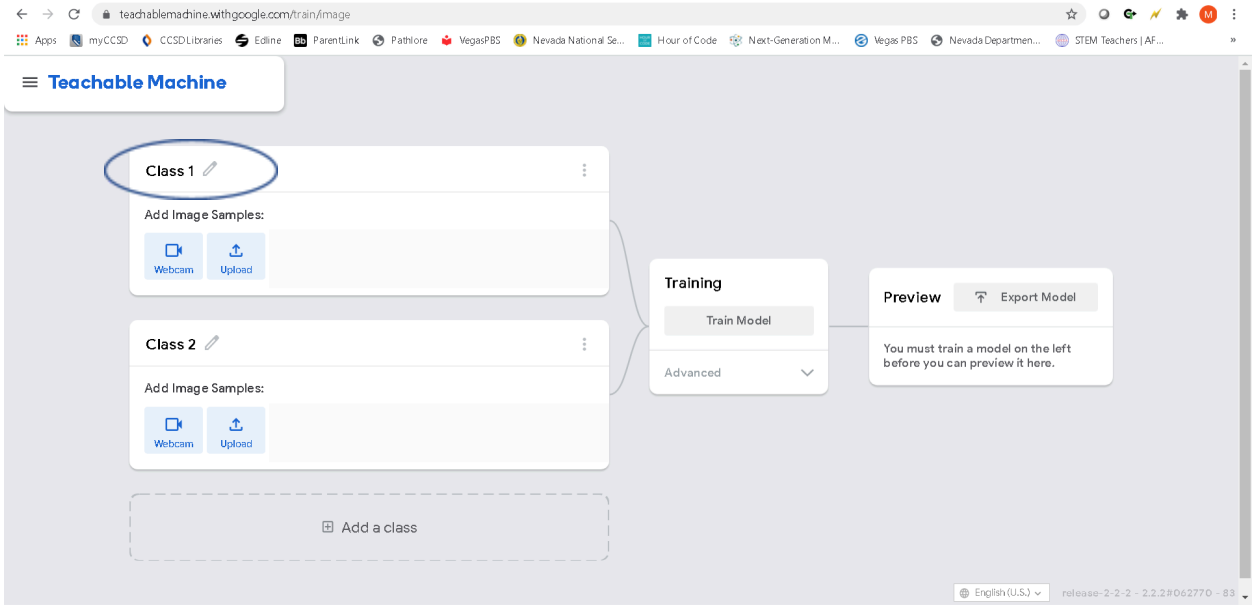
Artificial Intelligence – Teachable Machine

Teachable Machine is a free online artificial intelligence platform that can be trained to recognize images, sounds, and body mechanics. This lesson will use Teachable Machine to differentiate images of the hand gestures for rock, paper, and scissors.

Go to teachablemachine.withgoogle.com. Click the Get Started Icon.

In the next screen, you will have the choice of Image Project, Audio Project, or Pose Project. Choose Image Project.

Your screen will look similar to this one.



Click on the pencil next to the Class 1 description (circled in the image). Change the description to Rock.

Click on the pencil next to the Class 2 description, and change that description to Paper.

Click on the add a class option below the Rock and Paper classes, and add a Scissors class.

Using either the webcam or upload options in each class, provide images to Teachable Machine for each classification. You may take pictures of your own hand, your neighbor's hand, or find images on the web. Be sure to upload images in all three classes.

Once you have enough images in each class (How much is enough?), Click Train Model in the center of the screen. It may take a few minutes for the model to complete training.

Once it is finished, use your camera to provide images of your own hand gestures to see how accurately your model can categorize it as rock, paper or scissors. The bar at the bottom of the preview shows the probability of the image being in each of those categories.

Experiment with the number of images you will need in each category to get good accuracy. The number of images in each class does not have to be the same.

Once you believe your model is sufficiently trained, upload an image showing how well your model works for each of the classes.

If you want to save your model for future use, click the Export Model option to save your work as a shareable link.

Reflection

What did you learn about the amount and kinds of data needed to train an artificial intelligence model?

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Was it difficult to find sufficient images to train your model? Explain.

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What do you think would happen if someone else used your model? Would it work as well for them as for you? Explain.

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