# **Teacher Notes for Intro to AI Lesson Based on Dr. Patrick Martin’s Videos**

## **Motivation and Essential Understandings**

The goal of this lesson is to introduce students to AI concepts, where AI can be found in their daily lives, and the ethical considerations of AI.

How is my daily life influenced by AI?

What are the ethical considerations surrounding the use of AI?

## **Context**

Students will watch two videos about AI and Machine Learning, complete a worksheet about AI, read an article about how Spotify uses AI to recommend music to its users, and search for more ways AI is used in their smartphones. Students will also discuss and diagram the nuances of AI ethics.

## **Learning Objectives**

* Recognize how AI is used in their daily lives
* Think creatively about potential applications of AI
* Understand the ethical implications of collecting data on a userbase
* Think critically about ethical vs. unethical applications of AI

## **Data Science Concepts and Skills**

1. Types of AI Algorithms
2. Types of AI Applications
3. Types of Machine Learning Algorithms

## **Students**

This lesson is ideal for students who do not have previous exposure to AI or machine learning. A basic understanding of Excel is necessary to complete the diagram activity.

## **Time to Teach this Lesson**

3 Class Periods

Class 1 – Watch Video 1 and complete worksheet

Class 2 – Discussion

Class 3 – Share new uses of AI (Writing Assignment)

## **Lesson Materials**

Link to Git Repository: <https://github.com/generationai/Johns-AI-Intro-2020>

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| **Materials** | **File** | **Description** |
| Teacher Worksheet | Teacher\_Worksheet\_Patrick\_Martin\_AI\_Intro\_2020 | Lesson worksheet with answers and suggestions |
| Student Worksheet | Student\_Worksheet\_Patrick\_Martin\_AI\_Intro\_2020 | Lesson worksheet without answers |
| Video 1 | <https://www.youtube.com/watch?v=EQfX2dlrlNo&feature=youtu.be> | Introduction to AI |
| Video 2 | <https://www.youtube.com/watch?v=rJKmygzqM_E&feature=youtu.be> | Introduction to Machine Learning |
| Discussion Guide | Discussion\_Guide\_Patrick\_Martin\_AI\_Intro\_2020 | A guide for the class discussion on AI uses and ethics |
| Fishbone Diagram | Fishbone\_Diagram\_Patrick\_Martin\_AI\_Intro\_2020 | Fishbone diagram template |
| Lesson template | Lesson\_Template\_EnvSci\_2020 | Lesson planner |

## **Teaching Strategies**

* This lesson works best if students are situated in small groups where they can easily converse with their peers (Zoom groups will work as well as F2F in person)
* Encourage students to ask and answer questions, and make comments about other students’ thoughts
* The writing assignment of this lesson can be done in groups or individually, depending on what best fits your needs as the instructor

## **Lesson Narrative**

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| **Module 1: Introduction to AI** |

**Video** – Show the video Introduction to Artificial Intelligence, pausing when necessary for class discussion (~40 minutes)

**Worksheet** – Have students complete the worksheet associated with the video as the video is playing. This worksheet can be collected for an assignment or just used for the students’ notes.

**Assignments**

1. Watch the video Introduction to Machine Learning by **Module 2**
2. Read the Spotify AI article by **Module 2**
3. Complete the writing assignment at the end of the worksheet by **Module 3**

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| **Module 2: AI Applications and Ethics** |

**Discussion** – Follow the discussion laid out in the discussion guide

**Assignments** – Complete the diagram described at the end of the discussion guide by **Module 3**

\*\*\*Return worksheets from Module 1 if collected for a grade

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| **Module 3: Future AI Applications** |

**Presentations** – Have students share what they’ve written for the writing assignment from Module 1. Encourage students to give feedback or build on one another’s ideas. If time, also share and discuss the fishbone diagrams from Module 2.