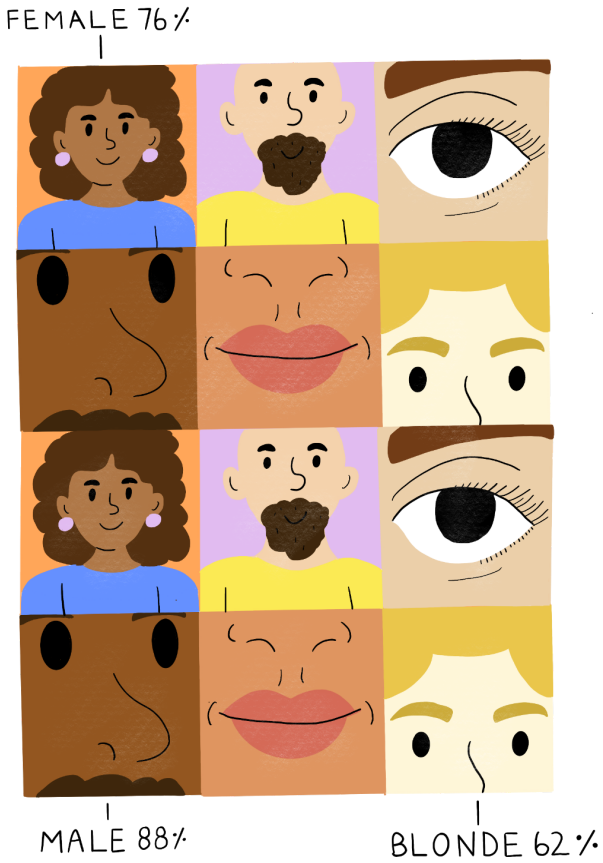
What AI Should Be Able to Use My Face?



5 MODULES

INFORMATION TECHNOLOGY PATHWAY, TECHNOLOGY, ETHICS

What's this unit about?

Students are assuming the role of a group of congressional staffers. They will brief a congressperson on the topic of AI-based facial recognition software so an informed decision can be made on a new bill. Students are tasked with helping the congressperson understand the technology and its various implications. They will split into teams so they can focus on the unique perspectives of: **A.I. Engineering, Ethics, Data Privacy, Public Policy,** and **Civil Liberties**.

This project is a partnership between NAF and the New York Department of Education and included an extensive co-design process where NAF and NYC Teachers gave us invaluable feedback and piloted the lessons in their classrooms during the Spring of 2022. Throughout this document, you will find quotes from some of these teachers and their students.

Cultural Responsiveness

This curriculum has been grounded in New York's Culturally Responsive-Sustaining (CR-S) Education Framework.

The aim of CR-S is to help "educators create student-centered learning environments that: affirm racial, linguistic and cultural identities; prepare students for rigor and independent learning; develop students' abilities to connect across lines of difference; elevate historically marginalized voices; and empower students as agents of social change".

Whenever you see a section in a green box, this is a cultural responsiveness highlight that can be used to contextualize the curriculum and offer implementation suggestions.

Learning Framework

Students will learn to:

- Communicate effectively through written formats
- Communicate effectively in a presentation setting
- Understand basic coding principles and technical knowledge (A.I. Engineers)
- Understand basic ethical philosophical premises and empathize (Ethics Managers)
- Understand basic legal language (Data Privacy Consultants, Public Policy Advisors, and Civil Liberties Researcher)
- Understand and analyze the ethical and privacy concerns surrounding the use of facial recognition in law enforcement and other high-stakes settings
- Understand how to discover the context of a topic through research

What's in the unit?

MODULE 1	MODULE 2	MODULE 3	MODULE 4	MODULE 5
Students are introduced to the topic and narrative, split into professional teams, and get started on their research.	Students warm up with a game, continue the narrative, conduct research, do a round of experiments and case studies, and then share-out new knowledge.	We warm up students with a game, continue the narrative, conduct research, do another round of experiments and case studies, and then share-out new knowledge.	Students warm up with a game, continue the narrative, and then prepare for their final presentation.	Students have their final presentation, engage in a Q&A session, and then end the narrative.

MODULE 1

Introducing the Challenge (30-35 minutes)

Students are assuming the role of a group of congressional staffers, tasked with briefing their congressperson on the topic of AI-based facial recognition software so that they can make an informed decision on a new bill. The proposed bill would create a one-year moratorium on legislative oversight to allow for the technology to be developed, unencumbered. Students will provide their congressperson with recommendations for their vote on the bill.

> *"The students were engaged 90% because it was a current news item."*
>
> — Patty C., Co-Design and Pilot Teacher

Setting the Scene

- **Start:**
  - Gather students and play the Unit 2 Trailer, to get them engaged with the topic
- **Explain the narrative:**
  - *Over the next # weeks, you will all be assuming the role of congressional staffers who are tasked with providing your congressperson with a holistic briefing on facial recognition and its use in high-stakes law enforcement scenarios. The goal is to provide your congressperson with enough information to make an informed decision to vote on a new bill that has been proposed. Let's take a look at the memo brief that the congressperson's chief of staff put together.*
- **Share narrative material:**
  - Show and read the **Memo Brief on Bill Proposal** provided by the congressperson's Chief of Staff, as a group
- **Introduce topic background:**
  - Next, look at the memo attachments to gain background information: **How China Tracks Everyone** and **How To Stop Artificial Intelligence From Marginalizing Communities? | Timnit Gebru | TEDxC...**
  - Optionally, use the **Landscape Questions Worksheet** to guide background knowledge gathering for your students.
- **Split into teams:**
  - Use the **Ranked Choice Team Selection Ballot** to allow teams to be split in accordance to their own interests

Introducing the Teams

Now that the teams have been decided, have them familiarize themselves with what their team focus will be for the project. Distribute the team descriptions to each group so that they can read them together before getting started with their research.

- A.I. Engineers Description
- Ethics Managers Description
- Data Privacy Consultants Description
- Public Policy Analysts Description
- Civil Liberties Researchers Description

Cultural Responsiveness Tip: Why is socio-cultural context important?

Understanding how the technology functions (A.I. engineers), the implications of its use in high-stakes applications (ethics managers and civil liberties researchers), the broader impact to safety and privacy (data privacy analysts), and the legal protections (public policy analysts) help students understand a fuller, contextualized scope of the topic. With this added context, students can better analyze and reach an informed determination of what the potential outcomes would be from the proposed bill they are helping their congressperson reach a determination about.

Additionally, recognizing the socio-cultural context of the topic can help students identify and empathize with the topic by displaying the connections to the real world and the effect it has on students now and in the future.

Background Research Time (35-40 minutes)

Additional Materials: Computers + Internet Access for Students

Students will continue by doing background research on the first research question that pertains to their team.

Students are encouraged to use all research resources available to them including online searches of newspaper articles, videos from news organizations, academic publications, and more. Students should be reminded that sites like Wikipedia are not citable, but can be useful in finding citable sources through the footnotes of entries.

Students should use the slide deck corresponding to their team to take notes and answer their research questions. Be sure to make a copy of the slide deck so that teams can edit directly. Also, point out to students that there are sources included to help them if they get stuck.

- A.I. Engineers (Module 1)
- Ethics Managers (Module 1)
- Data Privacy Consultants (Mo...
- Public Policy Analysts (Modu...
- Civil Liberties Researchers (M...

Knowledge Share-Out (10 minutes)

Ask teams to share 1-2 slides from their research with the rest of the class that the team found to be interesting or were surprised by. Alternatively, teams can share the link to their presentations to share with the rest of the class.

Cultural Responsiveness Tip: How can I differentiate or modify this lesson for my students?

For Students Who Need Additional Support:

- Consider assigning pairs within teams to have more built-in peer support to allow for partner reading and discussion during research sections.
- Consider leading the knowledge share-out by asking a series of questions where students can share their knowledge instead of through a slide presentation format.
- Consider using just 2 or 3 of the teams instead of using all 5 teams. This will allow for each team to be a little bit larger so that each team has more peer and teacher support in addition to reducing the overall scope of the project.

For Students Who Need Additional Challenge:

- Consider using the ideas in the "Expansions" header of the "References" section at the end of this curriculum to broaden the scope of the project.

For Students Who Are English Learners:

- Consider differentiating the research questions into a QSSSA format; Question, Stem, Signal, Share, Assess.
- When playing any of the videos, turn on the closed captioning. This can help your English Learner students as well as increase the accessibility of the videos for all of your students.

For Classes With Fewer Students:

- Consider using just 2 or 3 of the teams instead of using all 5 teams. This will allow for each team to be a little bit larger so that each team has more peer support and the overall scope of the project is reduced.

For Combined Classes:

- Consider collaborating with other teachers from different subjects to divide the unit into more subject-focused sections. For example, an environmental sciences teacher might take on the Environmental and Medical Researchers teams and a history teacher might take the Policy Analysts and Legal Advisors teams, and a visual arts teacher might take the Advocacy Managers team.

*See the end of the "References" section for more information on the CR-S framework which includes some ideas for how you might approach adapting and differentiating lessons.

MODULE 2

Why Game (10-15 minutes)

When conducting experiments and case studies, we are seeking answers to questions. This warm-up allows for reflection on what makes an experiment or examination most useful to helping us answer questions.

Rules:

- Students get in groups (doesn't need to be their research/project groups) to play for 2 minutes.
- The person whose first name is last alphabetically, starts by asking one of the **Why Game Questions** to the person to their left.
- The next person answers the question, ending their answer with asking "why?", "how?", or "what if...?" to pass the question to the next person.
- This continues until someone cannot answer the question.
- The person who cannot answer the question, they then select a new "why" question and start the cycle again.
- After time is up, everyone reflects together.

Reflection:

- Did you learn anything new or unexpected from asking clarifying questions so many times?
- Asking "why" questions is a great way to put yourself in a good headspace for examining an issue or carrying out an experiment.
- What are 3 ways you can get further clarification into a topic during an experiment or case study?

Congressperson's Update (5-10 minutes)

Setting the Scene

- Start by explaining that there is an update from the congressperson's Chief of Staff.
- *We just received an email from the Chief of Staff - let's see what they have to say.*
- Read (or have a volunteer read) **Chief of Staff Email (Module 2)** aloud.

Engaging the Teams

Next, have the class go to their teams to prepare for their next round of research. This round, they will be using the slide decks to keep track of their notes, but they will be presenting their information from research and their experiments in the form of a collage.

Research Time (45-90 minutes)

Additional Materials: Computers + Internet Access for Students

Students will have time to research the following questions. Answering these questions specifically will be essential for students to do their experiments and case studies in the next section.

- A.I. Engineers (Module 2)
- Ethics Managers (Module 2)
- Data Privacy Consultants (Modul...
- Public Policy Analysts (Module 2)
- Civil Liberties Researchers (Mod...

Experiments and Case Studies (45-90 minutes)

Teams have their own experiments to do that are related to the questions that they just finished researching. We recommend setting up the room into stations so that teams are already divided up and have their materials ready to save time.

A.I. Engineers: AI Mood Ring Experiment
Ethics Managers: FBI-Apple Case Study
Data Privacy Concerns: Data Encryption Exercise
Public Policy Analysts: Clearview AI Case Study
Civil Liberties Researchers: Skynet Case Study

"Student engagement was at an all-time high [in the last few weeks of school] which gives insight to how enjoyable this project will be at a later point in time."

— Rebekah B., Co-Design and Pilot Teacher

Knowledge Share-Out: Collage (30 minutes)

Students have been compiling all of their research notes and observations from their experiments and case studies. Give students 15 minutes to create a collage (1 collage per group) that represents their new knowledge. This can be a traditional collage made from paper or students can use our **Digital Collage Template**. It just needs to be a visual that represents the 1-2 pieces of information from their research and/or experiment that they felt was most important to share with the class.

After the 15 minutes are up, each team will present for no more than 3 minutes to give an overview of what they learned, using the collage as a visual.

CR Tip: How can I differentiate or modify this lesson for my students?

For Students Who Need Additional Support:

- Consider assigning pairs within teams to have more built-in peer support to allow for partner reading and discussion during research sections.
- Consider leading the knowledge share-out by asking a series of questions where students can share and explain their collage instead of through a presentation format.

For Students Who Need Additional Challenge:

- Consider using the ideas in the "Expansions" header of the "References" section at the end of this curriculum to broaden the scope of the project.

For Students Who Are English Learners:

- Consider differentiating the research questions into a QSSSA format; Question, Stem, Signal, Share, Assess.

For Combined Classes:

- If you are collaborating with other teachers, consider recording your student's collage presentations or leaving them up so that all of the students can see the collages of other classes when they visit your classroom next.

*See the end of the "References" section for more information on the CR-S framework which includes some ideas for how you might approach adapting and differentiating lessons.

MODULE 3

Wikipedia Race (10-15 minutes)

In your groups, race to see who can make it to the “Facial Recognition System” Wikipedia entry first.

Rules:

- Everyone starts on the same page, scrolled all the way to the top
    - Easy: https://en.wikipedia.org/wiki/Deep_learning
    - Medium: https://en.wikipedia.org/wiki/Brain
    - Difficult: https://en.wikipedia.org/wiki/Highland_cattle
- Only click on links within the article, topic sidebars, or the “See Also” section
- Can’t use Ctrl+F/Cmd+F to find words on the page
- Once you make it to the “Cancer Alley” page, immediately tell your team and ‘show your work’ by going through the browser history to show what connections you made to arrive at the end page

Reflection:

- What do you think it says about the nature of knowledge that no matter what the page we started on, we eventually made it to the same “Facial Recognition System” entry?
- All knowledge is connected - when we connect enough pieces, we are able to see the full context of a topic
- What are 2 ways that we might apply this type of thinking to our research work?

Congressperson’s Update (5-10 minutes)

Setting the Scene

- Start by explaining that there is an update from the Chief of Staff.
- We just received another email from the Chief of Staff - let’s see what they have to say.
- Read (or have a volunteer read) **Chief of Staff Email (Module 3)** aloud.

Engaging the Teams

Next, have the class go to their teams to prepare for their next round of research. This round, they will be using the slide decks to keep track of their notes, but they will be presenting their information from research and their experiments in the form of a reels-style video.

Research Time (60-90 minutes)

Additional Materials: Computers + Internet Access for Students

Students will have time to research the following questions. Answering these questions specifically will be essential for students to do their experimentals in the next section.

- **A.I. Engineers (Module 3)**
- **Ethics Managers (Module 3)**
- **Data Privacy Consultants (Module 3)**
- **Public Policy Analysts (Module 3)**
- **Civil Liberties Researchers (Module 3)**

Cultural Responsiveness Tip: Why is it important to show students how topics are interconnected?

Understanding how the different points of view of a topic are interconnected helps students better understand the context and what considerations should be considered during problem solving.

For instance, without understanding the socio-cultural aspects and implications of facial recognition, it can be difficult to understand the point of view of communities that have been adversely affected or targeted by this technology in law enforcement settings. These communities are experiencing another applied form of discrimination (usually based on race and gender expression) and understanding this background is important when determining the ethics of any solution to the problem of the current applications of this technology.

Experiments (60-90 minutes)

Teams have their own experiments to do that are related to the questions that they just finished researching. We recommend setting up the room into stations so that teams are already divided up and have their materials ready to save time.

A.I. Engineers: Breaking Your AI Mood Ring Experiment
Ethics Managers: FBI-Apple Case Study Reexamined
Data Privacy Concerns: Anonymous Data Exercise
Public Policy Analysts: Policy Writing Exercise
Civil Liberties Researchers: USA Data-Driven Policing Case Study

Knowledge Share-Out: Reel (30 minutes)

Students have been compiling all of their research notes and observations from their experiments and case studies. Give students 15 minutes to create an Instagram Reel or TikTok style video (1 video per group) that presents some of their new knowledge. After the 15 minutes are up, each team will present by showing their video to the class and optionally adding additional points they didn't get in the video that they think is worth sharing with the class.

"I really loved that the students spent time doing their own research and then coming together as a team to discuss their findings."

— Hikeisha C., Co-Design and Pilot Teacher

CR Tip: How can I differentiate or modify this lesson for my students?

For Students Who Need Additional Support:

- Consider assigning pairs within teams to have more built-in peer support to allow for partner reading and discussion during research sections.
- Consider leading the knowledge share-out by asking a series of questions where students can share and explain their insights after showing their video instead of through a presentation format.

For Students Who Need Additional Challenge:

- Consider using the ideas in the "Expansions" header of the "References" section at the end of this curriculum to broaden the scope of the project.

For Students Who Are English Learners:

- Consider differentiating the research questions into a QSSSA format; Question, Stem, Signal, Share, Assess.

For Combined Classes:

- If you are collaborating with other teachers, consider how you might be able to share students' videos with other class periods so that everyone can benefit from the share-out.

*See the end of the "References" section for more information on the CR-S framework which includes some ideas for how you might approach adapting and differentiating lessons.

Discussion Toss (10-15 minutes)

Discussions and debates are all about being able to think on your feet. This game gives students the opportunity to practice this skill and warms them up for getting into a discussion/presentation mindset.

Rules

- Get into your project groups
- Take 5 minutes to write as many questions related to your team's research and experiments as you can
- Toss a ball and ask a question from your list
- Catcher answers the question and tosses it to the next person, asking them a question from their list
- If you don't know the answer, say so and ask the next person the same question you were asked
- Continue for 5 minutes

Reflection:

- What did you find most difficult about this activity?
- What are 3 ways you might prepare to face a situation where you need to think on your feet during a presentation or discussion?

Congressperson's Update (5-10 minutes)

Setting the Scene

- Start by explaining that there is an update from the Chief of Staff.
- We just received another email from the Chief of Staff - let's see what they have to say.
- Read (or have a volunteer read) **Chief of Staff Email (Module 4)** aloud.

Engaging the Teams

Next, have the class go to their teams to prepare for their final presentation. They will be using the final presentation deck to compile all of their slides in one spot and then practice how they will present the full deck.

"I enjoyed the discussion it caused, as it genuinely had two fair points for either side."

— Curriculum Pilot Student

Presentation Prep (60-90 minutes)

Allow students time to create their slides in the Final Presentation for the group presentation at the Pre-Trial meeting. Additionally, students should be given the **Final Presentation Rubric** so that they understand what is expected of their team's slides.

Test Run (60-90 minutes)

Allow students time to assemble their full presentation and practice as a group how they will present their findings during the Final Boss Pre-Trial Meeting.

Each team will present their slides and then each team will select one spokesperson for the discussion portion. During the discussion, the spokesperson can confer with their teammates, but they will be the voice for their team.

Encourage students to practice a full test run of the presentation and prepare for what they might need to contribute to the discussion with the company representative.

CR Tip: How can I differentiate or modify this lesson for my students?

For Students Who Need Additional Support:

- Consider assigning pairs within teams to have more built-in peer support when creating slides and presenting.

For Students Who Need Additional Challenge:

- Consider using the ideas in the "Expansions" header of the "References" section at the end of this curriculum to broaden the scope of the project.

For Students Who Are English Learners:

- Consider suggesting that students write out a script for how they want to present their slides that they can practice and use during their presentation to help them if they need it.

For Combined Classes:

- If you are collaborating with other teachers, consider how you might be able to share the final presentations with all of the classes - perhaps a Google Drive folder (or similar) where students can upload their slide decks after their final presentations

*See the end of the "References" section for more information on the CR-S framework which includes some ideas for how you might approach adapting and differentiating lessons.

MODULE 5

Final Preparations (10-15 minutes)

Allow students time to quickly make any final preparations before starting the Pre-Trial Meeting. During this time, all slides should be in the final deck, spokespersons for each team should be selected for the debate portion, etc.

> ***"I liked the concept of this where we were "presenting" to the lawmaker and their office."***
>
> — Curriculum Pilot Student

Congressperson Meeting (60-90 minutes)

Students will present their insights and answers to their research questions, to the congressperson. The congressperson can also be represented by teachers or other professionals who are part of your network that can be invited to be part of an audience panel of congressional staff. Regardless, the audience should come up with 1-2 comments or questions to pose to students at the end of their presentations.

The **Final Presentation Rubric** can be used for assessment.

Alternatively, teachers can choose to have a Socratic Seminar as the final deliverable. If this is the case, Module 4 should be structured as seminar preparation and the group slides will not need to be made.

Congressperson's Update (5-10 minutes)

Setting the Scene

- Start by explaining that there is an update from the Chief of Staff.
- We just received another email from the Chief of Staff - let's see what they have to say.
- Read (or have a volunteer read) **Chief of Staff Email (Module 5)** aloud.

Engaging the Teams

Next, have the class go to their teams to prepare for their final presentation. They will be using the final presentation deck to compile all of their slides in one spot and then practice how they will present the full deck.

Cultural Responsiveness Tip: How can I differentiate or modify this lesson for my students?

For Students Who Need Additional Support:

- Consider assigning pairs within teams to have more built-in peer support when presenting.

For Students Who Need Additional Challenge:

- Consider using the ideas in the "Expansions" header of the "References" section at the end of this curriculum to broaden the scope of the project.

For Students Who Are English Learners:

- Consider suggesting that students write out a script for how they want to present their slides that they can practice and use during their presentation to help them if they need it.

For Combined Classes:

- If you are collaborating with other teachers, consider how you might be able to share the final presentations with all of the classes - perhaps a Google Drive folder (or similar) where students can upload their slide decks after their final presentations

*See the end of the "References" section for more information on the CR-S framework which includes some ideas for how you might approach adapting and differentiating lessons.

Resources

Research

Are your students stuck during research? First, have them check the resource(s) listed on their research slides. If they need additional support, here are some resources that might help:

Brookings Report - Police surveillance and facial recognition: Why data privacy is imperative for communities of color

Socratic Seminar

A content extension that would lend itself well to this material would be to have a Socratic Seminar rather than a presentation as the final deliverable. Tips and resources on Socratic Seminars are available below:

- Socratic Seminar Strategy Guide from *Read Write Think*
- Socratic Seminar Teaching Strategy from *Facing History and Ourselves*
- Five Steps to a Successful Socratic Seminar from *Minds in Bloom*

Modifications and Expansions

- Consider collaborating with other teachers from the same or different subjects to divide the unit into shorter, or more subject-focused, sections. If considering this option, we recommend dividing it so that one teacher has 1-3 of the teams so that with all of the teachers combined, all five teams are still present.
- Consider utilizing your advisory board or professional peer network for the Congressperson's Meeting; rather than being the representative, an individual professional or a panel of professionals can further the narrative and help students practice their presentation and debate skills in a way that feels more real. It can also let you focus on assessment if you don't also have to participate.
- Additional content expansion can include additional case studies in the research and experiment phases of Modules 2 and 3. Good case studies to use can include:
    - IRS Plan to Use Facial Recognition to File Taxes in 2022
    - TSA and DHS Use of Facial Recognition at Airports
    - Precrime Systems Under the Umbrella of Data-Driven Policing

CR-SE Framework

The Culturally Responsive-Sustaining Education (CR-SE) Framework was developed by the New York State Education Department for the purpose of "helping educators create student-centered learning environments that: affirm racial, linguistic and cultural identities; prepare students for rigor and independent learning; develop students' abilities to connect across lines of difference; elevate historically marginalized voices; and empower students as agents of social change".

Below are the four principles of CR-SE. The full framework can be found here.