Machine Learning & Generative Adversarial Network (GAN)

Activity Sheet

Please use this sheet to record your data from the 3D printing activity sessions.

Materials Needed: *Pencil or pen, computer or laptop with internet access.*

Background

What do you know about Machine Learning?

_____

_____

_____

_____

Think of examples of Machine Learning. Are you able to list a few times when they've made mistakes?

_____

_____

_____

_____

How could Machine Learning be tricked or confused?

_____

_____

_____

_____

This next part is designed to get you to think like a machine would and try to predict what someone else is thinking!

GAN - Guides and Artists

GAN Artists help predict what Guides are looking for! Guides will choose an animal to draw. Without naming the animal, the Guide will gradually give clues as to what the animal is, and Artists will draw and predict what the Guide is describing. After about 30 seconds of drawing, Guides will ask our Artists to show their work, and then Artists will rework drawings as necessary to get to the correct result. There will be up to 4, 30-second attempts per animal.

Note: *An animal for this activity may be a mammal, fish, bird, reptile, amphibian or insect. Stick figures are encouraged!*

1.

A.	B.
Hint:	Hint:
C.	D.
Hint:	

What was the animal? _____

How many lines/pencil strokes did it take to create the animal? _____

What hints were most helpful? _____

_____

_____

2.

| A.

Hint: | B.

Hint: |
| C.

Hint: | D. |

What was the animal? _____

How many lines/pencil strokes did it take to create the animal? _____

What hints were most helpful? _____

_____

_____

3.

| A.

 Hint: | B.

 Hint: |
| C.

 Hint: | D. |

What was the animal? _____

How many lines/pencil strokes did it take to create the animal? _____

What hints were most helpful? _____

_____

_____

4.

A. Hint:	B. Hint:
C. Hint:	D.

What was the animal? _____

How many lines/pencil strokes did it take to create the animal? _____

What hints were most helpful? _____

_____

_____

GAN - Autodraw

Autodraw is an online predictive drawing tool designed by Google. It couples machine learning and artist drawings.

For more information please visit: https://experiments.withgoogle.com/autodraw

Let's try testing some of those same drawings that were done on the previous pages with Autodraw!

1. Go to: Autodraw (https://www.autodraw.com/)
2. Draw your animals on Autodraw and record your results in the table below.

Animal Drawn	Number of Lines/Line Strokes/Clicks (Click and Draw) to Draw Animal?	Did Autodraw guess the correct animal?

When was the computer able to recognize what you were drawing?

_____

_____

_____

Was the computer able to use the same clues that you were to determine what was being drawn?

_____

_____

_____

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