

POETRY TOGETHER

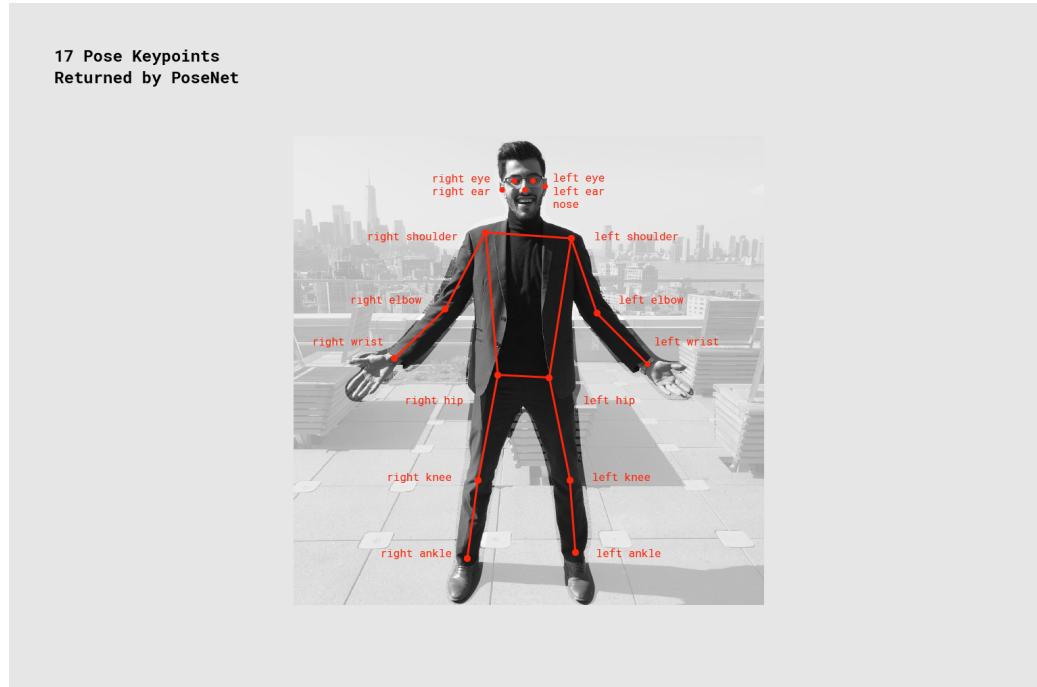
Embodied Poetry with Machine Learning

Handout for Creative Coding Utrecht - August 2022

What is posenet?

<https://blog.tensorflow.org/2018/05/real-time-human-pose-estimation-in.html>

1. prediction of poses in the input
2. pose confidence scores,
3. keypoint positions,
4. and keypoint confidence scores



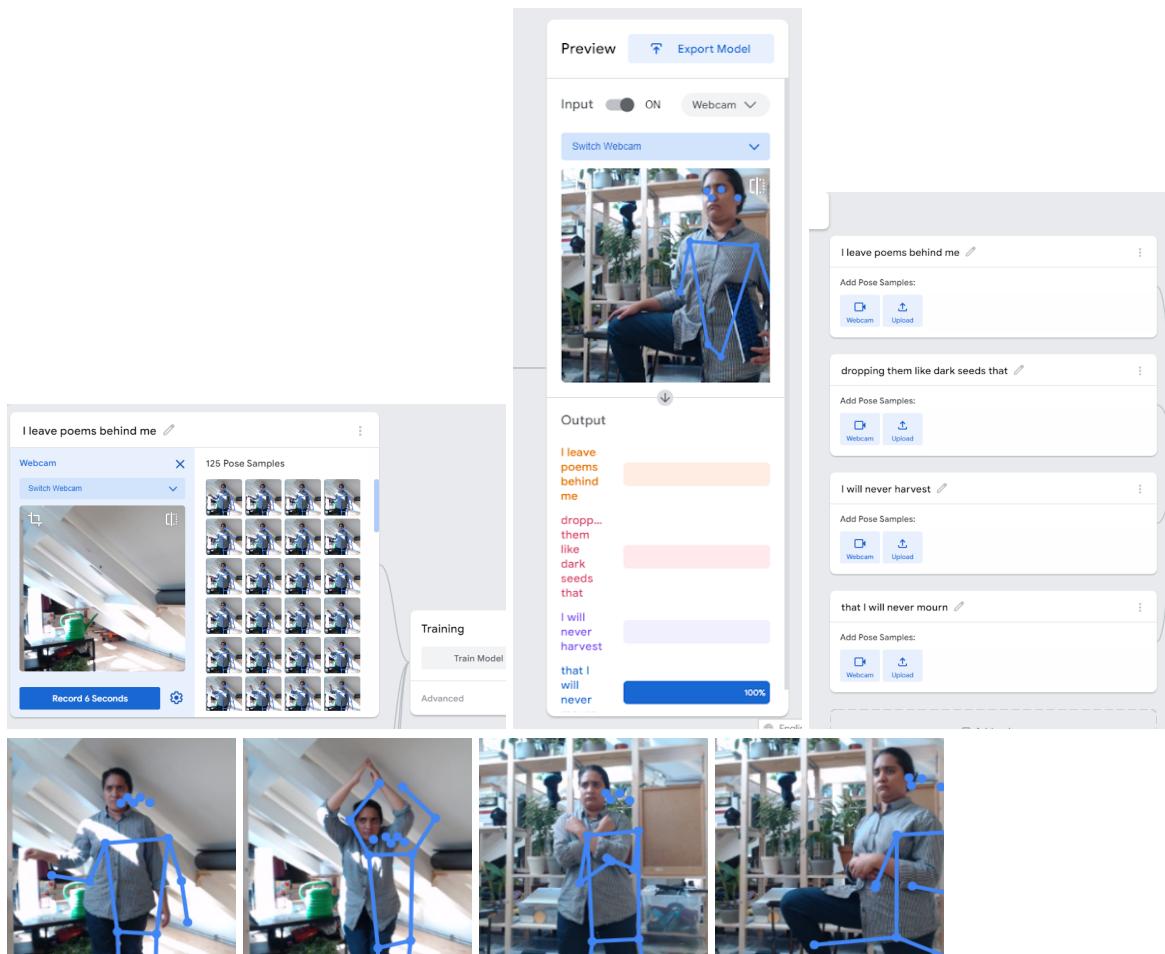
Teachable machines

- Open teachable machines
- Train three poses with a three line poem
- Save one thumbnail each from the poses (for the next step)
- Add to p5js sketch
- PLAY!!!

FROM “Touring”

I leave poems behind me
dropping them like dark seeds that
I will never harvest
that I will never mourn

AUDRE LORDE



<https://teachablemachine.withgoogle.com/train/pose>

Teachable machines sketch

- Open the link
- Make a copy of the project
- Use your posenet training link in the clone of the project
- Add your images

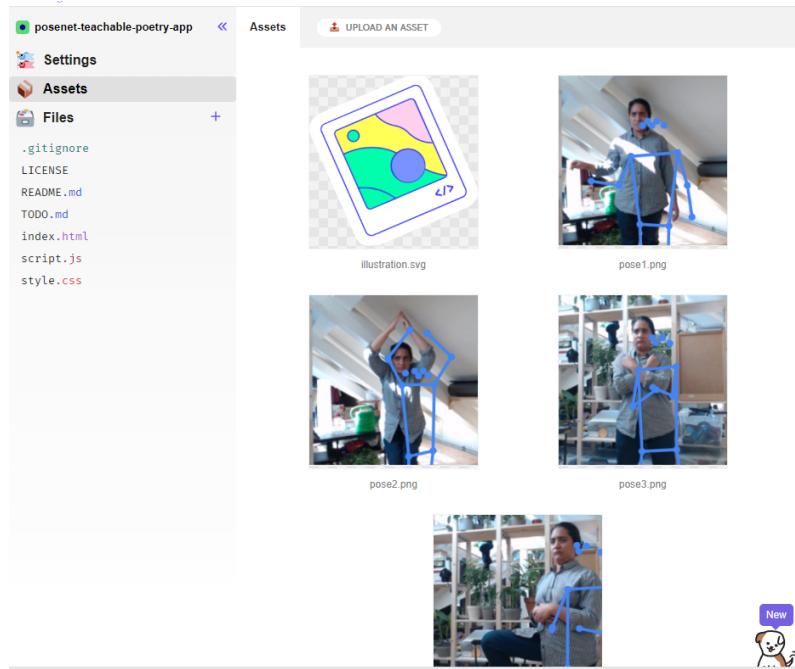
<https://glitch.com/edit#!/posenet-teachable-poetry-app?path=index.html%3A37%3A0>

STEPS TO FOLLOW

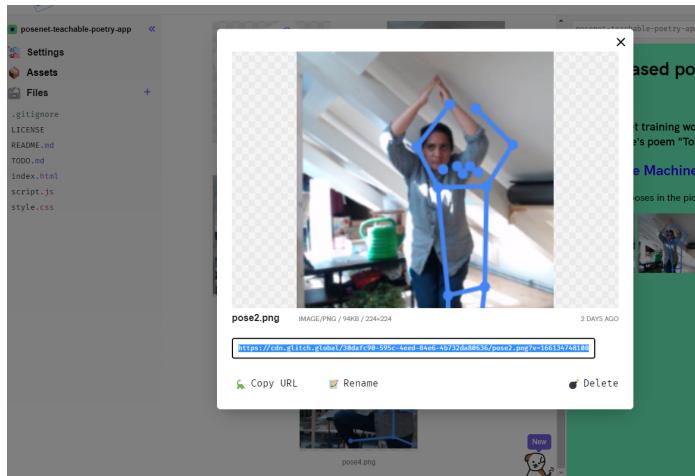
1. Change the link here in the script.js file:

```
5 // the link to your model provided by Teachable Machine export panel
6 const URL = "https://teachablemachine.withgoogle.com/models/0AY-2cvEY/";
7 let model, webcam, ctx, labelContainer, maxPredictions;
```

Add your thumbnails in the ASSETS section:



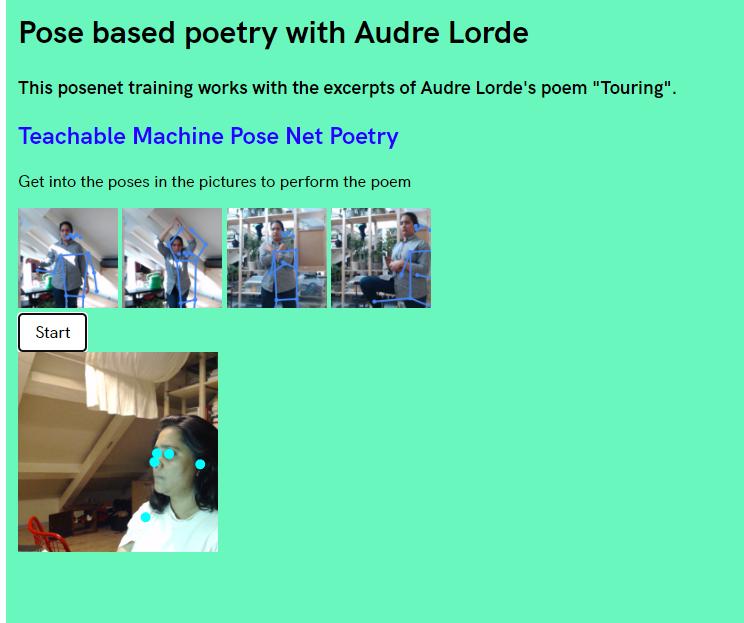
2. Copy the URL for the image that you uploaded:



3. Replace each of the links for each of the thumbnails:

```
<div id="thumbnails">
  
  
  
  
</div>
```

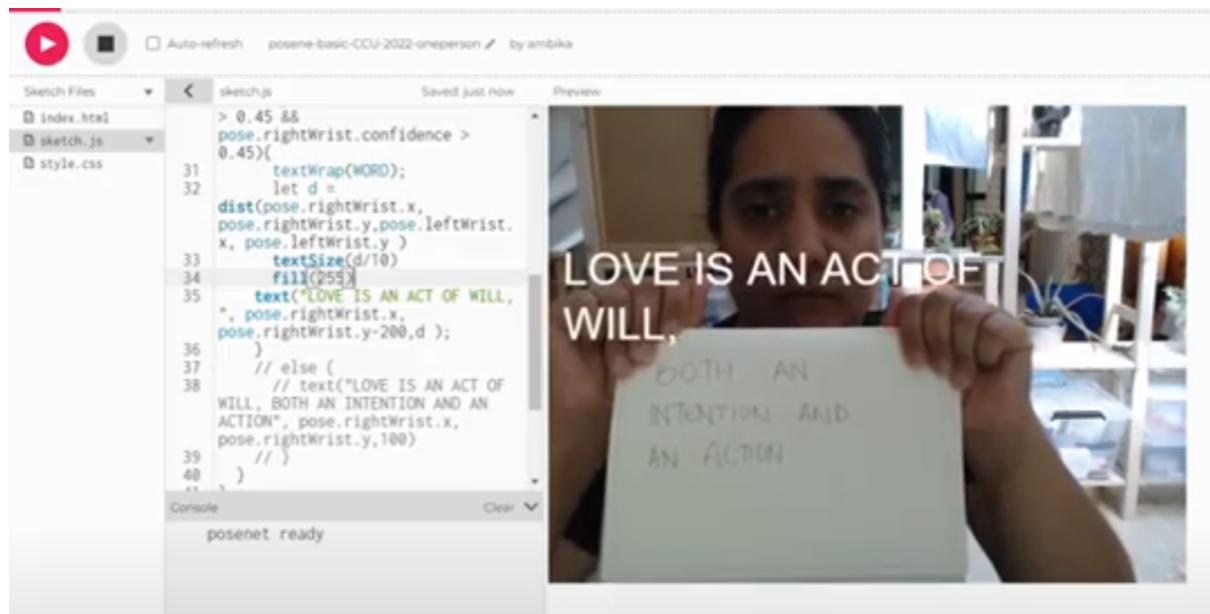
4. You can now try the poses by pressing the start button and the text will appear below the webcam window, if you can imitate the poses.



Using posenet with p5js (single person)

- Setup webcam
- Add ml5 library in index.html
- Initialise posenet in the setup() function
- Creating callback - model loaded
- Use posenet.on method for pose detection
- Identify the pose keypoint that you want for your movement
- Add the text and if statement
- Add dist function
- Add Flip Camera function
- Build your analog text card
- PLAY!!

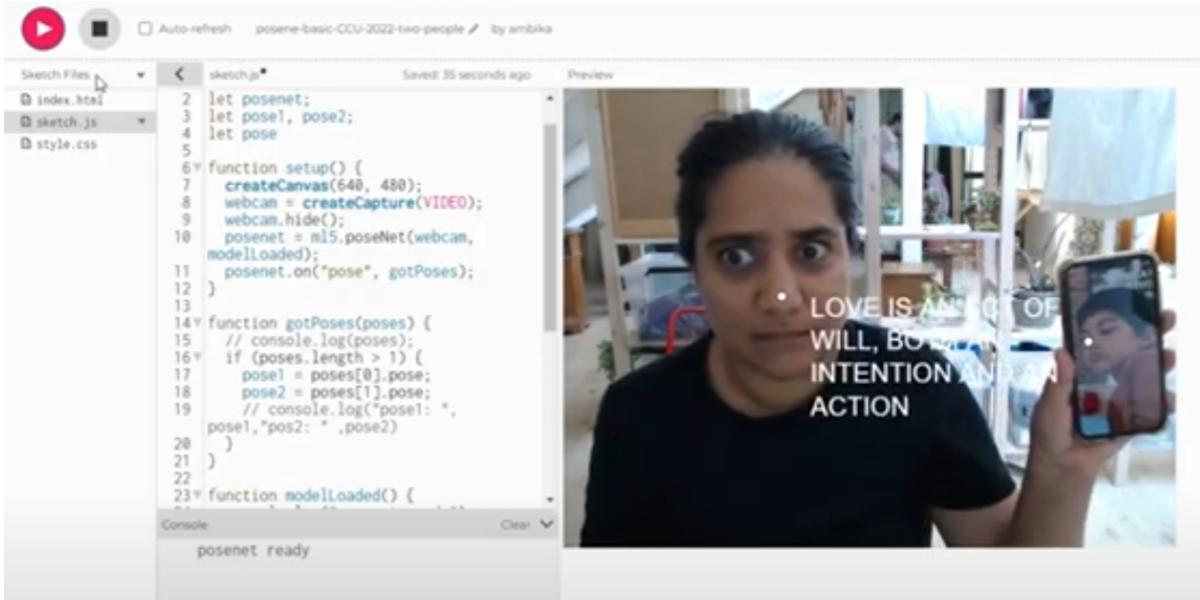
<https://editor.p5js.org/ambika/sketches/nSyIG-UCO>



Using posenet with p5js (two people)

- Identify the poses nomenclatures for more than one pose estimation
- Use the distance function to create the space for the poetry
- Build your analog cards
- PLAY!!

<https://editor.p5js.org/ambika/sketches/C2wUeZQZ>



The screenshot shows the p5.js code editor interface. On the left, the file structure is visible with 'sketch.js' as the active file. The code in 'sketch.js' is as follows:

```
Sketch Files < sketch.js * Auto-refresh posene-basic-CCU-2022-two-people by ambika
index.html
sketch.js
style.css

2 let posenet;
3 let pose1, pose2;
4 let pose
5
6 function setup() {
7   createCanvas(640, 480);
8   webcam = createCapture(VIDEO);
9   webcam.hide();
10  posenet = ml5.poseNet(webcam,
11    modelLoaded);
12  posenet.on("pose", gotPoses);
13}
14 function gotPoses(poses) {
15   // console.log(poses);
16   if (poses.length > 1) {
17     pose1 = poses[0].pose;
18     pose2 = poses[1].pose;
19     // console.log("pose1: ", pose1,"pose2: ", pose2)
20   }
21}
22
23 function modelLoaded() {
  posenet.ready
}

Console Clear
posenet ready
```

The preview window on the right shows a woman's face with two red dots indicating tracked points. She is holding a smartphone in her right hand, which displays a portion of a poem:

LOVE IS AN ACT OF
WILL, BOTH
INTENTION AND
ACTION