

Lesson 2: Google Quick Draw and Teachable Machines and Google Teachable Machines



Caption

About this product:

The following are guided notes for the videos correlating from Lesson 2 of “Google Quick, Draw! code.org Teachable Machines and Google Teachable Machines.”

Who should use this: science teacher, computer teacher, arts teacher

These videos and notes can be used in any order or with any videos unused at teacher discretion and dependent upon the lesson.

What it contains:

Each page is a 1/2 sheet that can easily fit into an interactive notebook, or cut in half. It should be used as guided notes for each of the corresponding videos on youtube:

Google Quick, Draw!, Teachable Machine 2.0: Making AI easier for everyone, How AI Works, What is Machine Learning, Teachable Machines: Gather, Teachable Machines: Train, Teachable Machines: Export

The Key is provided on the last page for EACH of the guided notes with the corresponding titles.

Google Quick Draw

- Quick, Draw! is a _____.

- It is the same technology used in Google _____ to recognize handwriting.

- To understand _____, a person doesn't just look at what was drawn, but how one draws it. Which _____ did they make first, and how did they draw them?

- A computer is trained on millions of _____ from hundreds of languages and over time it understands whether a person wrote 'look' or 'book'

- Training is a big part of how computers can guess _____ correctly

- To get a computer to understand, it must be shown hundreds of _____ so that it can see patterns.

Google Quick Draw

- Quick, Draw! is a _____.

- It is the same technology used in Google _____ to recognize handwriting.

- To understand _____, a person doesn't just look at what was drawn, but how one draws it. Which _____ did they make first, and how did they draw them?

- A computer is trained on millions of _____ from hundreds of languages and over time it understands whether a person wrote 'look' or 'book'

- Training is a big part of how computers can guess _____ correctly

- To get a computer to understand, it must be shown hundreds of _____ so that it can see patterns.

Teachable Machine 2.0: Making AI easier for everyone

People are training _____ and creating machines learning models to explore all kinds of new ideas.

But Machine Learning is pretty _____ to get into, so Google has been wondering, what if it wasn't?

When Teachable Machine first launched in _____, it allowed people to see what teachable machines were all about.

Now it puts the _____ of machine learning in a person's own hands, allowing one to save models and use them in personal projects

With Teachable Machines a person can create _____ models for all sorts of things using images, audio or even poses.

People are using teachable machines in their own _____ for solving problems in their communities

Teachable Machine 2.0: Making AI easier for everyone

People are training _____ and creating machines learning models to explore all kinds of new ideas.

But Machine Learning is pretty _____ to get into, so Google has been wondering, what if it wasn't?

When Teachable Machine first launched in _____, it allowed people to see what teachable machines were all about.

Now it puts the _____ of machine learning in a person's own hands, allowing one to save models and use them in personal projects

With Teachable Machines a person can create _____ models for all sorts of things using images, audio or even poses.

People are using teachable machines in their own _____ for solving problems in their communities

How AI Works

AI is the most transformative technology of our _____:

1. precision agriculture to precision _____
2. personalized e-commerce to personalized _____
3. connected cars to connected _____

Humans _____ experience many applications of AI.

It is _____ to see what AI can do in the hands of change makers who harness it to address society's most pressing _____

At the same time, we must ensure we build AI _____, taking a principled approach and asking the difficult questions: what **SHOULD** computers do.

How AI Works

AI is the most transformative technology of our _____:

1. precision agriculture to precision _____
2. personalized e-commerce to personalized _____
3. connected cars to connected _____

Humans _____ experience many applications of AI.

It is _____ to see what AI can do in the hands of change makers who harness it to address society's most pressing _____

At the same time, we must ensure we build AI _____, taking a principled approach and asking the difficult questions: what **SHOULD** computers do.

What is Machine Learning

All around, computers are making _____
that affect daily life. As a user does an internet
search or scrolls through their newsfeeds, computer
_____ what you see, can _____
your face, and understand your voice.

Soon they'll be driving cars and detecting diseases
_____ than humans.

True Artificial Intelligence is decades away, but there
is a _____ of AI called machine learning
that is present today.

Machine learning is how computers recognize
_____ and make decisions without being
explicitly programmed.

Machine learning is not a step by _____
process like before it is through trial and
_____ and lots of practice.

Experience in machine learning is lots of _____
and recognizing patterns within the data

What is Machine Learning

All around, computers are making _____
that affect daily life. As a user does an internet
search or scrolls through their newsfeeds, computer
_____ what you see, can _____
your face, and understand your voice.

Soon they'll be driving cars and detecting diseases
_____ than humans.

True Artificial Intelligence is decades away, but there
is a _____ of AI called machine learning
that is present today.

Machine learning is how computers recognize
_____ and make decisions without being
explicitly programmed.

Machine learning is not a step by _____
process like before it is through trial and
_____ and lots of practice.

Experience in machine learning is lots of _____
and recognizing patterns within the data

Teachable Machines: Gather

Like all machine-learning workflows, you first need to _____ data.

_____ - represent a different category a person wants the computer to recognize

Adding data- name the data, they named theirs “_____” to start. A person can add variety to their data set by moving around.

A person needs at least _____ items to train the model which could be image or audio.

_____ data is in the form of a spectrogram

Audio needs to be recorded in one really long background class at least 20 seconds.

Your data is not being saved anywhere unless you press download your samples or save samples to drive

Teachable Machines: Gather

Like all machine-learning workflows, you first need to _____ data.

_____ - represent a different category a person wants the computer to recognize

Adding data- name the data, they named theirs “_____” to start. A person can add variety to their data set by moving around.

A person needs at least _____ items to train the model which could be image or audio.

_____ data is in the form of a spectrogram

Audio needs to be recorded in one really long background class at least 20 seconds.

Your data is not being saved anywhere unless you press download your samples or save samples to drive

Teachable Machines: Train

Click on the “Train Model” button to get _____ training the AI

The training is happening _____, so the user must keep the teachable training tab _____.

Once the model is _____ training, the “Preview” panel will expand on the _____

If a user adds more data to the model, the user will have to _____ the AI.

If a user wants to go in deeper and configure some of the training settings for the model click on the _____ panel.

A person can visualize what is going on in the training in the “_____” panel

Teachable Machines: Train

Click on the “Train Model” button to get _____ training the AI

The training is happening _____, so the user must keep the teachable training tab _____.

Once the model is _____ training, the “Preview” panel will expand on the _____

If a user adds more data to the model, the user will have to _____ the AI.

If a user wants to go in deeper and configure some of the training settings for the model click on the _____ panel.

A person can visualize what is going on in the training in the “_____” panel

Teachable Machine: Export

Experimenting with the preview panel

The bars at the bottom predict the _____ that the program has with identifying the categories.

Exporting the model can allow a user to _____ it with a shareable link or _____ it to the user's computer

In either export, there are _____ snippets that can be added to user's own projects

Note: it does not upload that data the user collected, just the _____ itself

If the user wants to save the whole project including the data there are _____ options

Option 1: save the whole project to _____

Option 2: down the project as a _____

Teachable Machine: Export

Experimenting with the preview panel

The bars at the bottom predict the _____ that the program has with identifying the categories.

Exporting the model can allow a user to _____ it with a shareable link or _____ it to the user's computer

In either export, there are _____ snippets that can be added to user's own projects

Note: it does not upload that data the user collected, just the _____ itself

If the user wants to save the whole project including the data there are _____ options

Option 1: save the whole project to _____

Option 2: down the project as a _____

Google Quick Draw key

1. game
2. Translate
3. handwriting
4. strokes
5. characters
6. drawings
7. doodles

Teachable Machine 2.0: Making AI easier for everyone

1. computers
2. intimidating
3. 2017
4. power
5. custom
6. experiments

How AI Works (code.org)

1. time
2. medicine
3. education
4. homes
5. already
6. inspiring
7. challenges
8. responsibly
9. should

What is Machine Learning? (code.org)

1. decisions
2. decide
3. recognize
4. better
5. type
6. patterns
7. step
8. error
9. data

Teachable Machine: Gather

1. gather
2. classes
3. neutral
4. two
5. audio
6. building

Teachable Machine: Train

1. started
2. locally
3. open
4. finished
5. right
6. retrain
7. advanced
8. Under The Hood

Teachable Machine: Export

1. confidence
2. upload
3. download
4. code
5. model
6. two
7. drive
8. file