# 6.IC.6 Impacts of Computing

The student will investigate and analyze the impact of the progression and advancement of AI technologies on industries. (a) Discuss the type of industries that may be impacted by the use and integration of Artificial Intelligence (AI). (b) Compare and contrast the evolving nature of work across diverse industries because of the progression and advancement of Artificial Intelligence.



### **Understanding the Standard**

The long-term impact artificial intelligence will have on society is still largely yet to be determined. However, machine learning and AI have already impacted society in substantial ways through systematic patterns in algorithms that lead to unequal outcomes, surveillance technologies, and machine learning. While relatively new technologies like largelanguage models (e.g., ChatGPT) have impacted education in many ways (e.g., plagiarism, intellectual property theft, access to information, misinformation), machine learning has been a part of other industries for decades.

This standard is closely related to 6.IC.1, 6.IC.3, 6.DA.4, and 6.CSY.3.

Term	Definition
Artificial intelligence	A technology intended to imitate human work; today, these often use machine learning for this
Machine learning	The process by which a computing technology ingests data, analyzes it, and makes predictions

#### **Integration Opportunities**

**Music 6.6** Investigate and analyze how AI has affected music production.

**English 6.R.1 a-f** Conduct research on specific industries to examine the impact of AI integration. Gather, organize, and synthesize information and present research in various modes.

## Prerequisite Knowledge

Students should have a basic understanding of how AI and machine learning work (see 6.CSY.3, 6.DA.4).

## **Summary of a Lesson**

Brainstorm with students to identify examples of machine learning and AI technologies. What are some examples of AI students use in their lives? Then the teacher will break students into groups (4-5 students each) and assign each group a different industry (e.g. agriculture, manufacturing, retail, finance, healthcare, transportation, etc). The teacher will provide each group with a handout and resources of how machine learning has impacted their industry. Instruct each group to do additional research on the impact of computing technology in their assigned industry. Once the group has completed their research students will present their research.

To supplement this activity, invite members of the community to share details about the role of machine learning in their industry with the class, either as part of an in-person visit or virtually through video.

Note: This lesson also aligns with 6.IC.1 and 6.IC.3



