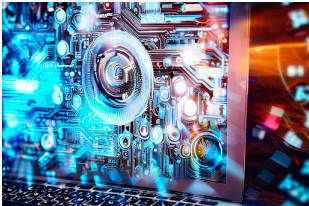


Beyond AI Hype: Data & Algorithms

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This lesson educates students on the importance of data and algorithms in machine learning (ML). Students will participate in a short lecture on data, and algorithms, and learn about the ML model evaluation and training process. Students will also engage in an activity to experiment with training an ML model.

Duration 90 minutes

Lesson Objectives

After this experience, students will:

- Understand the importance of data and algorithms in ML
- Learn the basics of training an ML model
- Have a better understanding of the limitations of ML models

Questions Explored

In this experience, students will consider:

- What types of data do ML models work well on?
- What types of data do ML models not work well on?
- How does tweaking ML models improve performance?

Key Terms & Concepts

- data/datasets
- algorithm
- bias

Lesson Overview

5 min

Group Discussion

To gauge student knowledge about datasets and algorithms, engage students in a group discussion.

Guiding questions include:

- What do you know about datasets?



- What do you know about algorithms?
- Do you know how they impact ML models?

20 min**Data & Algorithms Lecture**

Introduce students to data, algorithms, and bias through a short lecture based on these slides [Beyond AI Hype Session II](#).

45 min**ML Activity**

Transition students into the [Teachable Machine](#) activity by Google. Provide students with an overview of the activity and then direct them to write up their findings. The write-up should answer the following questions:

- Test out what images/sounds/poses your model works on
- Test out what images/sounds/poses your model doesn't work on
- How can you trick your model?
- How does tweaking your model improve the performance?
- Try changing the epochs, batch size, and learning rate

10 min**ML Activity Debrief**

Engage students in a brief discussion on their experience with the activities. Guiding questions include:

- How did you like the activity?
- What did you learn?
- What questions do you still have?

