Unit 5: AI and Machine Learning

Content Area: **Business**
Course(s):
Time Period: **Semester 1 & 2**
Length: **3 weeks**
Status: **Published**

Standards

	Computing technology has positively and negatively changed the way individuals live and work (e.g., entertainment, communication, productivity tools).
	Individuals collect, use, and display data about individuals and the world around them.
8.1.2.DA.2	Store, copy, search, retrieve, modify, and delete data using a computing device.
	Data can be used to make predictions about the world.
	Real world information can be stored and manipulated in programs as data (e.g., numbers, words, colors, images).
8.1.2.AP.2	Model the way programs store and manipulate data by using numbers or other symbols to represent information.

Transfer Goals

Students understand how computers find patterns in data to make decisions. They are able to use the Problem Solving Process for machine learning to define a problem, prepare data, train a model, and test their model for accuracy and potential bias. Students are able to identify datasets that lend themselves to machine learning. Students are aware of the various ethical issues surrounding artificial intelligence.

Enduring Understanding

- Create a machine learning model in AI Lab to solve a problem, and use App Lab to create an app that uses their model.
- Understand how machine learning models make decisions from data.
- Create machine learning models from their own data to solve problems in their community.

Knowledge and Skills

- Use machine learning models to find patterns and make decisions.
- Design Machine Learning applications using real world data.
- Design Artificial Intelligence applications to address real world social issues
- Train, test, and evaluate machine learning models.

Essential Questions

- How does machine learning find patterns in data to make decisions?
- How can we avoid bias when training a machine learning model?
- How can machine learning be used to solve problems in our community?

Resources

- AI Lab - Programming Environment
- App Lab - Programming Environment
- Code.org Videos
- Code.org Demonstration Apps
- Code.org Activity Guide