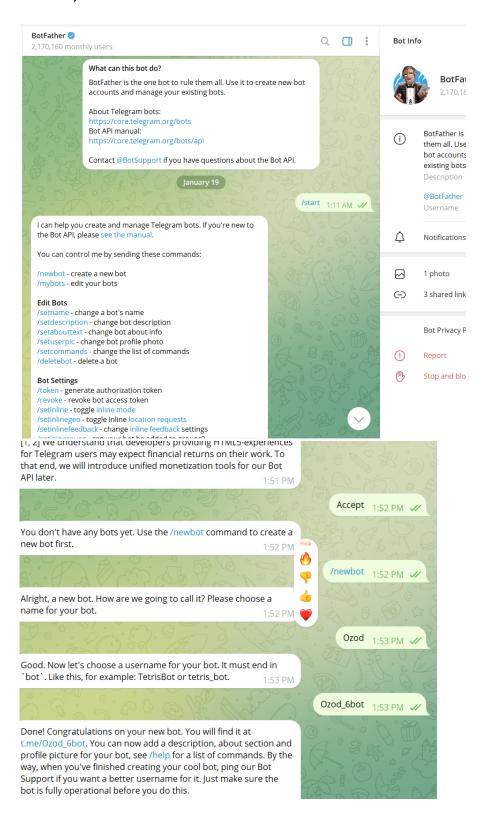
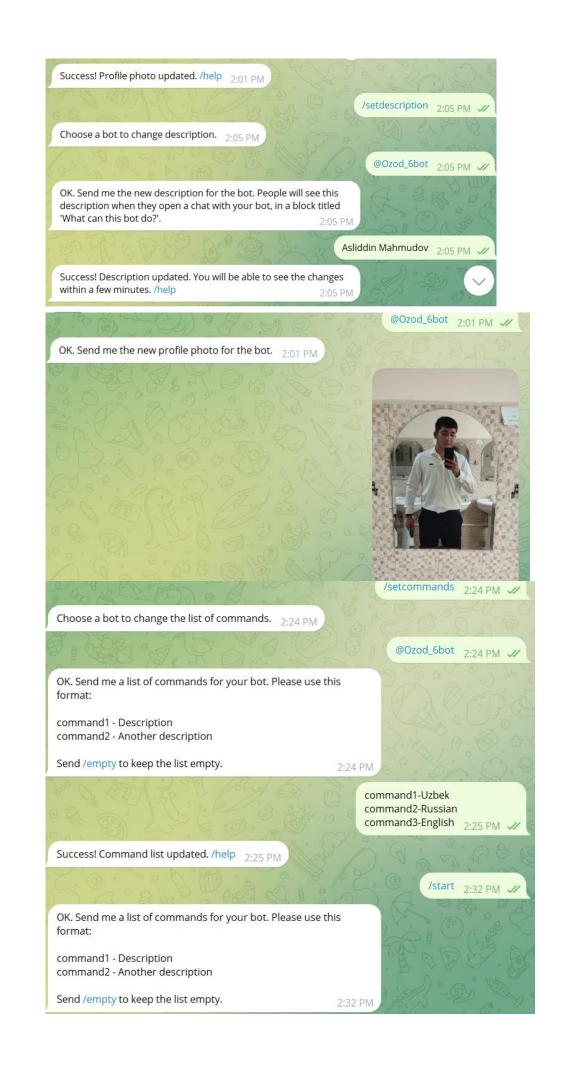
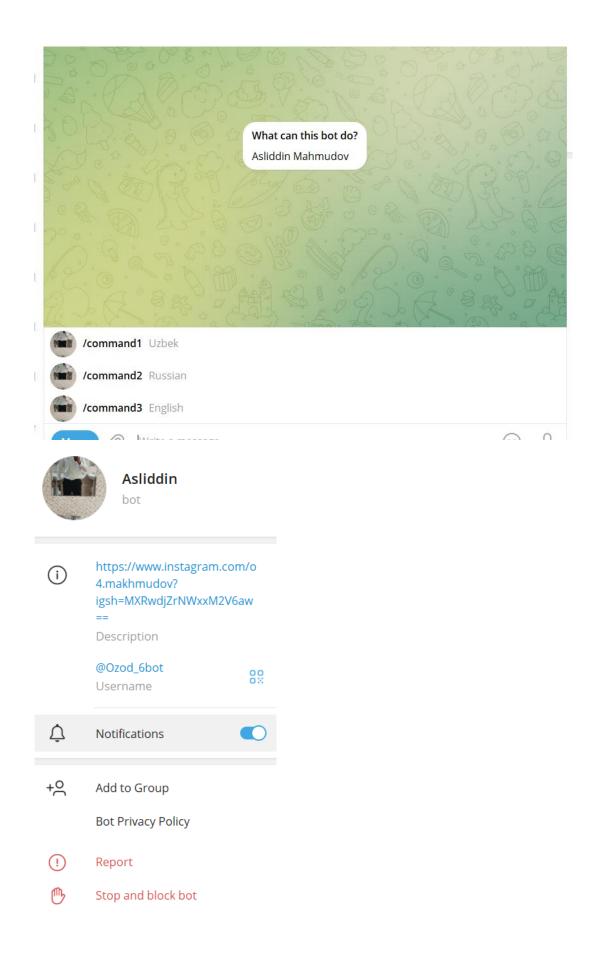
613-23 guruh Taabasi Mahmudov Asliddin \

1- Topshiriq

Bot yaratilish jarayoni va uni izohlar bilan screen shoti (bot silkasi yashil 24 shrifda)







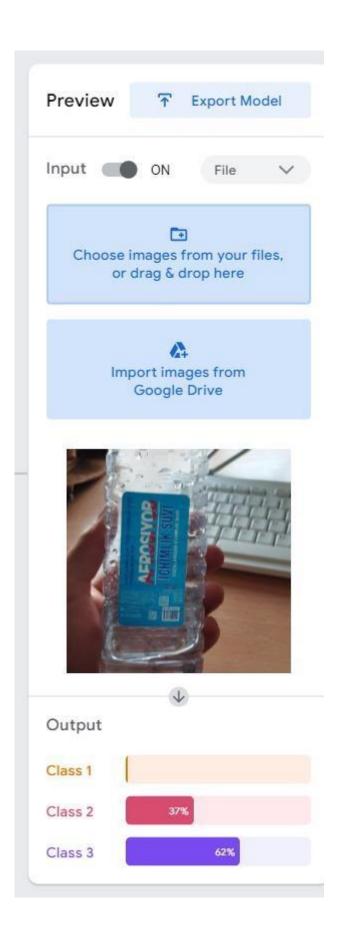
2- Topshiriq

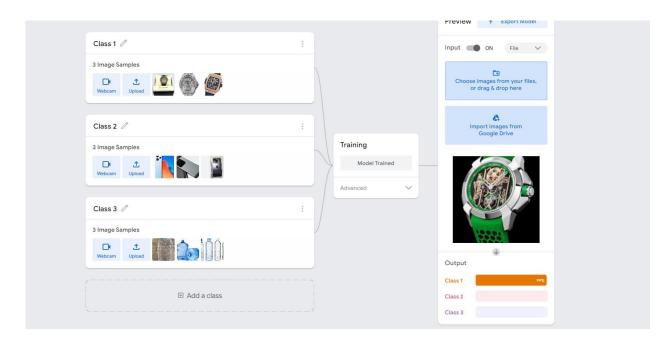
Teachable machineda ma'lumotlar tahlili va dastur kodi

```
<div>Teachable Machine Image Model</div>
      <button type="button" onclick="init()">Start</button>
      <div id="webcam-container"></div>
      <div id="label-container"></div>
      <script
src="https://cdn.jsdelivr.net/npm/@tensorflow/tfjs@latest/dist/tf.min.js"></script>
      <script
src="https://cdn.jsdelivr.net/npm/@teachablemachine/image@latest/dist/teachable
machine-image.min.js"></script> <script type="text/javascript">
                                                                  // More API
functions here:
              // https://github.com/googlecreativelab/teachablemachine-
     community/tree/master/libraries/image
        // the link to your model provided by Teachable Machine export panel
const URL = "./my_model/";
        let model, webcam, labelContainer, maxPredictions;
                                                        async function init() {
        // Load the image model and setup the webcam
          const modelURL = URL + "model.json";
                                                          const metadataURL =
URL + "metadata.json";
          // load the model and metadata
          // Refer to tmImage.loadFromFiles() in the API to support files from a
file picker
          // or files from your local hard drive
          // Note: the pose library adds "tmImage" object to your window
                                     model = await tmImage.load(modelURL,
     (window.tmImage)
metadataURL);
                    maxPredictions = model.getTotalClasses();
          // Convenience function to setup a webcam
                                                            const flip = true; //
whether to flip the webcam
                               webcam = new tmImage.Webcam(200, 200, flip);
// width, height, flip
                        await webcam.setup(); // request access to the webcam
          await webcam.play();
                                    window.requestAnimationFrame(loop);
                                                                         DOM
          //
                    append
                                   elements
                                                              the
                                                    to
document.getElementById("webcam-
```

```
container").appendChild(webcam.canvas);
                                                                      labelContainer =
document.getElementById("label-container");
                                                       for (let i = 0; i < maxPredictions;
i++)
                                                                                    labels
                                                and
                                                                 class
labelContainer.appendChild(document.createElement("div"));
         async function loop() {
            webcam.update(); // update the webcam frame
                                                                         await predict();
window.requestAnimationFrame(loop);
         // run the webcam image through the image model
         async function predict() {
            // predict can take in an image, video or canvas html element
                                                                                    const
prediction = await model.predict(webcam.canvas);
            for (let i = 0; i < maxPredictions; i++) {
                                                                const classPrediction =
                        prediction[i].className
                                                                           +
      prediction[i].probability.toFixed(2);
labelContainer.childNodes[i].innerHTML = classPrediction;
         }
       </script>
         Class 1
                                                                     Input ON
         3 Image Samples
                                                                             •
                                                                          se images from your files
or drag & drop here
          Class 2
                                                   Training
         3 Image Samples
                                                      Model Trained
          Class 3
         3 Image Samples
          Output

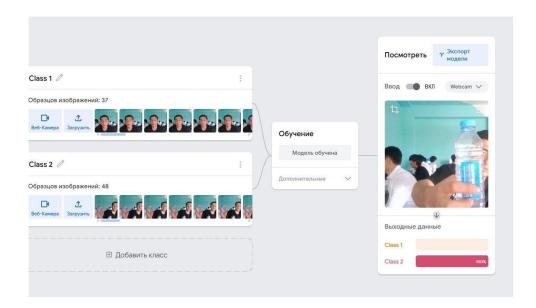
   Add a class
```

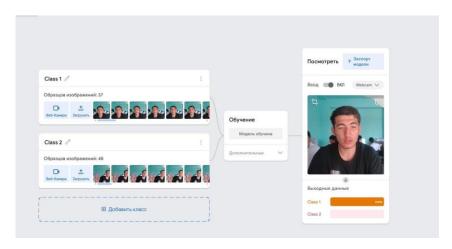




```
<div>Teachable Machine Image Model</div>
      <button type="button" onclick="init()">Start</button>
      <div id="webcam-container"></div>
      <div id="label-container"></div>
      <script
src="https://cdn.jsdelivr.net/npm/@tensorflow/tfjs@latest/dist/tf.min.js"></script>
      <script
src="https://cdn.jsdelivr.net/npm/@teachablemachine/image@latest/dist/teachable
machine-image.min.js"></script> <script type="text/javascript">
                                                                    // More API
functions here:
                 https://github.com/googlecreativelab/teachablemachine-
      community/tree/master/libraries/image
        // the link to your model provided by Teachable Machine export panel
const URL = "./my_model/";
        let model, webcam, labelContainer, maxPredictions;
        // Load the image model and setup the webcam
                                                         async function init() {
          const modelURL = URL + "model.json";
                                                          const metadataURL =
URL + "metadata.json";
          // load the model and metadata
          // Refer to tmImage.loadFromFiles() in the API to support files from a
file picker
          // or files from your local hard drive
          // Note: the pose library adds "tmImage" object to your window
```

```
model = await tmImage.load(modelURL,
      (window.tmImage)
                    maxPredictions = model.getTotalClasses();
metadataURL);
          // Convenience function to setup a webcam
                                                             const flip = true; //
                                webcam = new tmImage.Webcam(200, 200, flip);
whether to flip the webcam
                          await webcam.setup(); // request access to the webcam
// width, height, flip
                          window.requestAnimationFrame(loop);
await webcam.play();
                    append
                                                                          DOM
                                   elements
                                                    to
                                                              the
document.getElementById("webcam-
      container").appendChild(webcam.canvas);
                                                              labelContainer =
document.getElementById("label-container");
                                                 for (let i = 0; i < maxPredictions;
                                                                          labels
                                          and
                                                         class
labelContainer.appendChild(document.createElement("div"));
           }
        }
        async function loop() {
                                   webcam.update(); // update the webcam frame
                    window.requestAnimationFrame(loop);
await predict();
        }
        // run the webcam image through the image model
        async function predict() {
          // predict can take in an image, video or canvas html element
                                                                          const
prediction = await model.predict(webcam.canvas);
          for (let i = 0; i < maxPredictions; i++) {
                                                         const classPrediction =
                     prediction[i].className
      prediction[i].probability.toFixed(2);
labelContainer.childNodes[i].innerHTML = classPrediction;
      </script>
```





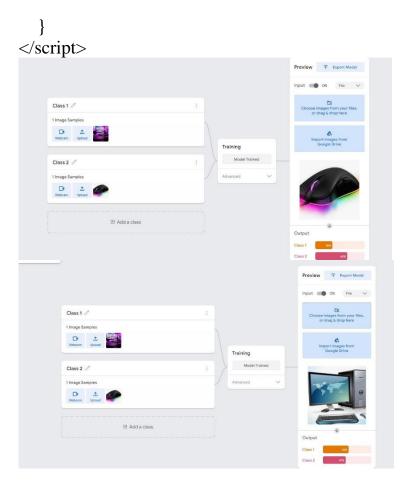
```
<div>Teachable Machine Image Model</div>
<button type="button" onclick="init()">Start</button>
<div id="webcam-container"></div>
<div id="label-container"></div>
<script</pre>
```

src="https://cdn.jsdelivr.net/npm/@tensorflow/tfjs@latest/dist/tf.min.js"></script>
<script</pre>

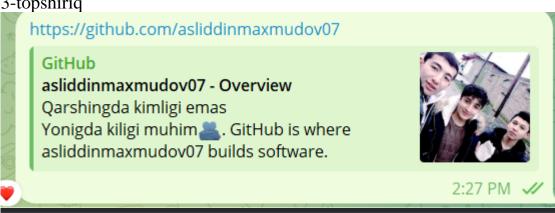
src="https://cdn.jsdelivr.net/npm/@teachablemachine/image@latest/dist/teachablemachine-image.min.js"></script> <script type="text/javascript"> // More API functions here:

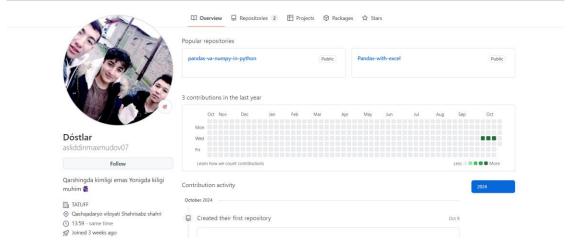
// https://github.com/googlecreativelab/teachablemachine-community/tree/master/libraries/image

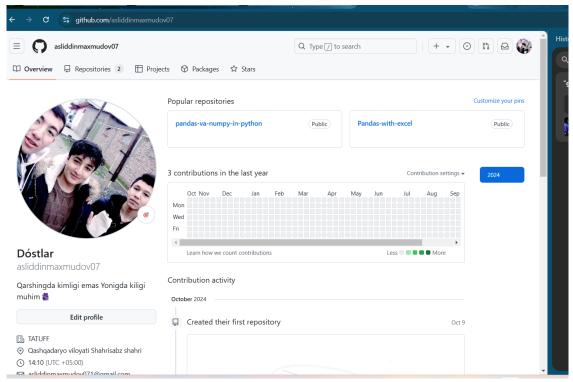
```
// the link to your model provided by Teachable Machine export panel
const URL = "./my_model/";
        let model, webcam, labelContainer, maxPredictions;
        // Load the image model and setup the webcam
                                                        async function init() {
          const modelURL = URL + "model.json";
                                                          const metadataURL =
URL + "metadata.json";
          // load the model and metadata
          // Refer to tmImage.loadFromFiles() in the API to support files from a
file picker
          // or files from your local hard drive
          // Note: the pose library adds "tmImage" object to your window
                                     model = await tmImage.load(modelURL,
      (window.tmImage)
                    maxPredictions = model.getTotalClasses();
metadataURL);
          // Convenience function to setup a webcam
                                                            const flip = true; //
                               webcam = new tmImage.Webcam(200, 200, flip);
whether to flip the webcam
                          await webcam.setup(); // request access to the webcam
// width, height, flip
                         window.requestAnimationFrame(loop);
await webcam.play();
                    append
                                   elements
                                                    to
                                                              the
                                                                         DOM
document.getElementById("webcam-
      container").appendChild(webcam.canvas);
                                                              labelContainer =
document.getElementById("label-container");
                                                for (let i = 0; i < maxPredictions;
                                          and
                                                         class
                                                                          labels
labelContainer.appendChild(document.createElement("div"));
          }
        async function loop() {
          webcam.update(); // update the webcam frame
          await predict();
          window.requestAnimationFrame(loop);
        }
        // run the webcam image through the image model
        async function predict() {
          // predict can take in an image, video or canvas html element
                                                                          const
prediction = await model.predict(webcam.canvas);
          for (let i = 0; i < maxPredictions; i++) {
                                                        const classPrediction =
                     prediction[i].className
      prediction[i].probability.toFixed(2);
labelContainer.childNodes[i].innerHTML = classPrediction;
```



3-topshiriq







4 topshiriq

Pandas va numpy kutubhonasi google colabda aks ettirish va github ga joylash

```
df = pd.DataFrame(data)
      # 2. Ma'lumotlarni ko'rish
      print (df)
      # 3. Filtrlash
      young_people = df[df['Yoshi'] < 30]</pre>
      print("30 yoshdan kichiklar:\n", young_people)
      # 4. O'zgartirish
      df['Yoshi'] += 1 # Har bir shaxsning yoshini 1 ga oshirish
      print("Yangilangan DataFrame:\n", df)
      # 5. CSV formatda saqlash
      df.to_csv('data.csv', index=False)
   -
      Ism Yoshi Shahar
          Ali 25 Toshkent
      1 Vali
                  30 Samarqand
      2 Sardor 22 Buxoro
      30 yoshdan kichiklar:
           Ism Yoshi Shahar
      0 Ali 25 Toshkent
2 Sardor 22 Buxoro
      Yangilangan DataFrame:
           Ism Yoshi Shahar
      0
           Ali 26 Toshkent
      1 Vali 31 Samarqand
2 Sardor 23 Buxoro
Далее: Объяснить ошибку
```

[9] print (df.head(10))

∑₹

Ism Yoshi

2 Sardor 23

Ali 26 Toshkent Vali 31 Samarqand

Shahar

Buxoro

Toshkent

```
ndarray: array_1d
     ndarray with shape (5,)
    array 1d = np.array([1, 2, 3, 4, 5])
    array_2d = np.array([[1, 2, 3], [4, 5, 6]])
    # 2. Matematik operatsiyalar
    sum_array = np.sum(array_1d)
    mean_array = np.mean(array_1d)
    product array = np.prod(array 1d)
    print("1D Massiv: ", array_1d)
    print("2D Massiv:\n", array 2d)
    print("Massivlar yig'indisi: ", sum array)
    print("O'rtacha: ", mean_array)
    print("Ko'paytma: ", product array)
→ 1D Massiv: [1 2 3 4 5]
    2D Massiv:
    [[1 2 3]
    [4 5 6]]
    Massivlar yig'indisi: 15
    O'rtacha: 3.0
    Ko'paytma: 120
[6] import pandas as pd
    # 1. DataFrame yaratish
    data = {
        'Ism': ['Ali', 'Vali', 'Sardor'],
        'Yoshi': [25, 30, 22],
        'Shahar': ['Toshkent', 'Samarqand', 'Buxoro']
```