Is the driver talking?

Using the AI to see whether the drivers' mouth is moving

Teachable Machine

smile ✎ ⋮

229 Image Samples
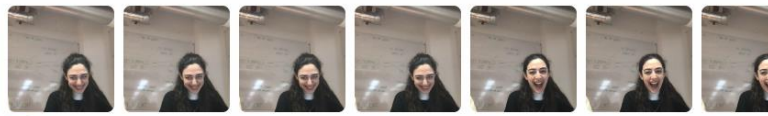
[📹 Webcam] [⬆ Upload]

Open mouse ✎ ⋮

224 Image Samples

[📹 Webcam] [⬆ Upload]

[⊞ Add a class]
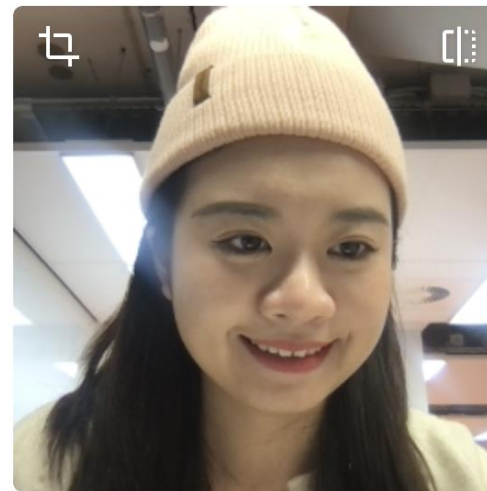
Training

[Model Trained]

Advanced ⌄

Preview   ⬆ Export Model

Input ⬤ ON   Webcam ⌄

Output

smile	98%
Open mouse	

▶ ■ ☑ Auto-refresh   Teachable Machine image model simple red&green   by gapjustin   ⚙

> sketch.js●   Preview

```
1   const modelURL =
    'https://teachablemachine.withgoogle.com/models/5EmQiRAr1/';
2   // To find your model link, go to the teachable machine page.
    Hit "Export Model", then hit "Upload my model" then wait
    until it is uploaded, then copy the link under the "Your
    sharable link" section and paste it in here
3
4   const boxClassName = 'With box'
5   // If you called the class which contains the box something
    other than "With box" then be sure to change this variable to
    whatever you chose instead.
6
7 ▾ /*^^^^^^^^^^^^^^^^^^^^^^^^^^^^
8   Make sure to update the variables above before continuing.
9   ******************************/
10  let classifier;
11  let video;
12  let flippedVideo:
```

Console   Clear ⌄

2   Open mouse

    smile

    Open mouse

87 smile

sketch.js •

Preview

```
1   const modelURL =
    'https://teachablemachine.withgoogle.com/models/5EmQiRAr1/';
2   // To find your model link, go to the teachable machine page.
    Hit "Export Model", then hit "Upload my model" then wait
    until it is uploaded, then copy the link under the "Your
    sharable link" section and paste it in here
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4   const boxClassName = 'With box'
5   // If you called the class which contains the box something
    other than "With box" then be sure to change this variable to
    whatever you chose instead.
6
7   /*^^^^^^^^^^^^^^^^^^^^^^^^^^^^
8   Make sure to update the variables above before continuing.
9   *****************************/
10  let classifier;
11  let video;
12  let flippedVideo;
```

Open mouse

Console   Clear ⌄

17 smile
    Open mouse
135 smile
86 Open mouse

Who is talking?

Using AI to recognize the different voices
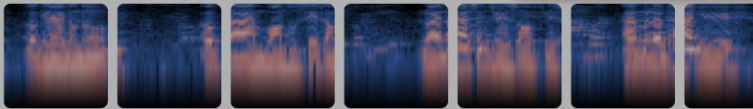
Background Noise ⓘ   ⋮

60 Audio Samples / 20 minimum

🎤 Mic   ⬆ Upload
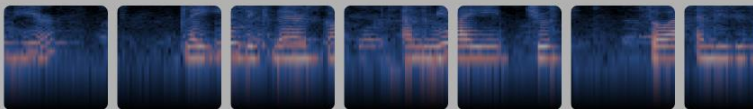
1 passenger ✏   ⋮

10 Audio Samples / 8 minimum

🎤 Mic   ⬆ Upload

Driver ✏   ⋮

16 Audio Samples / 8 minimum

🎤 Mic   ⬆ Upload

Training

Model Trained

⌃

⌄

❓

Reset Defaults ↺

Under the hood 📊

Exporting samples to Drive...

Preview   ⬆ Export Model

Input ⬤ ON
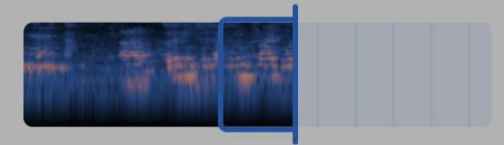
Overlap Factor: ——●— | 0.5 |
❓

⌄

Output
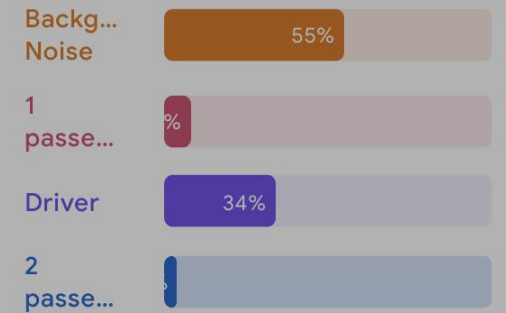
Backg... | 55% |
Noise

1 | % |
passe...

Driver | 34% |

2
passe...

▶ ■ ☑ Auto-refresh   Teachable Machine audio model simple red & green   by gapjustin   ⚙

>   sketch.js •   Preview

```
23 ▼ function draw() {
24       if (heardSometing)
25         background(0, 255, 0);
26       else
27         background(255, 0, 0); // If we heard something, turn
the color green, otherwise make it red
28       fill(255);
29       textSize(32);
30       textAlign(CENTER);
31       text(label, width / 2, height - 4); // Put whatever the
AI said it got in text on screen.
32     }
33
34 ▼ function gotResult(error, results) {
35 ▼     if (error) { // If an error occurs, print it in the
console.
36           console.error(error);
37           return;
38       }
```

Preview panel:

Driver

Console   Clear ∨

```
   1 passenger
   Driver
   1 passenger
 ⑥ Driver
```
>

p5*

▶   ■   ☑ Auto-refresh   Teachable Machine audio model simple red & green   by gapjustin   ⚙

> sketch.js●   Preview

```
23▼ function draw() {
24      if (heardSometing)
25        background(0, 255, 0);
26      else
27        background(255, 0, 0); // If we heard something, turn
    the color green, otherwise make it red
28      fill(255);
29      textSize(32);
30      textAlign(CENTER);
31      text(label, width / 2, height - 4); // Put whatever the
    AI said it got in text on screen.
32    }
33
34▼ function gotResult(error, results) {
35▼    if (error) { // If an error occurs, print it in the
    console.
36        console.error(error);
37        return;
38      }
```

2 passenger

Console   Clear ⌄

Background Noise

Driver

② 1 passenger

③ 2 passenger

>

▶ ⏹ ☑ Auto-refresh   Teachable Machine audio model simple red & green   by gapjustin   ⚙
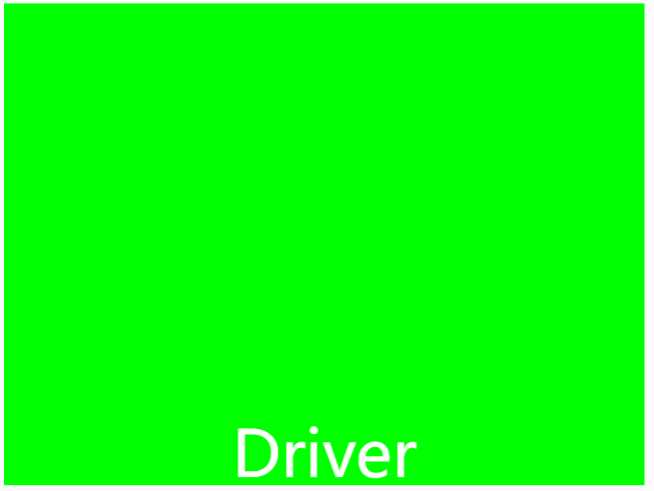
> sketch.js●

Preview

```
23  function draw() {
24      if (heardSometing)
25          background(0, 255, 0);
26      else
27          background(255, 0, 0); // If we heard something, turn
    the color green, otherwise make it red
28      fill(255);
29      textSize(32);
30      textAlign(CENTER);
31      text(label, width / 2, height - 4); // Put whatever the
    AI said it got in text on screen.
32  }
33
34  function gotResult(error, results) {
35      if (error) { // If an error occurs, print it in the
    console.
36          console.error(error);
37          return;
38      }
```

Background Noise

Console   Clear ⌄

7   Background Noise

    Driver

3   Background Noise

    1 passenger

>

Are there traffic signs?

Using AI to see if there are traffic signs at the road

Teachable Machine

traffic signs YES ✎

8 Campioni di posa

📹 Webcam ⬆ Carica

traffic signs NO ✎

5 Campioni di posa

📹 Webcam ⬆ Carica

⊞ Aggiungi una classe

Addestramento

Addestra modello

Avanzate ⌄

Periodi: 60 ⬍ ?

Dimensione del batch: ?

16 ▼

Tasso di apprendimento: ?

0,0001 ⬍

Ripristina impostazioni predefinite 🕓

Funzioni avanzate 📊

Anteprima   ⬈ Esporta modello

Input ●━ ON   Webcam ⌄

Output

traffic signs YES ▮▮▮▮▮▮▮▮▮ 100%

traffic signs NO ▯

Teachable Machine

traffic signs YES ✏️

8 Campioni di posa

📹 Webcam   ⬆️ Carica

traffic signs NO ✏️

5 Campioni di posa

📹 Webcam   ⬆️ Carica

⊞ Aggiungi una classe

Addestramento

Addestra modello

Avanzate ⌃

Periodi: 60 ⌃⌄ ❓

Dimensione del batch: ❓
16 🔽

Tasso di apprendimento: ❓
0,0001 ⌃⌄

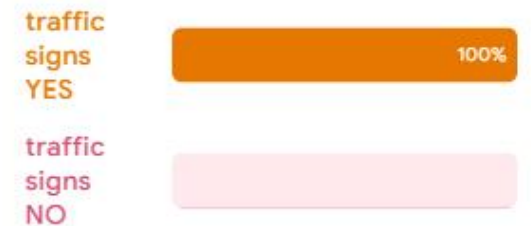Ripristina impostazioni predefinite 🕒

Funzioni avanzate 📊

Anteprima   ⬆️ Esporta modello

Input 🔘 ON   Webcam ⌄

Output

traffic signs YES

traffic signs NO   100%

▶ ■   ☐ Auto-refresh   Teachable Machine image model simple red&green   by gapjustin   ⚙

> sketch.js●   Preview

```
1  const modelURL = 'https://teachablemachine.withgoogle.com/models/8jcyeeJcT/';
2  // To find your model link, go to the teachable machine page. Hit "Export Model", then hit
   "Upload my model" then wait until it is uploaded, then copy the link under the "Your sharable
   link" section and paste it in here
4  const boxClassName = 'With box'
5  // If you called the class which contains the box something other than "With box" then be sure to
   change this variable to whatever you chose instead.
6
7  /*^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^
8  Make sure to update the variables above before continuing.
9  *******************************/
10 let classifier;
11 let video;
12 let flippedVideo;
13 let label;
14 let hasBox = false;
15
16 function preload() {
17     classifier = ml5.imageClassifier(modelURL + 'model.json'); // Load the image classifier model
   (a.k.a. the created AI)
18 }
19
20 function setup() {
21     createCanvas(640, 260);
22     video = createCapture(VIDEO);
23     video.size(320, 260);
24     video.hide();
25     flippedVideo = ml5.flipImage(video);
26     classifyVideo(); // Capture video and start classifying it.
27 }
```

With sign

▶ ■ ☐ Auto-refresh   Teachable Machine image model simple red&green   by gapjustin   ⚙
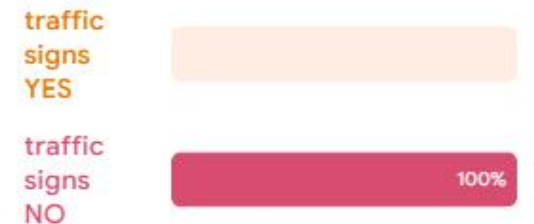
› sketch.js●   Preview

```
1   const modelURL = 'https://teachablemachine.withgoogle.com/models/8jcyeeJcT/';
2   // To find your model link, go to the teachable machine page. Hit "Export Model", then hit
    "Upload my model" then wait until it is uploaded, then copy the link under the "Your sharable
    link" section and paste it in here
4   const boxClassName = 'With box'
5   // If you called the class which contains the box something other than "With box" then be sure to
    change this variable to whatever you chose instead.
6
7   /*^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^
8   Make sure to update the variables above before continuing.
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10  let classifier;
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    (a.k.a. the created AI)
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20  function setup() {
21      createCanvas(640, 260);
22      video = createCapture(VIDEO);
23      video.size(320, 260);
24      video.hide();
25      flippedVideo = ml5.flipImage(video);
26      classifyVideo(); // Capture video and start classifying it.
27  }
```

Without sign