

## INSTRUCTIONS:

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### Goal of the Project:

In class 106, you trained a model with 3 facial emotions. You also made an HTML page for the web application.

**HAND GESTURE WEB APP** - In this project, you have to make a model on a teachable machine, using images of your hand gestures, and integrate this model with the code to make a web application that recognizes hand gestures.

In this project, you have to make a model on a teachable machine, using your hand gesture, and design a beautiful HTML page for the web app.

### Story:

WeHelpers is a NGO which takes care of small kids. They are planning to create an app for kids who lack the ability to speak. This app should be able to identify sign language gestures and speak out its meaning.

In order to hire the right candidate for this job, they have posted an assignment where interested applicants can prove their ability by prototyping a web app that can identify at least 5 hand gestures and speak out its meaning.

Prove your skills by taking up this assignment. Considering the problem statement, you will be completing this assignment in parts. For this project you need to focus on making a model on a teachable machine, using your own hand gesture. And also create a well designed HTML page for the web app.


To see the final outcome of hand gestures, open this [link](#).

**NOTE - It's perfectly fine if the result is not accurate as the model which is used in this website is trained on limited data. This link is just provided for you to understand the flow of the website.**

Output after training the model:

Preview [Export Model](#)

Input: ☒ ON Webcam ▼




↓

Output

amazing	<div></div>
best	<div>100%</div>
victory	<div></div>

Preview [Export Model](#)

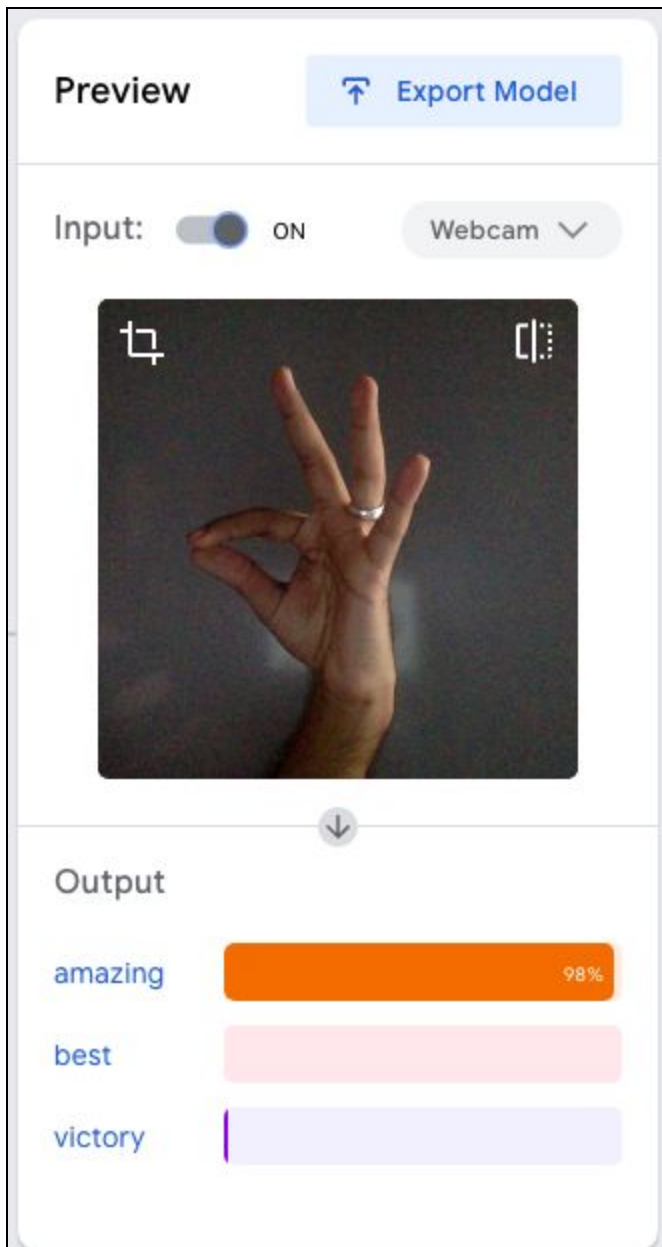
Input: ☒ ON Webcam ▼



↓

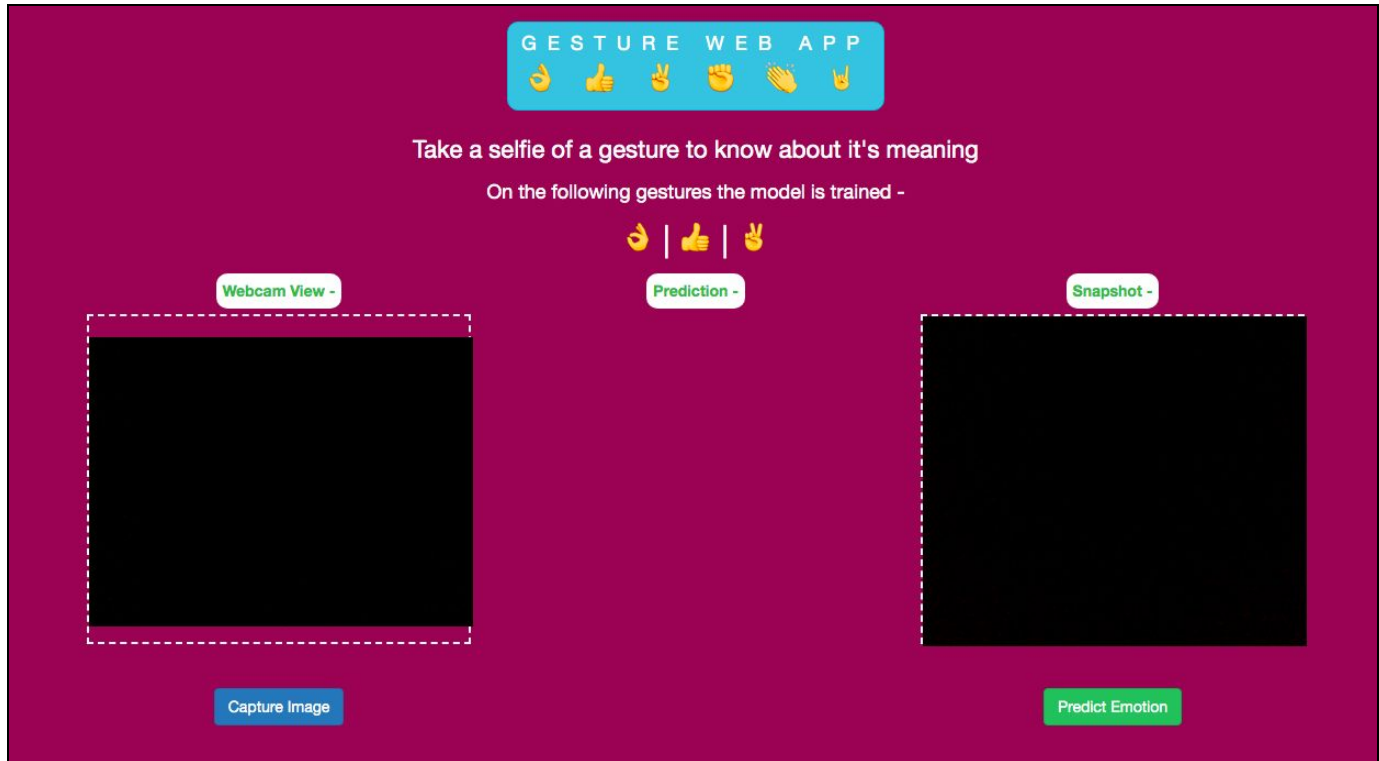
Output

amazing	<div></div>
best	<div></div>
victory	<div>99%</div>



**\*The above images are just for you to get an idea of the preview you will get after training the model by adding hand gestures to the model. We expect you to use your creativity and train the model using your own hand gestures. Use more than 7 hand gestures to train the model.**

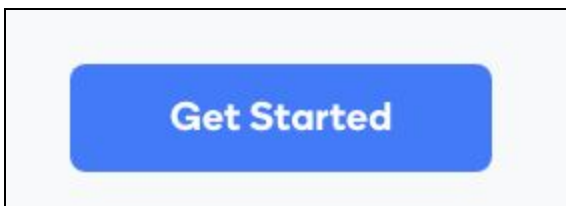
Expected HTML page output:



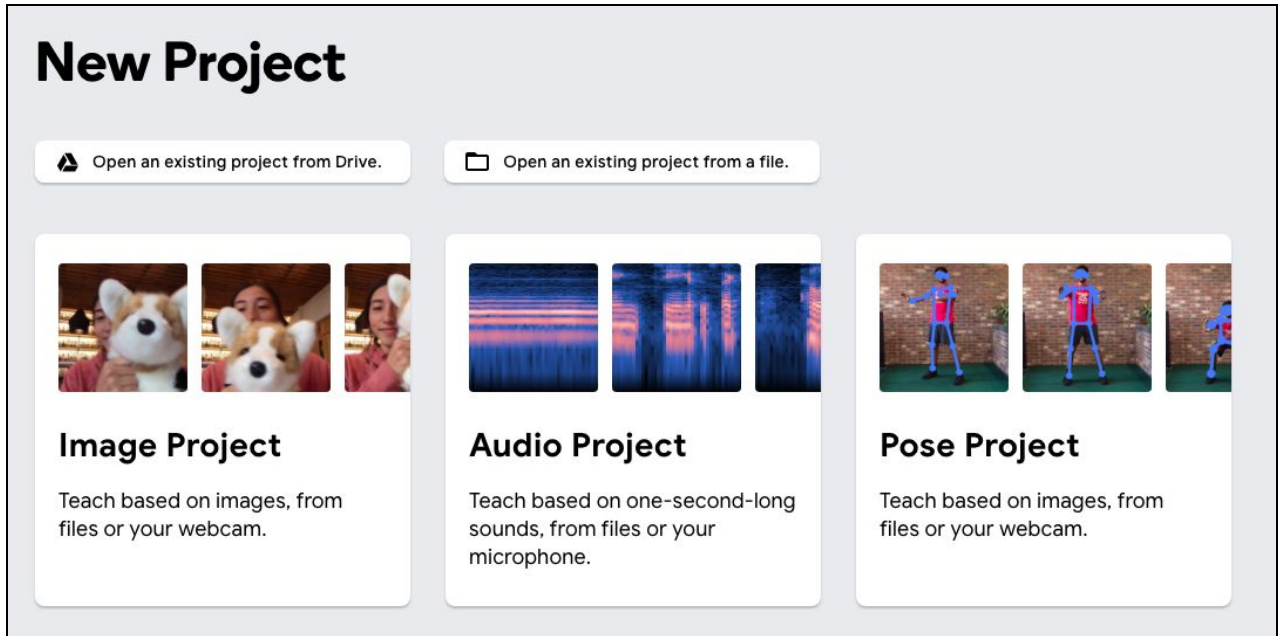
**\*This is just for reference, we expect you to explore your creativity and make a beautiful good looking HTML page for the web application.**

**Getting Started:**

1. Visit [Teachable Machine](#).
2. Click on the **Get Started** button:



3. Click on **Image Project**:



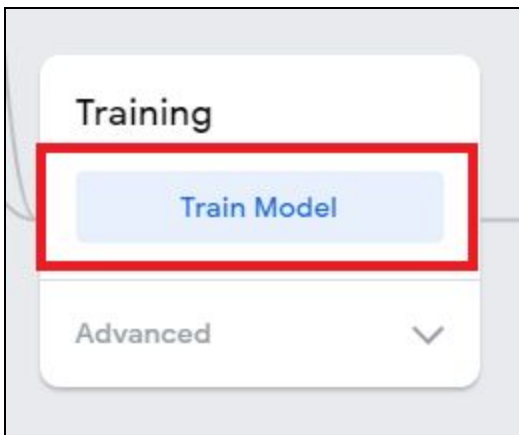
4. Create a folder with a name **hand gestures project** and inside the folder create **index.html**, **style.css**, **main.js**, and **hand\_gestures\_project\_model\_link.txt**.

**Specific Tasks to complete the Project:**

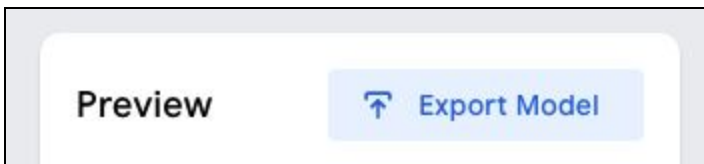
1. Add 140-150 images captured in different angles for each hand gesture. Train the model with at least 5 hand gestures.
2. Use the **Add a class** button for increasing the classes.



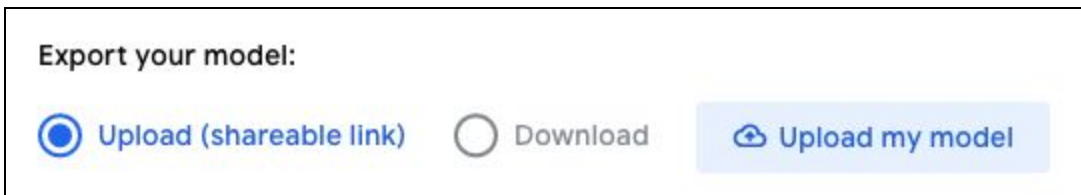
- Add 140-150 images of hand gestures.
3. Train the model by clicking the **Train Model** button.



4. The Preview tab will come on the left hand side of the screen for testing.
- Start testing if you are not satisfied then again try adding more images of that hand gesture.
  - If satisfied then export the model by clicking on the export button.



5. Click on **Upload my model**.




6. Copy and paste the link that appears in **hand\_gestures\_project\_model\_link.txt**.
- You will use this link in the next project so keep it safe.

Now start writing HTML and CSS code for the web application. Consider the following points while building the HTML page:

7. Add bootstrap links, **webcam.js** link, **style.css** link, and put the **main.js** link before the body tags ends.
8. A heading, that will contain the name of the application.
  - Put hand gestures icon inside this heading tag, same as you did for emojis in the class. You can copy and paste the HEX values of the hand gesture icons from the hint section.

- A list of all hand gestures icons, you have used in the model. Like in the web



app I have only used three hand gestures , you can copy and paste the HEX values of the hand gesture icons from [this link](#).

9. A div to hold the webcam live view, don't forget to give an id as that will be used in JS to refer to this div.
10. A button to capture the image with an onclick function.
11. A element like span OR div that will be used to display the hand gesture name which you have set in the model. Don't forget to give an id that will be used in JS to refer to this element.
12. A element like span OR div that will be used to display the icon of the hand gesture as per the result coming from the model. Don't forget to give an id that will be used in JS to refer to this element.
13. A div to hold the captured image, don't forget to give an id that will be used in JS to refer to this div.
14. A button to identify the image with an onclick function.
15. Give style to all the elements to make it look beautiful. You can refer to the HTML and CSS of class 106.

Do the HTML coding in **index.html** file, and do the CSS coding in **style.css** file, which you have created for this project.

**Make the webpage using your creativity, but make sure all the above components are there in the page.**

1. Open the link which you saved in **hand\_gestures\_project\_model\_link.txt** and start screen recording.
2. One by one make all the hand gestures.
3. After the test is done, open the **index.html** and show the webpage design.
4. End the screen recording.

### Submitting the Project:

#### Option 1:

Use the document in this [link](#) to record the screen.

After you have recorded the video, upload on YouTube and copy the YouTube video link and **submit it in the Student Dashboard Projects panel against the correct class number.**

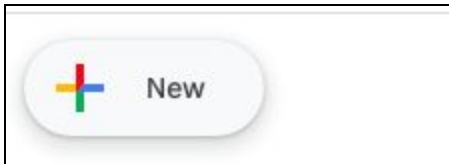
#### Option 2:

After you have recorded the video and uploaded on Google Drive. **Copy that video link**

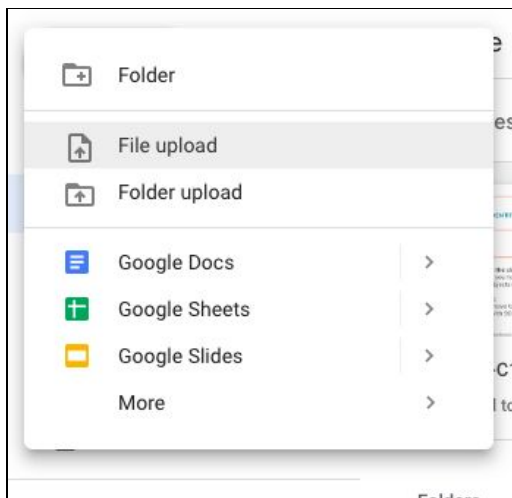
and submit it in the Student Dashboard Projects panel against the correct class number.

Steps to upload video on Google Drive:

1. Open your google drive.
2. Click on **New**.



3. Then select File upload.

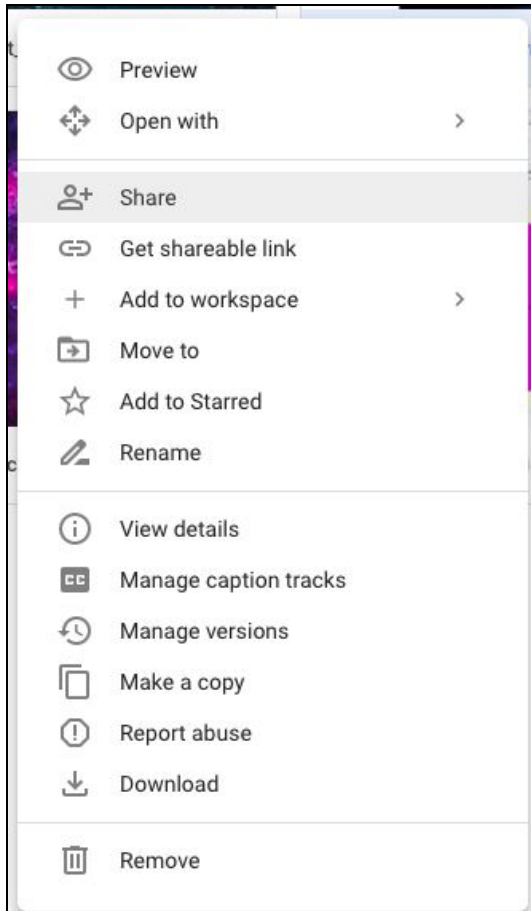


4. Then select the video file from your system and upload it.

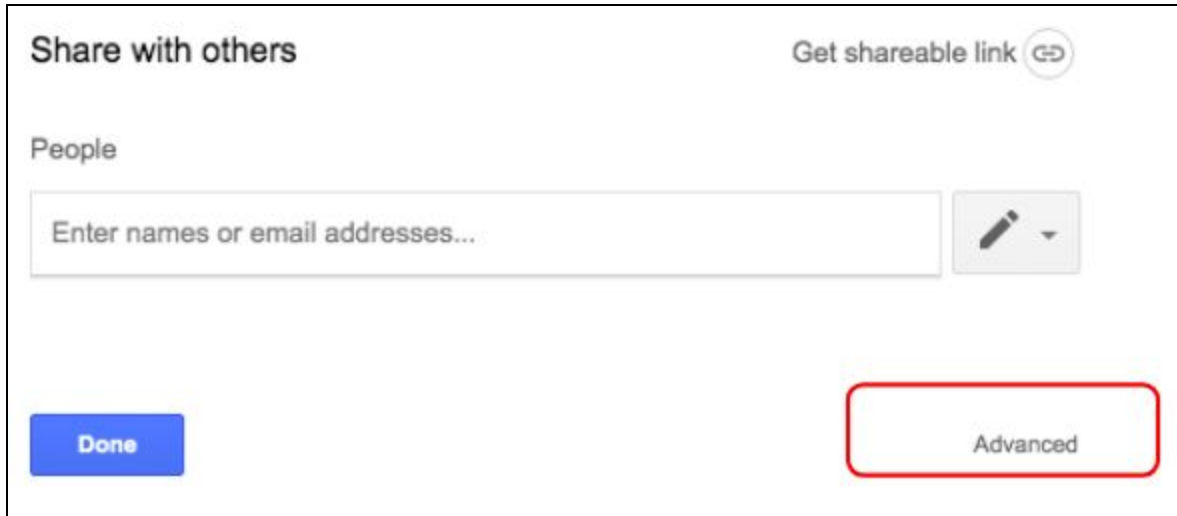



**5. To share the video:**

- **For window users** - Right-click on that uploaded video on google drive and select share option.
- **For MAC users** - Press control + left click on that uploaded video on google drive and select share option.



6. Click on **Advanced**.



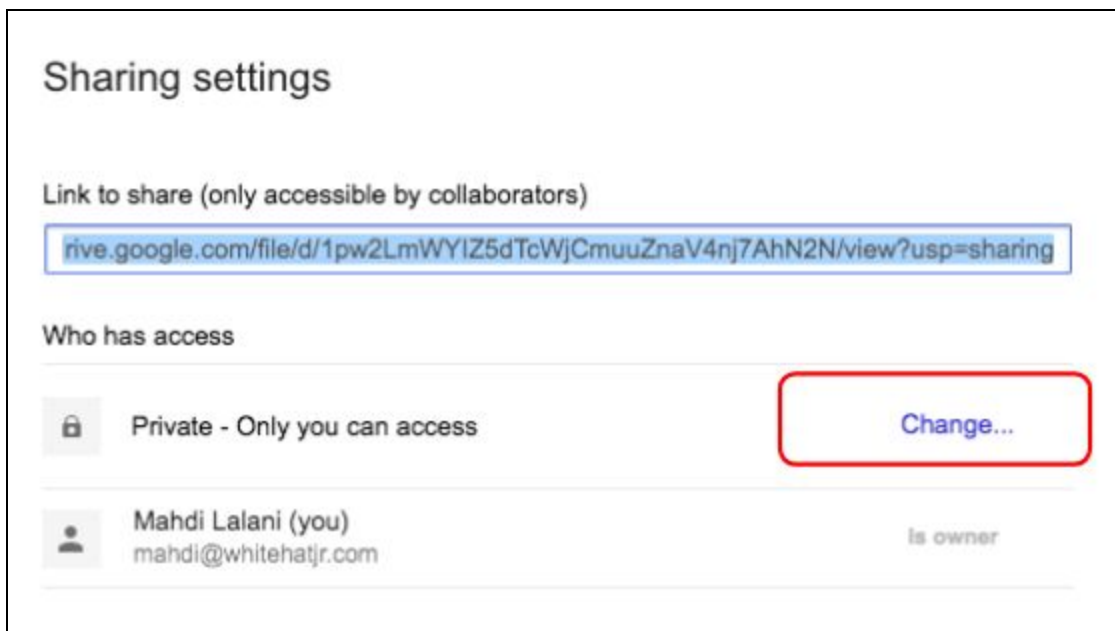
Share with others Get shareable link 

People

Enter names or email addresses...

Done Advanced

7. Click on **Change**.





Sharing settings

Link to share (only accessible by collaborators)

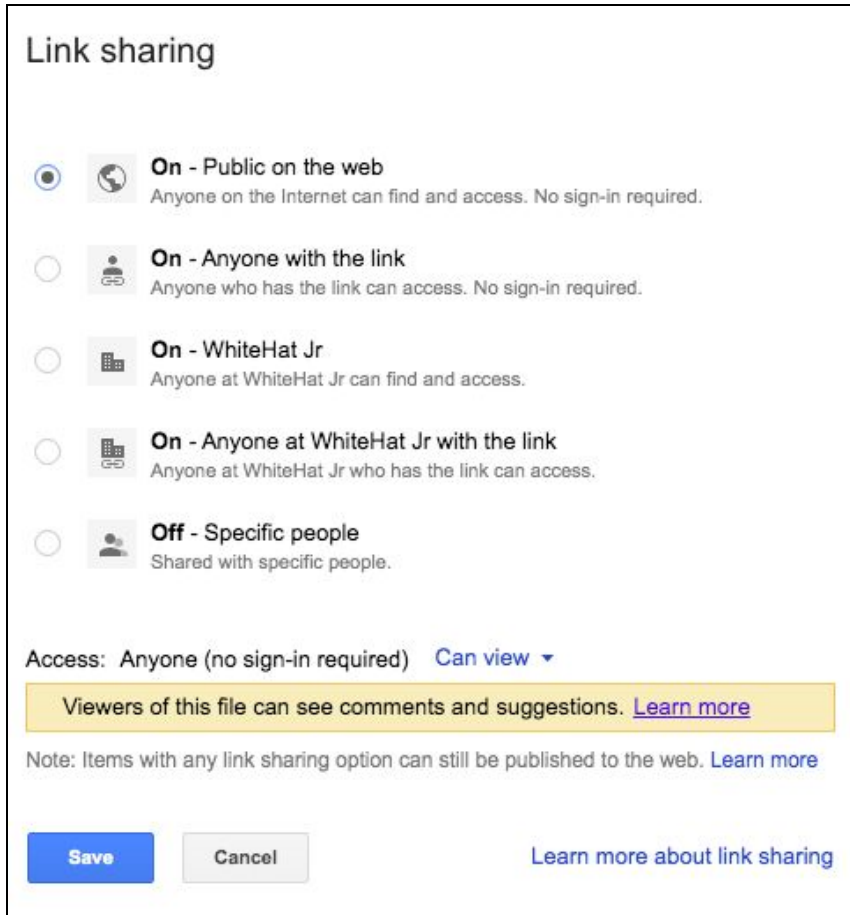
<rive.google.com/file/d/1pw2LmWYIZ5dTcWjCmuuZnaV4nj7AhN2N/view?usp=sharing>

Who has access


 Private - Only you can access Change...


 Mahdi Lalani (you)  
mahdi@whitehatjr.com is owner


8. Click **On - Public on the web**, and press **Save**.





Link sharing

☒  **On - Public on the web**  
Anyone on the Internet can find and access. No sign-in required.

☐  **On - Anyone with the link**  
Anyone who has the link can access. No sign-in required.

☐  **On - WhiteHat Jr**  
Anyone at WhiteHat Jr can find and access.

☐  **On - Anyone at WhiteHat Jr with the link**  
Anyone at WhiteHat Jr who has the link can access.

☐  **Off - Specific people**  
Shared with specific people.

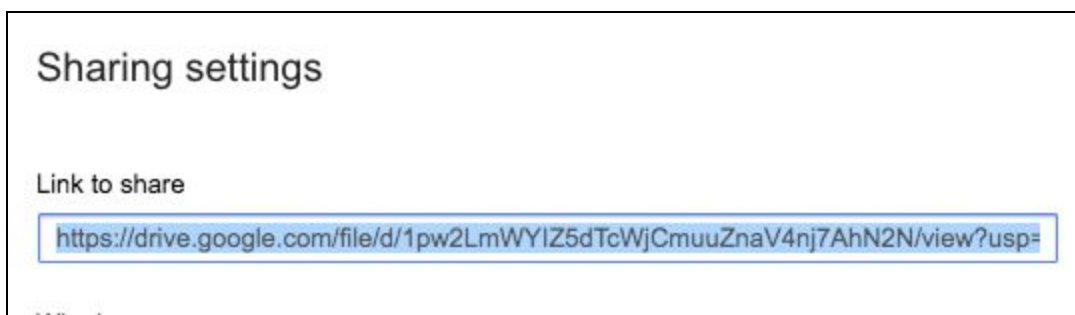
Access: Anyone (no sign-in required) [Can view](#) ▾

Viewers of this file can see comments and suggestions. [Learn more](#)

Note: Items with any link sharing option can still be published to the web. [Learn more](#)

[Save](#) [Cancel](#) [Learn more about link sharing](#)

9. Get a link from the **Link to share** input box as per the image below. Copy the link and submit on the student panel.



Sharing settings

Link to share

<https://drive.google.com/file/d/1pw2LmWYIZ5dTcWjCmuuZnaV4nj7AhN2N/view?usp=>

**Note:**

- If finding difficulty to record the video take the help of your elders at your home, and if they suggest any better way to record the screen follow them and get the video link and submit on the panel. The video link is important and not the way/process.
- If finding difficulty to upload video on Youtube and get the link, upload on google drive and get the link, because the video link is important and not the way/process.

**Hints:**

1. To know more on how to train a model - [Click here](#).

**REMEMBER...** Try your best, that's more important than being correct.

After submitting your project your teacher will send you feedback on your work.

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