PLSC 197 / SODA 197N: Social Data, Technology, and Artificial Intelligence

Spring 2026

Professor Christopher Zorn
Department of Political Science
Pennsylvania State University
Office: Katz Building, Room 221
E-mail: zorn@psu.edu
Tuesdays and Thursdays, 10:35 p.m. - 11:50 a.m. ET
Willard Building, Room 258

Course Description

"How do everyday traces of human activity become the building blocks of artificial intelligence (AI)? This course invites students to explore the world of AI and digital technology from the ground up, beginning with the data we create, and following its journey into powerful algorithmic systems that shape society. Students will unpack how human-generated data is collected, structured, and transformed into machine learning models, discovering both the technical and human sides of AI. Through real-world case studies, interactive projects, and critical discussions, students will gain hands-on experience with data systems and analytics tools while examining the social, political, and ethical questions that surround AI in practice. Whether you're curious about technology, policy, design, or social impact, this course offers an accessible and thought-provoking introduction with no programming experience required."

That's the course description, from the Penn State website. It was (of course) generated by AI (and me).

PLSC 197 satisfies the following:

- PLSC B.A. majors can use this course toward the 100-level or above requirement and the requirement for any political science or related area.
- PLSC (B.A. or B.S.) majors can receive GS credit if they register for the course as SODA 197N, since PLSC majors must take GS credits outside of the discipline of political science.
- SoDA majors can use this course toward the six credits of additional political science requirement.

All course materials (including this syllabus) will be available on a dedicated Github repo, which can be found at: https://github.com/PrisonRodeo/PLSC197-SP2026-git. Throughout this syllabus, hot links are in Penn State Blue.

Things To Read, Etc.

There is (currently) no text for this course. All of the required and recommended readings (and other materials) assigned below will be made available on the course github repository. Note as well that this course is in an area that is changing quickly, and that no one course (or even reading list) can be comprehensive; there are many, many books (and other resources) for learning about data analysis and visualization, machine learning, artificial intelligence, and/or digital ethics.

The Teaching Assistant

Arif Memovic is the teaching assistant for PLSC 197. He is a Political Science Ph.D. candidate who specializes in American politics, and in statistics and data science. He will serve as a "first line of defense" in the course: He can assist you with course material, software and other issues, and with other matters related to the course work. He can be reached via e-mail at `aqm6729 [at] psu [dot] edu`.

Grading and Assessment

For this course, grades will be assessed based on a total of 1000 possible points, to be distributed as follows:

- Course attendance / participation: 100 points
- Three short assignments: 100 points each
- Two applied labs: 150 points each
- Final examination: 300 points

Short assignments will be available for completion weekly; the two applied labs will take place the weeks of February 10-12 and March 31-April 2. The date and time of the final exam will be announced later in the course. Final grades will be assigned following the grading scheme for IST World Campus. More details about each assignment will be made available in class, and on the course Github repo.

Extra Credit: Bounty Hunter

Students will have an opportunity for up to 20 points of extra credit, via a "bounty hunting" scheme. Each student may suggest up to a total of four readings (articles, book chapters, news stories, blog / Medium posts, etc.) which they think would improve on an existing reading in the class. Submission of a piece for a bounty (five points per submission) must include:

1. A full bibliographic citation for your suggested piece;
2. An indication of what existing reading on the syllabus you feel would be best replaced by your suggestion;

3. Either a PDF copy of the piece itself, or a working, non-gated URL to the suggested piece.

Bounty suggestions may be submitted any time before 11:59 p.m. ET on Friday, May 1, 2026 (the last day of classes for the Spring 2026 semester), and should be submitted via email to zorn@psu.edu and aqm6729@psu.edu.

A Few Other Useful Resources

None of these are requirements, but you may find them useful:

- Hugging Face is the place where AI (really) happens.
- Towards Data Science is always a good read.
- *Wired* is a bit pop-culture-y, but remains a good, reliable (and cheap) place to keep abreast of news in the AI community.
- A small sample of available AI tools (January 2026):
  - ChatGPT
  - Claude
  - DeepSeek
  - Google Gemini
  - Microsoft Copilot
  - Adobe Firefly
  - OpenArt / Dall-E 3
  - MidJourney
  - Runway
  - Suno
  - Udio
  - Elicit

Obligatory Statement on Academic Integrity

Academic integrity is the pursuit of scholarly activity in an open, honest and responsible manner. Academic integrity is a basic guiding principle for all academic activity at The Pennsylvania State University, and all members of the University community are expected to act in accordance with this principle. Consistent with this expectation, the University's Code of Conduct states that all students should act with personal integrity, respect other students' dignity, rights and property, and help create and maintain an environment in which all can succeed through the fruits of their efforts.

Academic integrity includes a commitment by all members of the University community not to engage in or tolerate acts of falsification, misrepresentation or deception. Such acts of dishonesty violate the fundamental ethical principles of the University community and compromise the worth of work completed by others.

In cases of any violation of academic integrity it is the policy of the Department of Political Science to follow procedures established by the College of the Liberal Arts. More information on academic integrity and procedures followed for violation can be found here.

Obligatory Statement on Accommodations for Disabilities

Penn State welcomes students with disabilities into the University's educational programs. Every Penn State campus has an office for students with disabilities. Student Disability Resources (SDR) website provides contact information for every Penn State campus (here). For further information, please visit the Student Disability Resources website (here).

In order to receive consideration for reasonable accommodations, you must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation: See documentation guidelines here. If the documentation supports your request for reasonable accommodations, your campus disability services office will provide you with an accommodation letter. Please share this letter with your instructors and discuss the accommodations with them as early as possible. You must follow this process for every semester that you request accommodations.

Obligatory Statement on Counseling and Psychological Services

Many students at Penn State face personal challenges or have psychological needs that may interfere with their academic progress, social development, or emotional wellbeing. The university offers a variety of confidential services to help you through difficult times, including individual and group counseling, crisis intervention, consultations, online chats, and mental health screenings. These services are provided by staff who welcome all students and embrace a philosophy respectful of clients' cultural and religious backgrounds, and sensitive to differences in race, ability, gender identity and sexual orientation.

Counseling and Psychological Services at University Park (CAPS)
(http://studentaffairs.psu.edu/counseling/): 814-863-0395

Counseling and Psychological Services at Commonwealth Campuses
(http://senate.psu.edu/faculty/counseling-services-at-commonwealth-campuses/)

Penn State Crisis Line (24 hours / 7 days/week): 877-229-6400. Crisis Text Line (24 hours / 7 days/week): Text LIONS to 741741.

Obligatory Statement on Educational Equity and Reporting Bias

Penn State takes great pride to foster a diverse and inclusive environment for students, faculty, and staff. Consistent with University Policy AD29, students who believe they have experienced or observed a hate crime, an act of intolerance, discrimination, or harassment that occurs at Penn State are urged to report these incidents as outlined on the University's Report Bias webpage (http://equity.psu.edu/reportbias/).

Obligatory Statement on Religious Observances

The Religious and Spiritual Observances Calendar is compiled by the Center for Spiritual and Ethical Development in consultation with campus and community religious leaders. It specifies those holy days of the major world religions for which observance may require students to depart from their normal routine at the University. Please note that only those holy days which occur when Penn State classes are in session are listed. This is not, therefore, an exhaustive list of all major holy days in each religious tradition.

Non-Obligatory Statement on Generative AI, Large Language Models, etc.

It's unlikely you'd be in this course if you weren't well aware of the existence of large language models (LLMs) – e.g., ChatGPT – and other artificial intelligence (AI) tools for language / image / content creation. Having been described as everything from making everyone their own version of Tony Stark to a Lovecraftian shoggoth (and most things in between), LLMs are currently creating a sometimes-depressing, sometimes-hilarious panic among faculty in legacy academic disciplines and programs. As we'll discuss, most of that panic revolves around the use of LLMs to "cheat," in the traditional sense: to create work that deceptively gives the impression that the student knows something they do not. Beyond its intrinsically duplicitous nature, such use in a conventional classroom setting gives rise to concerns about equity and (potentially) devalues the experience / credential for other class members.

The other side of the LLM equation is that they are powerful tools for augmenting learning and creating new knowledge. Experience suggests that, in line with other technological advances (the printing press, personal computers, search engines, etc.), it is wiser to adapt to LLMs than to attempt to limit or ban their use. This is especially true in a course like this one, where restricting or banning AI from class would be even more ironic than it would be counterproductive. Accordingly, enrollees in PLSC 197 are welcome to use generative AI tools, such as ChatGPT, to assist them with their work in the course. In doing so, it is important to remember that such AI tools are capable of making errors, and that it is each student's responsibility to verify the information they receive from the such a tool. In addition, any information obtained from a generative AI source must be noted/cited in the student's work, just as they would cite any other source.

Course Schedule

This version of the syllabus outlines topics for discussion. Daily reading assignments, exercises, and short assignments will be listed for each class session. Reading assignments will be listed according to the day on which the subject matter will be discussed; they should therefore be read prior to that date.

I. Data

January 13: Course Introduction

- No readings assigned.

January 15: No Class

- No readings assigned.

January 20-22: Human Behavior as Data

Read:

- Christine L. Borgman. Data, disciplines, and scholarly publishing. *Learned Publishing*, 21(1):29–38, 2008. URL https://onlinelibrary.wiley.com/doi/abs/10.1087/095315108X254476.
- Mimi Onuoha. The Point of Collection. *Data & Society*, February 2016. URL https://datasociety.net/points/the-point-of-collection/.
- Nicola Jones. The AI revolution is running out of data. What can researchers do? *Nature*, 636(8042):290–292, December 2024. URL https://www.nature.com/articles/d41586-024-03990-2.

Exercise: Mapping Sources of Social Data.
Assignment: Conceptualize some data, or write a data biography.

January 27-29: Data Structures and Formats

Read:

- Wuraola Ademola-Shanu. What Is Data? Structured vs. Unstructured Data (Explained Simply for Beginners). *Medium*, August 2025. URL https://medium.com/@TheWuraolah/what-is-data-structured-vs-unstructured-data-explained-simply-for-begir

(and/or)

- Keith D. Foote. Structured vs. Unstructured Data: An Overview. *Dataversity*, 2023. URL https://www.dataversity.net/articles/structured-vs-unstructured-data-an
- Hadley Wickham. Tidy Data. *Journal of Statistical Software*, 59(10):1–23, September 2014. URL https://www.jstatsoft.org/index.php/jss/article/view/v059i10 (sections 1-3).
- Christof Schoch. Big? Smart? Clean? Messy? Data in the Humanities. *Journal of Digital Humanities*, 2(3), 2023. URL https://journalofdigitalhumanities.org/2-3/big-smart-clean-messy-data-in-the-humanities/

Exercise: Representing Social Data.
Assignment: From Unstructured to Structured.

February 3-5: Human-Generated Data and Digital Platforms
Read:

- Clare Southerton. Datafication. In *The Encyclopedia of Big Data*, pages 358–361. Springer, 2022. URL https://doi.org/10.1007/978-3-319-32001-4_332-1
- José van Dijck, Thomas Poell, and and Martijn de Waal. *The Platform Society: Public Values in a Connective World*. Oxford University Press, Oxford, New York, November 2018. ISBN 978-0-19-088977-7, Chapter 2: "Platform Mechanisms."
- Taina Bucher. The algorithmic imaginary: Exploring the ordinary affects of Facebook algorithms. *Information, Communication & Society*, 20(1):30–44, January 2017. URL https://doi.org/10.1080/1369118X.2016.1154086 **(read quickly)**
- Fanpage Karma Blog. The TikTok Algorithm Update: How it Works in 2025, 2025. URL https://www.fanpagekarma.com/insights/the-2025-tiktok-algorithm-what-yo

Exercise: From Platform to Pipeline.
Assignment: Platform Data Audit.

February 10-12: Applied Lab One: Data Visualization

Read: No readings assigned.

Exercise: In-class lab (two days).

II. AI

February 17-19: Introduction to the AI Pipeline

Read:

- Melissa Heikkilä and Stephanie Arnett. This is where the data to build AI comes from. *MIT Technology Review.com*, December 2024. URL https://www.technologyreview.com/2024/12/18/1108796/this-is-where-the-data-to-build-ai-comes-from/
- Wendy M. Grossman. Ghost Work and Behind the Screen, book reviews: Lifting the veil on the internet's secret employment sector. *ZDNet Business*, 2019. URL https://www.zdnet.com/article/ghost-work-and-behind-the-screen-book-reviews-lifting
- Josh Dzieza. Inside the AI Factory. *Intelligencer*, June 2023. URL https://nymag.com/intelligencer/article/ai-artificial-intelligence-humans-technology-html
- OPTIONAL: Kate Crawford and Vladan Joler. Anatomy of an AI System, 2018. URL https://anatomyof.ai/

Exercise: Build an AI Pipeline.
Assignment: Labeling as Interpretation.

February 24-26: How AI "Learns"

Read:

- Pedro Domingos. A few useful things to know about machine learning. *Communications of the ACM*, 55(10):78–87, October 2012. URL https://dl.acm.org/doi/10.1145/2347736.2347755
- Sebastian Raschka. Blog Post: Introduction to Machine Learning and Deep Learning, August 2020. URL https://sebastianraschka.com/blog/2020/intro-to-dl-ch01.html
- Jay Alammar. The Illustrated BERT, ELMo, and co. (How NLP Cracked Transfer Learning), 2021. URL https://jalammar.github.io/illustrated-bert/ (read quickly / skim, and/or watch the video)
- Vipul Lohani. How Transformers Changed AI Forever: The Story Behind Modern Language Models, July 2025. URL https://medium.com/@vipullohani8/how-transformers-chang

Exercise: Thinking (/ Learning) Like a Machine.
Assignment: Learning Paradigms.

Bonus readings! Descriptive pieces titled "What is AI, Anyway?" from 1987, 2018, 2020, 2023, 2024, 2024 again, 2024 *again*, and 2025.

March 3-5: AI Systems in Practice: Recommenders and Rankings

Read:

- Ashok Chandrashekar, Fernando Amat, Justin Basilico, and Tony Jebara. Artwork Personalization at Netflix. *Medium*, December 2017. URL https://netflixtechblog.com/artwork-personalization-c589f074ad76
- Adam Pasick. The magic that makes Spotify's Discover Weekly playlists so damn good. *Quartz*, July 2022. URL https://qz.com/571007/the-magic-that-makes-spotifys-dis
- Ben Smith. How TikTok Reads Your Mind. *The New York Times*, December 2021. URL https://www.nytimes.com/2021/12/05/business/media/tiktok-algorithm.html

Exercise: Design a Recommender.
Assignment: Ranking Redesign.

March 10-12: No Class – Spring Break

March 17-19: Automated Conversation

March 24-26: Generative AI

March 31-April 2: Applied Lab Two: Tuning Ai Systems With Data

III. Society

April 7-9: Surveillance, Privacy, and Digital Consent

April 14-16: Bias, Inequality, and Algorithmic Harm

April 21-23: AI's Impact on Society, Culture, and Labor

April 28-30: Responsible AI Going Forward

May TBA, 2026: Final Examination