

## Answers to the PE01 Questionnaire

### 1. Three simple steps involved in training a model on Teachable Machine:

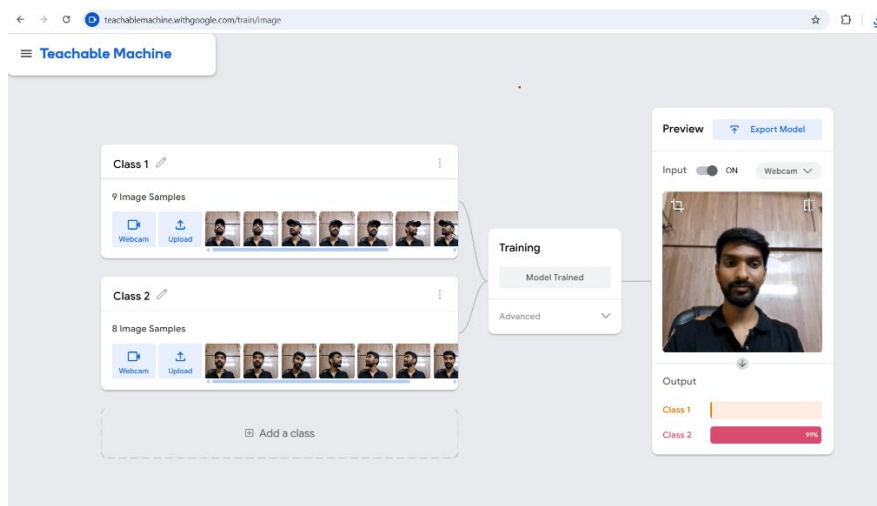
- Upload or capture data – Add images, sounds, or poses for each class you want your model to recognize.
- Train the model – Use Teachable Machine's interface to automatically train the model on your data.
- Test and export the model – Test the model with new inputs and, if desired, export it for use in websites, apps, or other projects.

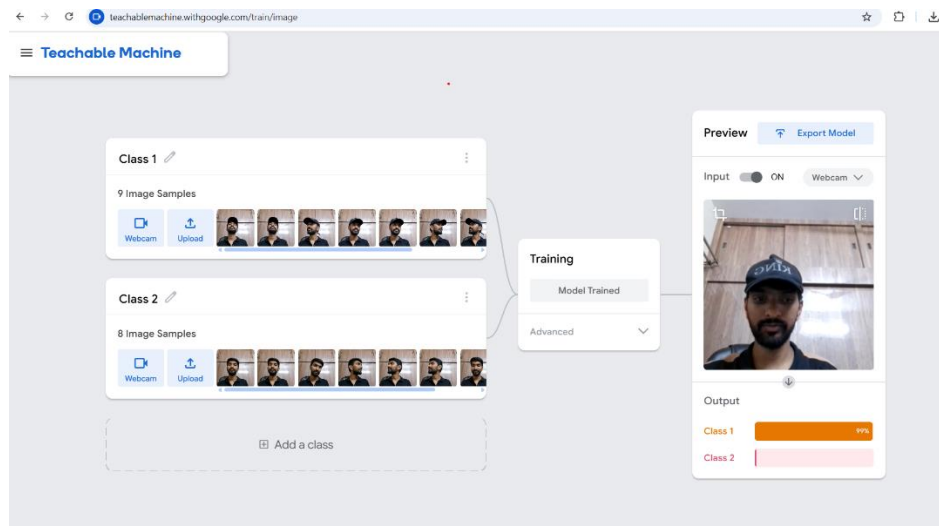
### 2. Summary of what I learned from the videos

The videos emphasize that training a machine learning model with Teachable Machine is straightforward. First, you gather representative data for each class you want to classify. Next, the model is trained automatically using a simple interface without needing coding knowledge. Finally, you can test the model in real time with live video or uploaded images to see how accurately it classifies new inputs. The key takeaway is that even complex ML concepts are simplified into three intuitive steps: data collection, training, and testing.

### 3. My trained model:

- Classification task: I decided to classify people wearing hats vs. people not wearing hats.
- Practical problem addressed: This classifier could be used in public monitoring, ensuring hat compliance in areas where hats are required.
- Number of classes: 2 classes – “HAT” and “No HAT.”





#### 4. Model performance:

When tested with live video and uploaded pictures, the model performed fairly well, accurately distinguishing between people with hats and without hats in most cases. Occasionally, it misclassified images when the hat was partially visible or the face was angled differently.

#### 5. Data samples and improvement suggestions:

- Samples per class: I gathered approximately 5–6 images per class.
- Distinctiveness: The images varied in lighting, background, angles, and hat types, but some were still similar, which could reduce model accuracy.
- Improvements: To improve performance, I could:
  1. Gather more diverse samples covering different angles, lighting, and occlusions.
  2. Increase the number of training images per class.
  3. Include edge cases, such as people partially wearing hats or wearing different types of hats.