

AI in the Real World

Data, Power, & Society - Day 04

Tools & Tensions

CMSE 492 (aka CMSE 101) • Fall 2026

Prof. Danny Caballero

Last Week's Case Study

We will attempt to grade these by Wednesday's classes

Has been graded

- There is feedback for every group's work. Please read it even if you met the standard.
 - On the whole, y'all did a great job providing thoughtful and thought-provoking narratives
- If your group did not yet meet the standard, please review the feedback.
 - Your group has until **Wednesday Sep 16th at 11:59pm** to turn back in your Case Study 1.
 - Ask questions about the feedback if you need guidance

Some Common Issues

- Missing timeline artifacts, not drawing from those artifacts in your narratives, not using the template
- Generic commentary rather than grounded in the history that underlies the Census changes we observed
- Attempting to draw on too many different parts of history (i.e., disconnected narrative); refocus on a Case2

Last Week's Individual Reflections

We will attempt to grade these by Wednesday's classes

Have been graded

- They show thoughtful engagement with the case and your reflections are helpful in considering how we move forward. Thank you.
- Please remember to include a link to a Google Doc that captures your continuous reflections.
- Structurally, bullets or paragraphs responding to specific components were easier to read and thank you for the specific AI disclosures.
- For those of you who felt seen or represented in these data, thank you for sharing your stories.

Did not meet standard?

- Typically, I could not access (Google Doc only) your reflection. *Copy and paste into text box to avoid this.*
- Forgot to do it? *That's ok.* You have until **Wed, Sept 16th at 11:59pm**

This Week's Forum Posts

Have been graded

- We have to stop using anonymous posting. :(
 - MSU's D2L is misconfigured so that it totally obscures your information
 - We can't grade anonymous posts!
- If you created a forum post (most of you did by count), but received a zero, please come speak with us
 - We will manually award credit this week
- Starting next week, your post will have your name attached.

*Week 2 Forum Post has been reopened for anyone wanting to reply (**Earn deeper engagement score**)*

This Week's Agenda

1. **Monday: Prep & readings** (✓)
2. **Wednesday: We Build a Network** – (you're here ✓)
3. **Wednesday & Friday: Tools & Tensions**
 - Your group is researching a facial recognition tool/technology
 - You will focus on the *Tools* aspect of DTPA
 - If you have things to say about *Data*, please include that
 - Eventually your Case Studies will include all aspects of DTPA

We Build a Network Out of People

Round 1 — one layer determine shapes

- Pick one person to be the **output neuron**.
 - They receive a blank grid.
- Everyone else are **input neurons**.
 - Select a shape but don't tell or show the input neuron.
- Decide which parts of the image each input neuron will respond to questions about
 - For now use 50%+ to indicate choice (Ans: black or white)
- Input neurons call out pixels and fill in the blank page.

What is the minimum number of guesses to decide the shape?

We Build a Network Out of People

After the first run try a few things:

- Run it with different shapes. Are some easier to identify than others?
- Try different forms of basic reporting.
 - Assign rows or columns, or areas of the image.
 - Does this make things more efficient?
- Report the rough fraction of the filled in grid instead of filled or not.
 - Does this make things easier?

We Build a Network Out of People

Group Discussion – Determining digits

- Known shapes are pretty straight-forward, what about numbers?
- You have digits on a coarse grid; review them

Answer the following questions

- What would you need to know, beyond filled/empty, to tell digits apart?
- Who would "compute" that — is it still the output neuron, or does someone need to pre-digest the raw cells first?

Try to write as many questions as your group could ask as a "hidden layer" to identify handwritten digits.

You might want to take notes in the Week 2 Case Study on this discussion

We Build a Network Out of People

Round 2 – the questions we can't write

Your task is to write the questions, under the same rules as before:

- A first-layer neuron sees only its own cells and reports filled/empty.
- A middle-layer neuron may poll only a specific list of cells and must return a single number.
- No neuron at any layer may name shapes, but shape information could be contained in a second middle layer.

Write five questions for your first layer.

Then write three questions for a middle layer that only "hears" the first.

Write five questions you want answer to but are not sure how a neuron would ask it.

You might want to take notes in the Week 2 Case Study on this discussion

For This Week

Your group is researching a facial recognition tool/technology.

- **Mechanism — what does the tool actually do?** Describe the path from input to output in terms a classmate could follow. An image comes in; what is it turned into? What comes out the other end (a name, a ranked list, a score)? Your group should be able to say where the numbers in the middle came from.
- **Provenance — who built it, on what, and who decided it was good enough?** Name the builder where you can. More importantly, name what it was trained and *tested* on, and who set the bar for release. This is where Week 1 comes back: the benchmark is itself a dataset someone assembled.
- **Deployment — what is the output allowed to do?** This is the prompt most groups will underweight and it's the one that matters most. A tool doesn't act. A system around it acts. What happens to the output when it leaves the model? Who receives it, what are they permitted to do with it, and what is the procedure when the system isn't confident?
- **Failure profile — rate, pattern, cost, and who absorbs it.** How often is it wrong? Is it wrong evenly, or does the error concentrate on particular people? What does a single error cost? And who pays that cost — the operator, the institution, or the person in the image?

Reminders for this weekend

Exit Tickets, D2L, and the Course Website

- Don't forget to complete today's Exit Ticket by 5pm (on D2L)
- Case Study 2 due 11:59pm Sunday
- Individual and Metacognitive Reflection 2 due 11:59pm Sunday
- Spend time before Sunday (~90 minutes) going over Week 3's preparatory materials
 - Forum Post due 11:59pm **Sunday**

Your instructors will give detailed feedback.

Questions?