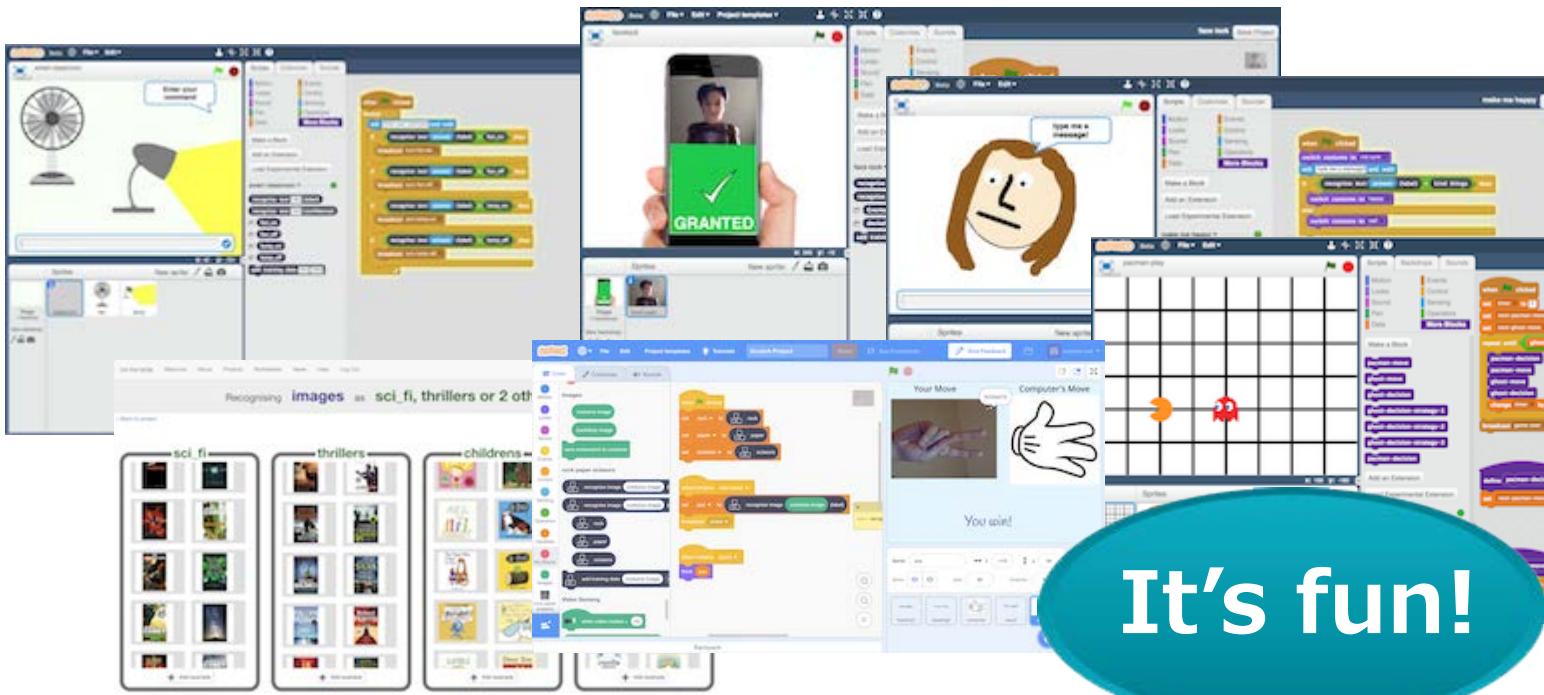**STEAM Dojo**

AI coding with IBM Watson

It's fun!

Let's develop smart programs with AI!

Your child develops smart programs with AI such as an intelligent assistant, face ID capability, a chatbot, and more by gathering data, training AI (IBM Watson), and using it from Scratch. Your child also discusses the possibility and limitation of AI.

✓ **Understand the process** of AI programming that requires data gathering, AI training, use the trained AI from the program.

✓ **Capabilities of AI** used in this course are facial recognition, text and image classification, sentimental analysis.

✓ **The supervised learning model** is used in this course. Your child uses the AI, IBM Watson, as a black box but prepares for the training data and train it.

✓ **Scratch** is used to produce the user interface and customized by your child.

Prerequisite: your child needs to know Scratch and have some programming experience with Scratch.

After this program

Your child will be able to tell the difference between neural network based AI and regular programs, and the process of AI programming such as data gathering, AI model training, and use the trained AI model from programs. Also, he/she will get some sense on the possibility and limitation of AI through hands-on AI programming experience.

Syllabus (Daily projects are subject to change)

1) Day 1
- Introduction
- AI program development process
- Smart Classroom program
  (text command recognition)

2) Day 2
- Smart Classroom program
- Make me happy program
  (text based sentiment analysis)

3) Day 3
- Chameleon program
  (image classification)
- Overview of Convolutional Neural Network

4) Day 4
- Mailman Max program
  (Handwriting recognition, image classification)

5) Day 5
- Car or Cup program
  (image classification, supervised learning)

6) Day 6
- Face Lock program
  (facial recognition)

7) Day 7
- Journey to School program
  (predictive modeling)

8) Day 8
- Pac-Man program
  (decision tree learning)

9) Day 9
- Chatbots program
  (sentiment analysis)

10) Day 10
- Judge a book program
  (image classification)
- Wrap-up
- Discussion of possibility and limitation of AI