

# DATA 120: Ethics of AI and Societal Decision Making

DATA 120 (Spring 2026)

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**GETTING TO KNOW ONE ANOTHER**

# About Me

Dan Kessler; he/him/his



- 2005 - 2009: BS @ UMich (Neuroscience)
- 2009 - 2017: Research Assistant / Analyst @ UMich CHGD/Psychiatry
- 2017 - 2023: PhD Student @ UMich Statistics (Advisor: Liza Levina)
- 2023 - 2024: Postdoc @ UWashington (Advisor: Daniela Witten)
- 2024 - 20???: Assistant Professor @ UNC Chapel Hill



– Statistics & Operations Research / School of Data Science & Society



## What year are you?

0

1st

0%

2nd

0%

3rd

0%

4th+

0%

## How proficient are you in programming, statistics, and other quantitative skills?

0

0 - not at all

0%

1

0%

2

0%

3

0%

4 - among the best at UNC

0%

Have you ever taken ethics or philosophy before? (E.g., have you heard of Kant or J.S. Mill)?



No

0%

Kind of

0%

Yes

0%

# **SYLLABUS AND LOGISTICS**

# Syllabus

- Six modules, each building on the previous ones
  1. Foundations: Formal Frameworks, Legal Frameworks, and Metrics
  2. Dimensions of Fairness: Bias, Privacy, and Transparency
  3. The Ethical Data Science Pipeline: Data, Models, and Audits
  4. Ethical Data Science in the Wild: Applications and Case Studies
  5. Frontiers: Causal Fairness & Alignment
  6. Final Project Development: Creating an Audit Plan
- Grading:
  1. Quizzes & Attendance: 25% (chance for extra-credit with WoF game!)
  2. Readings: 10% (via Perusall)
  3. Application Studio: 30% (in groups of 3; self-selected)
  4. Final Project 35% (also in groups of 3)
- Full syllabus is on canvas

# Quizzes & Attendance

- 15 Quizzes constitute 25% of your overall grade
  - Will drop 2 lowest grades
  - ~40% of quiz grade is based on attendance
- Quizzes will happen at beginning or middle of class

# Perusall: Engagement with sources

Due: BEFORE CLASS

## Grading (Open to Revision)

1. Open the source (10%)
2. Make 2+ comments (50%).  
Don't put them all in the same part of the content
3. Spend 30+ minutes engaging (20%)
4. Make it to the end (20%)

The screenshot displays the Perusall interface. On the left is a sidebar with navigation options: 'Online CDI (J...)', 'My Courses and Cl...', 'Course home', 'Settings', 'Gradebook', 'Student view', 'Notifications', 'Notes', and 'Add to my calendar'. Below these are sections for 'Readings' (with 'How to Be a Better ...' and 'Teaching Online Will...'), 'Chats' (with 'Groups', 'Announcements', 'General discussion', and 'One-on-One'), and 'Hashtags' (with '#CognitivePresence', '#grades', '#lecture', and '#logistics'). The main content area shows a document titled 'First let's define a few commonly used terms of online teaching.' with a paragraph about Learning Management Systems (LMS) and a list of LMS functions. A 'Module' definition follows, and then a section on 'Asynchronous' learning. A 'Current conversation' window is open on the right, showing three comments with timestamps and user avatars. The first comment discusses integrating synchronous and asynchronous content. The second comment discusses replicating class activities in an asynchronous model. The third comment discusses the importance of being cognizant of student demographics and time zones.

Perusall

Online CDI (J...)

- My Courses and Cl...
- Course home
- Settings
- Gradebook
- Student view
- Notifications
- Notes
- Add to my calendar

Readings

- Documents
- How to Be a Better ...
- Teaching Online Will...

Chats

- Groups
- Announcements
- General discussion
- One-on-One

Hashtags

- #CognitivePresence
- #grades
- #lecture
- #logistics

First let's define a few commonly used terms of online teaching.

**Learning management system.** Otherwise known as an LMS. Online classes typically take place via your institution's chosen learning-management system — a platform that include communication, content delivery, and assessment tools to facilitate the teaching-and-learning process. The specific features of an LMS can vary from campus to campus, but usually you will find the following common elements and functions:

- A grade book to record student progress.
- Web pages or sites that allow you to present text, videos, or links to other sources.
- Assessment tools so students can submit their assignments, or take a quiz or an exam.
- Discussion forums that enable students to engage in conversations about class content with you and with one another.

**Module.** The most common unit of organization for an online class is a module (it has different naming conventions). If the term is new to you, think of it as tantamount to a unit in your in-person class. Instructors use modules to organize class materials into topics. They're ordered sequentially and contain all course materials and learning activities for that particular topic or unit.

**Asynchronous.** Most online courses are asynchronous — meaning students aren't all together in class at the same time, and class activities don't take place in real time. Instead, students can complete the tasks whenever their schedules permit. Flexibility is one of the main advantages offered by online education, and a primary reason why many students elect to attend class online.

Current conversation

One thing I have been thinking about in the back of my mind is how to integrate synchronous meetings with asynchronous content. I am wondering if other folks have thought about the different forms of information flow. The only obvious thing I have picked up is making modules available over time.

May 30 4:08 pm

While there are lots of class activities that can be replicated in an asynchronous model, there is something about the accountability and interaction of a synchronous model that adds value. A hybrid model seems a better approach.

May 31 11:01 am

I think part of it depends on the demographic of the class. If you have students in Saudia Arabia, Vietnam, China, etc. you have to be cognizant of what time it will be in their part of the world for any "synchronous" activity. You don't want to put them at a disadvantage by having them show up at class at 2am, etc. An option is to offer multiple synchronous "sessions" so that you hit all the timezone of your students at some convenient time for all of them.

May 31 2:57 pm

We also recorded our synchronous

# Contact and Office Hours

- Contact Info
  - [kesslerd@unc.edu](mailto:kesslerd@unc.edu)
  - **Include [DATA120] in subject line of emails (to me or TAs)**
- My office hours: Tuesdays/Thursdays, 1:30 – 3:00 PM
  - Please book slots at [go.unc.edu/D120-OH](https://go.unc.edu/D120-OH)
  - 315 Hanes Hall or Zoom (select option when booking)
  - Link available in syllabus and canvas
- Coming Soon: TA Office Hours
  - Info will be on canvas

# DAILY DILEMMA

# Daily Dilemma

*You're asked to design a model that predicts emerging disease outbreaks by combining hospital data, pharmacy sales, and even search-engine queries. Using detailed personal data makes the system more accurate and potentially life-saving, but raises major privacy concerns and risks normalizing government surveillance. Limiting the data to protect privacy makes the system weaker, which could delay interventions and cost lives.*

# **AI USAGE POLICY**

## Your Brain on AI

- Not all generative AI usage is created equal
  - It can be a tremendous tool for learning!
  - But it can also be a crutch that *prevents* you from learning

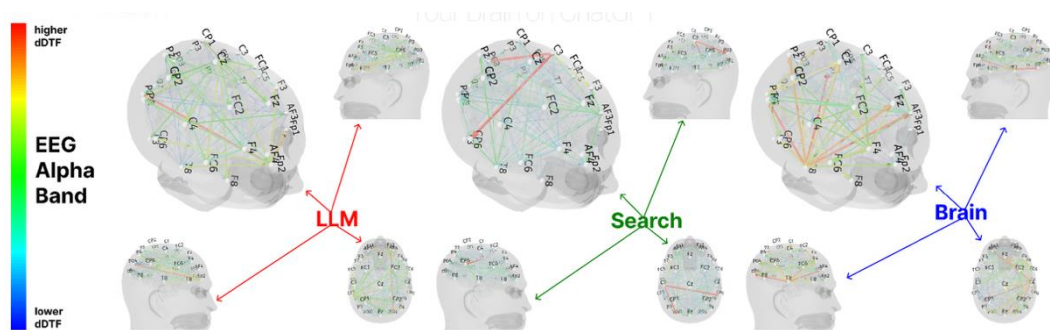
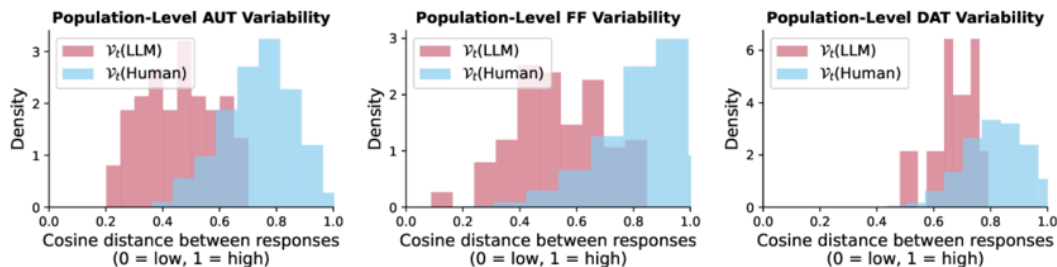


Figure 1. The dynamic Direct Transfer Function (dDTF) EEG analysis of Alpha Band for groups:

Brains

## Large Numbers

In large classes, it is also easier to spot patterns of AI usage



Variability

arXiv > cs > arXiv:2501.19361

Computer Science > Computers and Society

[Submitted on 31 Jan 2025]

# We're Different, We're the Same: Creative Homogeneity Across LLMs

Emily Wenger, Yoed Kenett

In what ways have AI tools enhanced your experience as a student?

 0

Nobody has responded yet.

Hang tight! Responses are coming in.

In your opinion, what would constitute an unacceptable use of AI in the course?

 0

Nobody has responded yet.

Hang tight! Responses are coming in.

# Next Week

- I will be away (at a workshop in Chicago)
- Dr. Justin Sola (DATA 120-002 instructor) will cover classes
- First reading (on Perusall) is due Jan 13 (Tue) at 3:30 PM