

Create a Pose Model

40 minutes

Discovering Artificial Intelligence

WHAT THIS LESSON DOES

In this lesson, you'll create a pose model using Google's Teachable Machine to play a space game with your webcam! Note: You will need a webcam or a camera on your computer to create the images for the pose model.

WHAT STUDENTS SHOULD BE ABLE TO DO

- Develop an understanding of Google's Teachable Machine and its application in creating pose models.
- Acquire skills to create and categorise classes within a pose model.
- Learn to add and manage image samples for each class to train the model.
- Gain proficiency in training and testing the model for different poses.
- Master the process of exporting the model for future use in other projects.

BEFORE THE LESSON

- Open teachablemachine.withgoogle.com yourself first and check your school filter does not block it. Confirm the webcam permission prompt appears and can be allowed on pupil devices.
- Each pupil needs a device with a working webcam and enough space in front of it to tilt their upper body left and right.
- Have a plan for saving the shareable link. Pupils will need to email it to themselves or paste it somewhere they can find it again, so check pupils can access their email or a notes app.

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HOW THE LESSON RUNS

Introduction

Open Teachable Machine

Create a Pose Project

Create the Classes

Add Images to the Tilt Left Class

Add Images to the Tilt Right Class

Add Images to the No Tilt Class

Train the Model

Test the Model

Export your Model

Conclusion

TEACHING MOVES

- 1. Introduction. Tell pupils they are training a computer to recognise their movements, and that this model will control a space game later. Frame it as teaching the computer, not programming it.
- 3. Create a Pose Project. Stress that they must choose Pose Project, not Image Project. Explain a class is just a category the model learns to tell apart, using tilt left, tilt right and no tilt as the three.
- 4. Create the Classes. Walk them through adding the third class and renaming all three to Tilt Left, Tilt Right and No Tilt. Exact names matter for the later game lesson, so check them.
- 5. Add Images to the Tilt Left Class. Demonstrate holding the record button while tilting, then deleting any blurry or upright shots. Repeat the phrase: better images make a better model.
- 8. Train the Model. Warn pupils training takes a minute or two and the browser tab must stay open. Tell them not to switch tabs or refresh while it runs.
- 9. Test the Model. Have pupils tilt in front of the webcam and watch the confidence bars respond. If a pose is wrong, send them back to add more samples and retrain, not to start over.
- 10. Export your Model. This is the step that fails silently later. Make sure every pupil clicks Upload my model and saves the resulting link somewhere they can retrieve it.

WHAT TO WATCH FOR

- Pupils think one or two images per class is enough, then wonder why the model guesses wrong. Show that more varied samples give clearer results. Ask them to record a longer burst and remove only the poses that are unclear.
- Pupils believe the model is finished once trained and skip the export, losing all their work when they close the tab. Explain the model lives in the browser until exported. Make copying the shareable link a non-negotiable exit step and check each pupil has it saved.
- Pupils record all three classes in nearly the same upright position, so the model cannot tell tilts apart. Model an exaggerated lean for left and right and a clearly straight pose for no tilt, so each class looks distinct to the camera.

DIFFERENTIATION

- Emerging: Pair them with a partner so one holds the pose while the other records, taking the pressure off doing both at once. Talk them through the webcam permission prompt, which is the most common place to stall.