

AI in the Real World

Data, Power, & Society - Day 05

Facial Recognition

CMSE 492 (aka CMSE 101) • Fall 2026

Prof. Danny Caballero

Case Study 2: Facial Recognition Technologies

Your group should research one (1) facial recognition technology

- This is not facial recognition as a whole
- Think: FaceID on devices, Photo identification on social media platforms, TSA use at airports, etc.

Tools

Which algorithms or models are used? What assumptions are built into the architecture? (data quality, user behavior, etc.) What are the technical limits? (accuracy, scalability, energy costs, etc.)

Ethical Literacy

Who is protected or targeted? Who is forced to be the system's subject? What ethical trade-offs are inherent in the deployment?

You will research on your own as the specifics for future Case Studies will be up to your group

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 by Wednesday.



MSU vs Eastern Michigan (15:30 Saturday on BTN)

#4 Texas vs #1 Ohio State (19:30 Saturday on ABC)

