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AI Accountability Student Toolkit

Section 1: AI Basics

Created by the 2024 AI Teacher Advisory Council

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Instructions for using this student toolkit

1

Step 1
Review the definition provided for each key term and share other definitions you may know.

2

Step 2
Do a Vocabulary Four Square exercise with each key term.

3

Step 3
Respond to the Personal Connection Questions for terms either verbally or in writing.

4

Step 4
Read the aligned Pulitzer Center Article(s) as well as the accompanying keywords and essential questions.

5

Step 5
Utilize your classroom reading strategies to read and discuss the Pulitzer Center article.

6

Step 6
Respond to the essential questions(s) for the article and complete any selected extension activities.

Artificial Intelligence	The ability of machines or computer programs to perform tasks that would normally require human intelligence, such as learning, problem-solving, or decision-making
Data	The information used to train and operate artificial intelligence systems. This can include numbers, text, images, or any other type of information.
Model	A representation of a system or process that artificial intelligence technologies use to make predictions decisions.
Algorithm	A step-by-step procedure or set rules to solve a problem or complete a task.
Bias	The tendency of an AI system to produce results that are systematically prejudiced due to the data or algorithms used in it's development
Machine Learning	The use of statistical techniques and algorithms that allow computers to learn and improve from experience without being explicitly programmed.
Deep Learning	A type of machine learning that uses artificial neural networks with multiple layers to learn and make predictions from complex data.
Predictive AI	A computer program that uses patterns in historical data to forecast future outcomes or classify future events.
Generative AI	A computer program used to create new and original content, such as images, text, and other media by learning from existing patterns.
Computer Vision	The ability of AI systems to identify and process visual information, like recognizing objects, faces, or scenes in images and videos.

Use the term in a sentence correctly.

Describe some of the essential characteristics of the term.

Key Term

Share some examples of the term.

Share some non-examples of the term.

Artificial Intelligence Key Terms
ARTIFICIAL INTELLIGENCE (AI)

DEFINITION

Artificial intelligence is the ability of machines or computer programs to perform tasks that would normally require human intelligence, such as learning, problem-solving, or decision-making.

PERSONAL CONNECTION

How have you seen people use technology to help with decision-making?

Are there any decisions you don't think should be made by machines?

REPORTING

How Do Public Officials Make Land Bank Decisions? Artificial Intelligence May Seek Patterns"

KEY TERMS
affordable housing, housing development

ESSENTIAL QUESTION:
What are the pros and cons of public officials utilizing AI in this context?

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Artificial Intelligence Key Terms
DATA

DEFINITION

Data is the information used to train and operate artificial intelligence systems. This can include numbers, text, images, or any other type of information.

PERSONAL CONNECTION

What technologies do you use most in your everyday life? How much do you know about how those technologies are readied?

What do you think the relationship is between data and privacy?

REPORTING

"How Digital Witness Lab Analyzed Data From BJP WhatsApp Groups Ahead of the Indian Elections,"

KEY TERMS
India, election, Whatsapp

ESSENTIAL QUESTIONS:
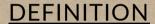Why is data so important for AI?

What are the privacy concerns related to data in AI use?

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Artificial Intelligence Key Terms
MODEL

DEFINITION

A model is a representation of a system or process that artificial intelligence technologies use to make predictions or decisions.

PERSONAL CONNECTION

Have you seen the term "model" used in a similar way in other places?

What information might people want to know about how the models used in their artificial intelligence technologies are designed?

REPORTING

"How We Did It: Unlocking Europe's Welfare Fraud Algorithms"

KEY TERMS
Europe, welfare fraud

ESSENTIAL QUESTION:
What is the relationship between data and models in AI?
Why might different models produce different results in AI?

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Artificial Intelligence Key Terms
ALGORITHM

DEFINITION

An algorithm is a step-by-step procedure or set of rules to solve a problem or complete a task.

PERSONAL CONNECTION

How have you used algorithms in your own life?

How do algorithms solve problems?

REPORTING

How We Investigated Welfare Algorithms in India (Part 1)
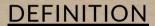
KEY TERMS
India, welfare

ESSENTIAL QUESTION:
What kind of information is needed to investigate an algorithm? Who do you think should be responsible for that investigative work?

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Artificial Intelligence Key Terms
BIAS

DEFINITION

Bias is the tendency of an AI system to produce results that are systematically prejudiced due to the data or algorithms used in its development.

PERSONAL CONNECTION

What does it mean to be prejudiced? Do you think you've ever encountered a prejudiced machine or AI system?

How do you think AI systems become biased?

REPORTING

"Kristin Pauker: The Fight for Fairness"

KEY TERMS
ethnic groups, bias

ESSENTIAL QUESTION:
What are some of the impacts of biased algorithms?
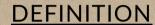
How can bias be prevented in AI systems?

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Artificial Intelligence Key Terms
MACHINE LEARNING

DEFINITION

Machine learning is the use of statistical techniques and algorithms that allow computers to learn and improve from experience without being explicitly programmed.

PERSONAL CONNECTION

How is machine learning different from other types of computer programming?

Can you think of any technological tools or programs you use that change or improve based on how you engage with them?

REPORTING

"Investigating Rainforest Destruction: Finding Illegal Airstrips with the Help of Machine Learning"

KEY TERMS
environmental crisis, the Amazon, rainforest

ESSENTIAL QUESTION:
How did machine learning support these journalists in their investigation? What different types of expertise were needed to solve the challenge they faced in their reporting?

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Artificial Intelligence Key Terms
DEEP LEARNING

DEFINITION

Deep learning is a type of machine learning that uses artificial neural networks with multiple layers to learn and make predictions from complex data.

PERSONAL CONNECTION

Unlike more simple AI systems, technologists don't always understand which rules deep learning systems are using to solve problems. What might be some pros and cons of this type of AI?

Are there any decisions you don't think should be made by machines?

REPORTING

"Sidebar: What is Artificial Intelligence and Why Use It To Look at Public Records"

KEY TERMS
public records, computer patterns

ESSENTIAL QUESTION:
What are some misunderstandings people have about AI? How does better understanding AI allow you to make more effective use of it?
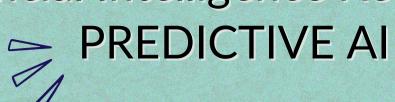
Pulitzer Center
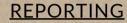
Artificial Intelligence Key Terms
PREDICTIVE AI

DEFINITION

Predictive AI is a computer program that uses patterns in historical data to forecast future outcomes or classify future events.

PERSONAL CONNECTION

In what areas of life do you think predictive AI could be most helpful? Most problematic?

How might predictive AI change the way we make decisions in the future?

REPORTING

"How We Investigated Automated and Predictive Technologies at Refugee Camps and Borders in Europe and the U.S."

KEY TERMS
refugee camps, border

ESSENTIAL QUESTION:
What types of questions do you think we should ask when new AI technologies are being implemented in our communities? How does asking questions better help us understand the limitations of AI?

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Artificial Intelligence Key Terms
GENERATIVE AI

DEFINITION

Generative AI is a computer program used to create new and original content, such as images, text, and other media, by learning from existing data patterns.

PERSONAL CONNECTION

How might generative AI impact creative fields like art, music, or writing?

What are some ethical considerations we should keep in mind with generative AI?

REPORTING

"Blind Internet Users Struggle with Error-Prone AI Aids"

KEY TERMS
blindness; accessibility

ESSENTIAL QUESTION:
What happens when AI tools are not designed with consideration for the people and communities they'll impact?

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Artificial Intelligence Key Terms
COMPUTER VISION

DEFINITION

Computer vision is the ability of AI systems to identify and process visual information, like recognizing objects, faces, or scenes in images and videos.

PERSONAL CONNECTION

How might computer vision technology change the way we interact with our devices?

What are some potential benefits and concerns of widespread use of computer vision?

REPORTING

"Paid Pennies to Train Tools of Repression: The Humans Behind Moscow's State Surveillance"

KEY TERMS
public surveillance; data collection

ESSENTIAL QUESTION:

Why is it important to understand the work that goes into training and developing AI technologies?

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Reflection Questions

Use the following questions to reflect on every new term and aligned reporting.

- How do you think AI might affect your future career or daily life?

- Which of these AI concepts do you find most interesting or concerning? Why?

- How might the widespread use of these AI technologies change society in the next 10 years?

- What responsibilities do you think individuals, companies, and governments have in ensuring AI is used ethically?

- How might AI technologies based on these concepts be used to address global challenges like climate change or healthcare?

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Extension Activities

Try any of the following tasks to extend your learning

- Create a scavenger hunt to help another reader navigate the Pulitzer Center article you read.

- Create a bingo game using essential AI terms and compete with a reading buddy to see who can score a bingo while reading your article.

- Create a concept map of this term and how it relates to other essential AI terms.

- Create a video to explain this term and what you learned in your reading.

- Create a timeline of the key events in the history of AI, focusing on the term you learned.

- Create an image that illustrates your understanding of the term.

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Exploring AI Accountability Resources

The Artificial Intelligence Accountability Network supports and brings together journalists reporting on AI and with AI globally. Working with journalists and newsrooms that represent the diversity of the communities affected by AI technologies, the Network seeks to address the knowledge imbalance on artificial intelligence that exists in the journalism industry and to create a multidisciplinary and collaborative ecosystem that enables journalists to report on this fast-evolving topic with skill, nuance, and impact.

1 "How do Public Officials Make Land Bank Decisions? Artificial Intelligence May Seek Patterns," by Lucia Walinchus and Emily Crebs for *Eye on Ohio*

2 "How Digital Witness Lab Analyzed Data From BJP WhatsApp Groups Ahead of the Indian Elections," by Srishti Jaswal for *Rest of World*

3 "How We Did It: Unlocking Europe's Welfare Fraud Algorithms," by Gabriel Geiger for *The Pulitzer Center*

4 "How We Investigated Welfare Algorithms in India (Part I)," by Kumar Sambhav Shrivastava for *The Pulitzer Center*

5 "Kristin Pauker: The Fight for Fairness," by Corey S. Powell for *Open Mind*

6 "Investigating Rainforest Destruction: Finding Illegal Airstrips with the Help of Machine Learning," by Hyury Potter, Jelter Meers and Kuek Ser Kuang Keng for *Global Investigative Journalism Network*

7 "Sidebar: What Is Artificial Intelligence and Why Use It To Look at Public Records?" by Lucia Walinchus for *Eye on Ohio*

8 "How We Investigated Automated and Predictive Technologies at Refugee Camps and Borders in Europe and the U.S." by Lydia Emmanouilidou for *The Pulitzer Center*

9 "Blind Internet Users Struggle With Error-Prone AI Aids," by Joanna Kao for the *Financial Times*

10 "Paid Pennies To Train Tools of Repression: The Humans Behind Moscow's State Surveillance," by Niamh McIntyre for *The Bureau of Investigative Journalism*