["The \(Weird\) Distributions of Function Words across Novels."](#) *Stanford Literary Lab*. Accessed 16 Jan. 2023.

Week 4: The Agon of Cultural Analytics (Feb 14–16)

Seminar

To Read

Computers for the Humanities? A Record of the Conference Sponsored by Yale University on a Grant from IBM, January 22–23, 1965. [Selections of interest and the Jacques Barzun entry]. Yale Libraries, call no. QA76 C644 1965. (Available as Non-Circ at the Franke Family Digital Humanities Lab).

Da, Nan Z. ["The Computational Case against Computational Literary Studies."](#) *Critical Inquiry*, vol. 45, no. 3, Mar. 2019, pp. 601–39.

Underwood, Ted. "Introduction." [*Distant Horizons: Digital Evidence and Literary Change*](#). University of Chicago Press, 2019.

[Optional] [“Computational Literary Studies: A Critical Inquiry Online Forum.”](#)
Critical Inquiry: In The Moment (2019).

Studio

Tutorial

How to read tutorials

Week 5: The Back and Forth Between Pictura and Poesis, Oh, and Sound (Feb 21–23)

Seminar

To Read

Arnold, Taylor, and Lauren Tilton. [“Distant Viewing: Analyzing Large Visual Corpora.”](#) *Digital Scholarship in the Humanities*, vol. 34, no. Supplement_1, Dec. 2019, pp. i3–16.

Kaufman, Micki. Selections from [Quantifying Kissinger](#).

Xu, Weijia, et al. [“A Study of Spoken Audio Processing Using Machine Learning for Libraries, Archives and Museums \(LAM\).”](#) *2020 IEEE International Conference on Big Data (Big Data)*, 2020, pp. 1939–48.

To Explore

Arnold, Taylor, N. Ayers, J. Madron, R. Nelson, Lauren Tilton, Laura Wexler, et al. [Photogrammar](#).

Sá Pereira, Moacir P. de. [“Mapping Fabula and Sjužet in ‘Wandering Rocks’.”](#)

Studio

Tutorial

Re-introducing colored pencils

Week 6: The Social Life of Everything, Everyone, and Everywhen (Feb 28–Mar 2)

Seminar

To Read

Porter, J.D. “Pamphlet 17: Popularity/Prestige.” *Stanford Literary Lab*, Sept. 2018.

Ahnert, Ruth, et al. [“The Network Turn: Changing Perspectives in the Humanities.”](#) *Elements in Publishing and Book Culture*, Dec. 2020.

To Explore

Gil, Alex and Kaiama Glover, eds. [In The Same Boats.](#)

The American Academy. [Open Syllabus Galaxy.](#)

Schmidt, Ben. [“A Guided Tour of the Digital Library.”](#)

Studio

To Study

Froehlich, Heather. [“Corpus Analysis with Antconc.”](#)

Algee-Hewitt, Mark, Katherine Bowers, Quinn Dombrowski, and Heather Froehlich. [“Data Sitters Club #10: Heather Likes Principal Component Analysis.”](#) July 20, 2021.

Week 7: The Image of Absence (Mar 7–9)

Seminar

Klein, Lauren F. [“The Image of Absence: Archival Silence, Data Visualization, and James Hemings.”](#) *American Literature*, vol. 85, no. 4, Dec. 2013, pp. 661–88.

Hartman, Saidiya. [“Venus in Two Acts.”](#) *Small Axe*, no. 26 (June 2008).

Johnson, Jessica Marie. [“Xroads Praxis: Black Diasporic Technologies for Remaking the New World.”](#) *archipelagos journal*, no. 3 (July 2019).

To Explore

Naylor, Celia E., Alex Gil, Moacir P. de Sá Pereira, et al. [“\(Un\)Silencing Slavery.”](#)

To Do

[Midterm Exercise](#)

Week 8: Midway (Mar 28–30)

Review the results from the Midterm Exam

Breathe and chat

Week 9: The Signatures of Writing (Apr 4–6)

Guest Lecture

Michał Choiński and Maciej Eder

To accommodate our guests, this class will meet on Zoom.

Studio

Tutorial

Introduction to [Stylo](#)

Week 10: Stochastic Parrots (Apr 11–13)

Seminar

Bender, Emily M., et al. [“On the Dangers of Stochastic Parrots: Can Language Models Be Too Big?”](#) *Proceedings of the 2021 ACM Conference on Fairness, Accountability, and Transparency*. ACM, 2021, pp. 610–23.

YouTube: [On the Dangers of Stochastic Parrots: Can Language Models Be Too Big?](#)

Tasovac, and Natalia Ermolaev, eds. [“Parrots.”](#) *Startwords* 3 (2022). (Read the essays by del Rio Riande, Klein, and Underwood).

Studio

Tutorial

Text generation exercise using GPT-4 (if not out yet, we’ll use GPT-3).

Week 11: Reconstitute the World (Apr 18–20)

Seminar

To Read

Josephs, Kelly. [“Versions of X/Self: Kamau Brathwaite’s Caribbean Discourse.”](#) *Anthurium: A Caribbean Studies Journal* 1:1 (Dec. 2003).

Parham, Marisa. [“.break .dance.”](#) *archipelagos journal*, no. 3 (July 2019).

Nowviskie, Bethany. [“Reconstitute the World.”](#) Bethany Nowviskie, 12 June 2018.

To Listen

Sun Ra [Selections]

Puerto Rican Bomba [Selections]

Studio

Tutorial

Image generation exercise using whatever AI consumer-grade tool is available in April.

Week 12: Exeunt to the World (Apr 25–27)

Final Paper Due

Celebrate the work and each other