

```

{
  "cells": [
    {
      "cell_type": "code",
      "execution_count": null,
      "id": "778f3850",
      "metadata": {},
      "outputs": [],
      "source": []
    },
    {
      "cell_type": "markdown",
      "id": "563e4faf",
      "metadata": {},
      "source": [
        "# IBM Project Name: Real-Time Communication System Powered by AI for Specially Abled\n",
        "# TEAM ID: PNT2022TMID40863\n",
        "# TEAM Member: ARSHAD YUSUF KHAN M"
      ]
    },
    {
      "cell_type": "code",
      "execution_count": null,
      "id": "c497eb4d",
      "metadata": {},
      "outputs": [],
      "source": [
        "\n",
        "import cv2 #mporting opencv Library this i to open camera and take the video\n",
        "import numpy as np # to convert image to array and expand dimensions\n",
        "from tensorflow.keras.models import load_model # to Load the saved model\n",

```

```

"from tensorflow.keras.preprocessing import image # to preprocess the image\n",
"model = load_model(\"dataset.h5\") # we are loading the saved moodek\n",
"video = cv2.VideoCapture(0) # two parameters 1, bool 0 or 1, frame\n",
"index = [\"A\", \"B\", \"C\", \"D\", \"E\", \"F\", \"G\", \"H\", \"I\"]\n",
"index=[ 'A', 'B', 'C', 'D', 'E', 'F', 'G', 'H', 'I']\n",
"#from playsound import playsound\n",
"while(1):\n",
"    success,frame = video.read()\n",
"    cv2.imwrite(\"image.jpg\",frame)\n",
"    img = image.load_img(\"image.jpg\",target_size = (64,64))\n",
"    x = image.img_to_array(img)\n",
"    x = np.expand_dims (x,axis = 0)\n",
"    pred = np.argmax(model.predict(x),axis=1)\n",
"    p = index [pred[0]]\n",
"    print(\"predicted letter is: \" + str(p))\n",
"    #playSound(\"letter\"+str(str(index [p])+\n"\"is detected\")\n",
"    cv2.putText (frame, \"predicted letter is \" +str(p), (100, 100), cv2. FONT_HERSHEY_SIMPLEX,
1,(0,0,0), 4)\n",
"    cv2.imshow(\"showcasewindow\", frame)\n",
"    \n",
"    if cv2.waitKey(1) & 0xFF == ord('a'):\n",
"        break\n",
"video.release()\n",
"cv2.destroyAllWindows()
]
},
{
"cell_type": "markdown",
"id": "e5fb95ee",
"metadata": {},
"source": []

```

```
}  
],  
"metadata": {  
  "kernel_spec": {  
    "display_name": "Python 3.10.0 64-bit",  
    "language": "python",  
    "name": "python3"  
  },  
  "language_info": {  
    "codemirror_mode": {  
      "name": "ipython",  
      "version": 3  
    },  
    "file_extension": ".py",  
    "mimetype": "text/x-python",  
    "name": "python",  
    "nbconvert_exporter": "python",  
    "pygments_lexer": "ipython3",  
    "version": "3.10.0"  
  },  
  "vscode": {  
    "interpreter": {  
      "hash": "26de051ba29f2982a8de78e945f0abaf191376122a1563185a90213a26c5da77"  
    }  
  }  
},  
"nbformat": 4,  
"nbformat_minor": 5  
}
```