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  "import os\n",
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  "from tensorflow.keras.layers import Dense, Conv2D, Flatten, Dropout, MaxPooling2D\n",
  "from tensorflow.keras.preprocessing.image import ImageDataGenerator\n",
  "import numpy as np\n",
  "import matplotlib.pyplot as plt\n",
  "import IPython.display as display\n",
  "from PIL import Image\n",
  "import pathlib"
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```

```
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  "from tensorflow.keras.layers import Conv2D, MaxPooling2D\n",
  "from keras.layers import Dropout\n",
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```

x_test))"

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     "216/216 [===============] - 39s 181ms/step - loss: 0.0356 - accuracy:
0.9900 - val loss: 7.9273 - val accuracy: 0.6461\n",
     "Epoch 3/5\n",
     "216/216 [================] - 42s 197ms/step - loss: 0.0294 - accuracy:
0.9923 - val_loss: 7.7494 - val_accuracy: 0.6469\n",
     "Epoch 4/5\n",
     "216/216 [==============] - 41s 190ms/step - loss: 0.0173 - accuracy:
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     "Epoch 5/5\n",
```

```
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    "import cv2"
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```

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  "def detect(frame):\n",
  " img=image.img_to_array(frame)\n",
  " img = resize(img,(64,64,1))\n",
  " img = np.expand_dims(img,axis=0)\n",
  " pred=np.argmax(model.predict(img))\n",
  " op=['A','B','C','D','E','F','G','H','I']\n",
    print(\"THE PREDICTED LETTER IS \",op[pred])"
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{
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  "def detect(frame):\n",
```

```
" img=resize(frame,(64,64,1))\n",
  " img=np.expand\_dims(img,axis=0)\n",
  " if(np.max(img)>1):\n",
  " prediction=model.predict(img)\n",
  " print(prediction)\n",
  " prediction=model.predict_classes(img)\n",
  " print(prediction)"
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  "data=detect(frame)\n",
  "from google.colab.patches import cv2_imshow\n",
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  "cv2.waitKey(0)\n",
  "cv2.destroyAllWindows()"
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