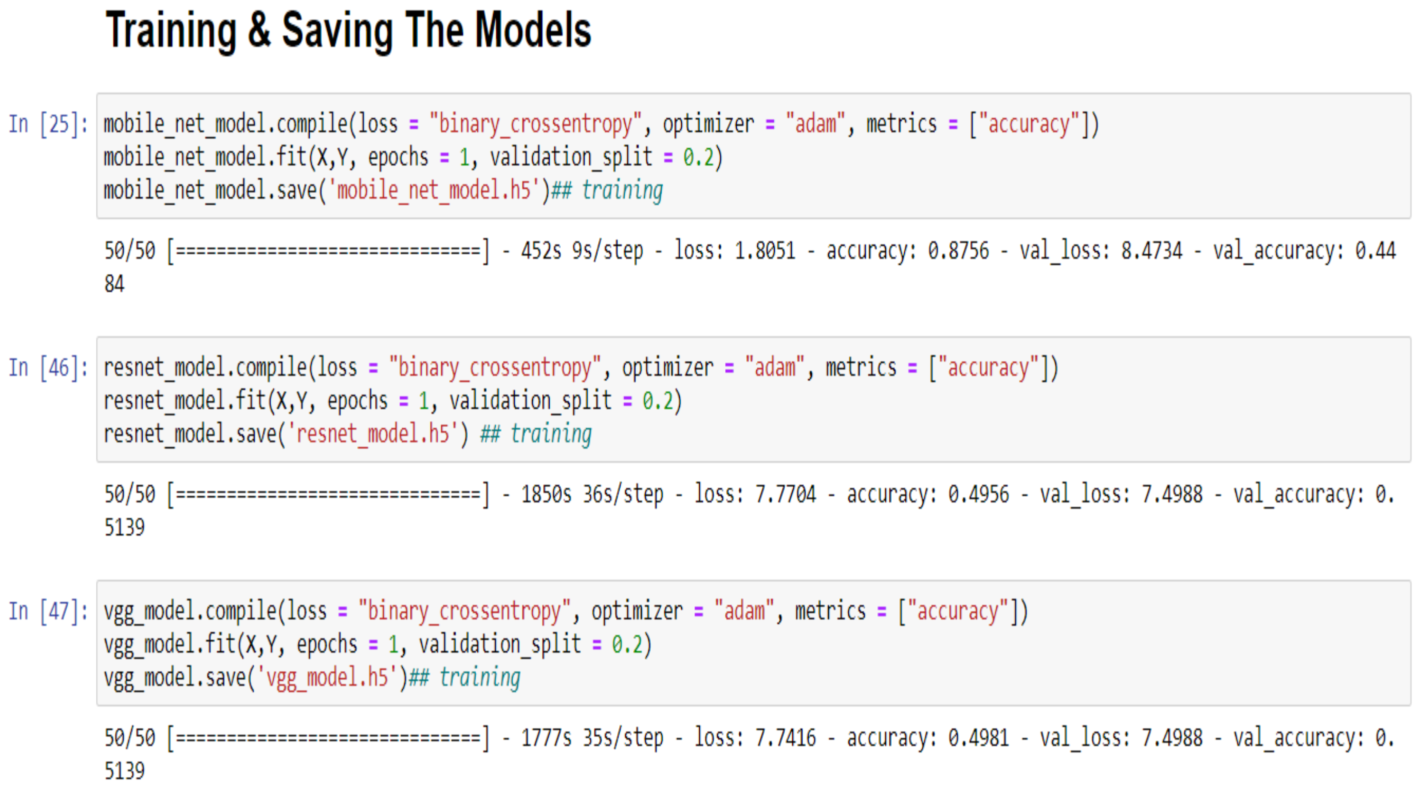
Real-Time Driver Drowsiness Detection System Resultant Outputs

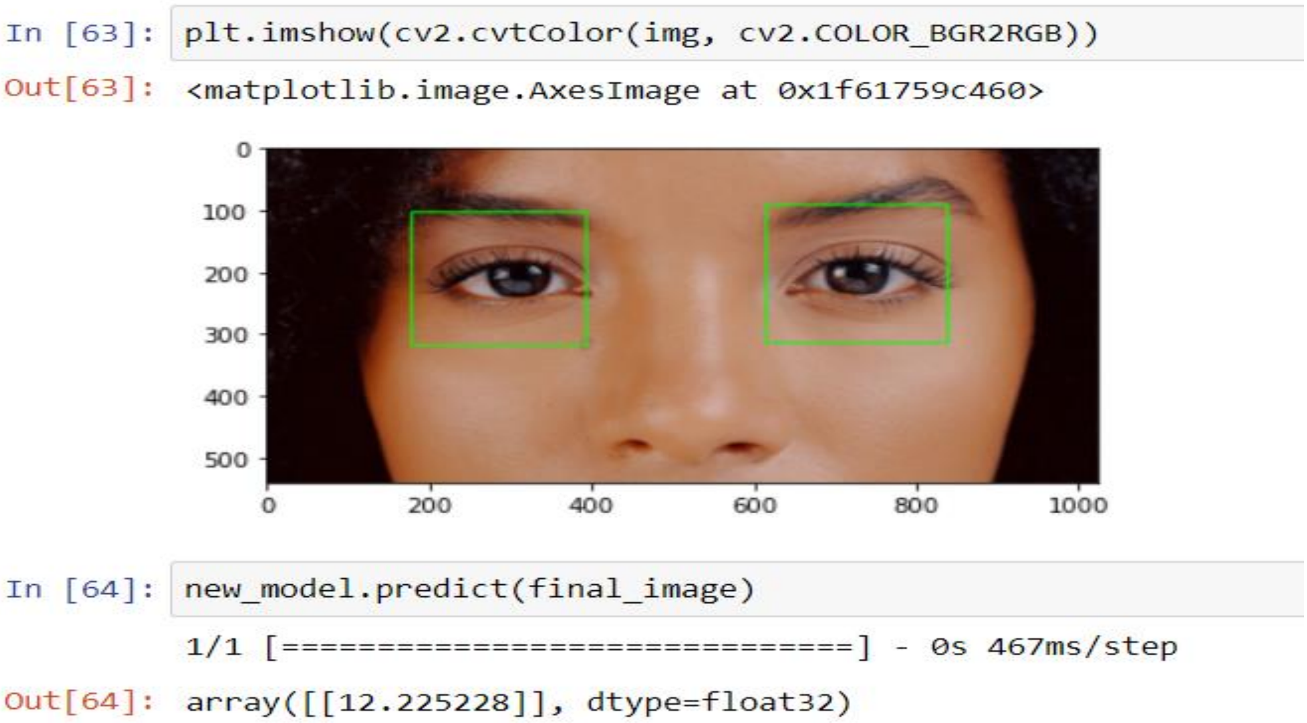
1. Competitive Study Of MobileNet, ResNet & VGG



Training & Saving The Models

```
In [25]: mobile_net_model.compile(loss = "binary_crossentropy", optimizer = "adam", metrics = ["accuracy"])
         mobile_net_model.fit(X,Y, epochs = 1, validation_split = 0.2)
         mobile_net_model.save('mobile_net_model.h5')## training

         50/50 [==============================] - 452s 9s/step - loss: 1.8051 - accuracy: 0.8756 - val_loss: 8.4734 - val_accuracy: 0.44
         84

In [46]: resnet_model.compile(loss = "binary_crossentropy", optimizer = "adam", metrics = ["accuracy"])
         resnet_model.fit(X,Y, epochs = 1, validation_split = 0.2)
         resnet_model.save('resnet_model.h5') ## training

         50/50 [==============================] - 1850s 36s/step - loss: 7.7704 - accuracy: 0.4956 - val_loss: 7.4988 - val_accuracy: 0.
         5139

In [47]: vgg_model.compile(loss = "binary_crossentropy", optimizer = "adam", metrics = ["accuracy"])
         vgg_model.fit(X,Y, epochs = 1, validation_split = 0.2)
         vgg_model.save('vgg_model.h5')## training

         50/50 [==============================] - 1777s 35s/step - loss: 7.7416 - accuracy: 0.4981 - val_loss: 7.4988 - val_accuracy: 0.
         5139
```

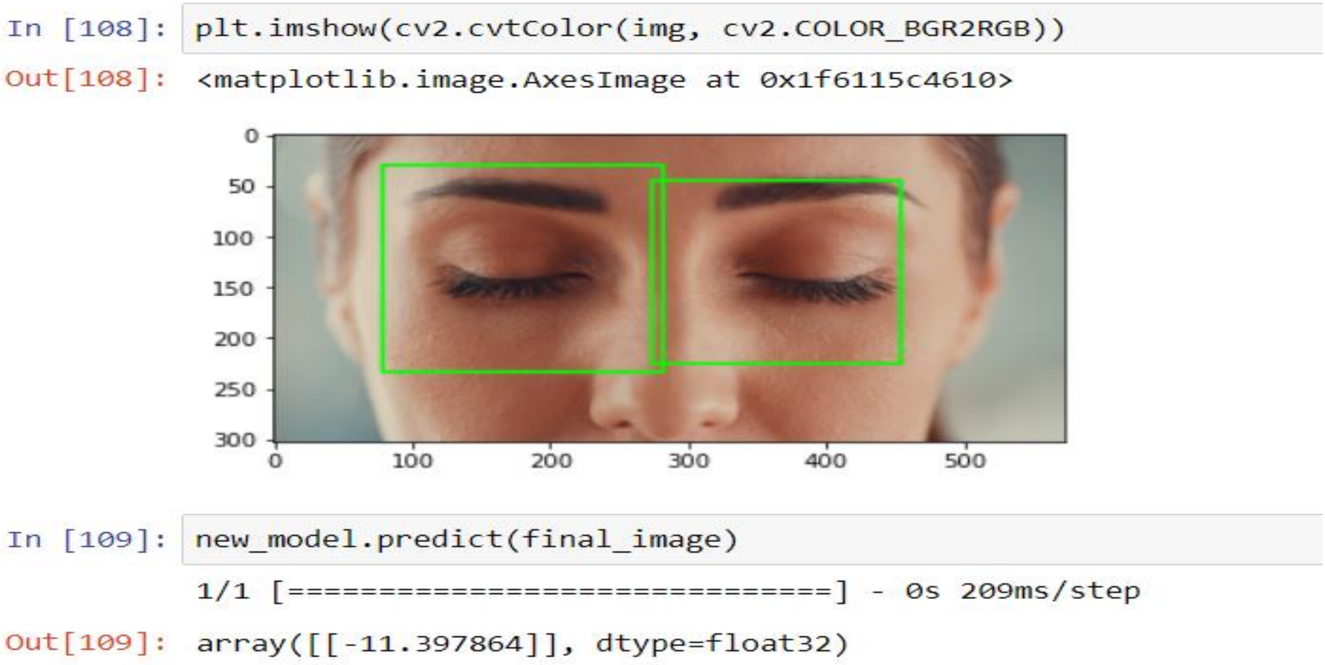
2. Positive Prediction Value For Open Eyes



```
In [63]: plt.imshow(cv2.cvtColor(img, cv2.COLOR_BGR2RGB))
Out[63]: <matplotlib.image.AxesImage at 0x1f61759c460>
```

```
In [64]: new_model.predict(final_image)
         1/1 [==============================] - 0s 467ms/step
Out[64]: array([[12.225228]], dtype=float32)
```

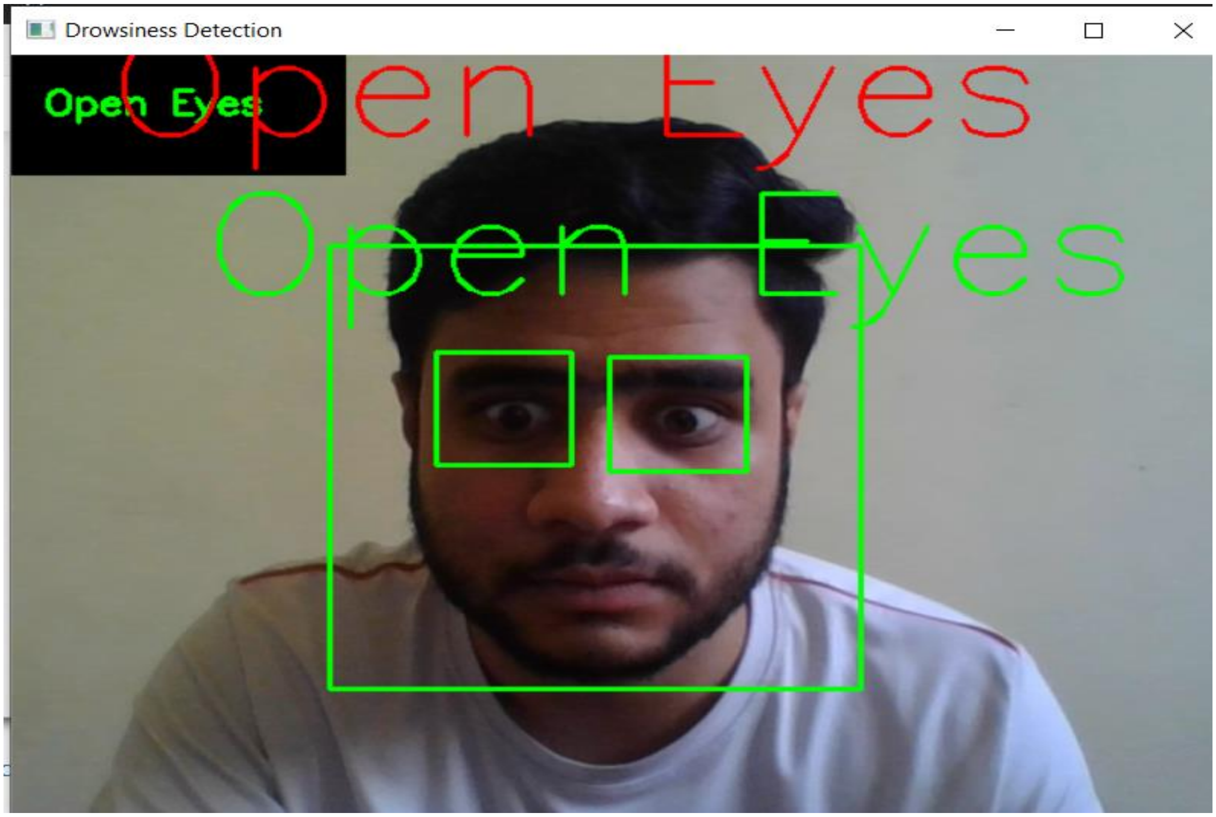
3. Negative Prediction Value For Open Eyes



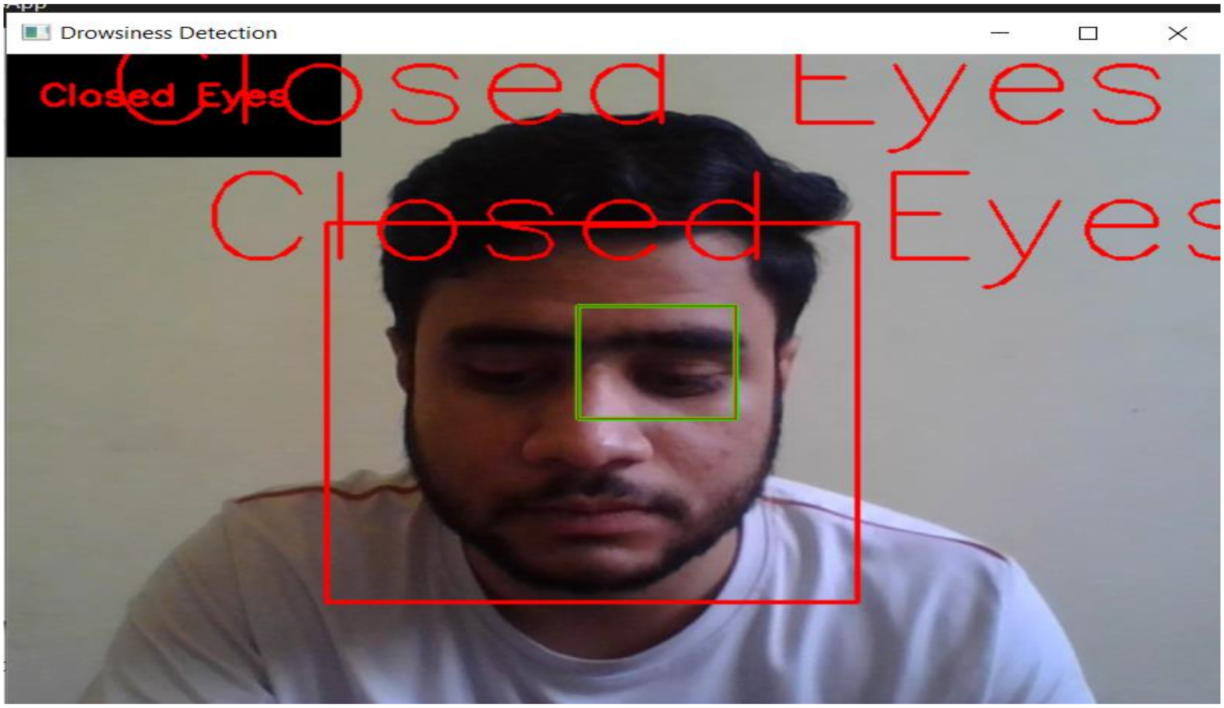
```
In [108]: plt.imshow(cv2.cvtColor(img, cv2.COLOR_BGR2RGB))
Out[108]: <matplotlib.image.AxesImage at 0x1f6115c4610>
```

```
In [109]: new_model.predict(final_image)
          1/1 [==============================] - 0s 209ms/step
Out[109]: array([[-11.397864]], dtype=float32)
```

4. **Real Time Drowsiness Detection (Open Eyes)**



5. **Real Time Drowsiness Detection (Close Eyes)**


Drowsiness Detection
Closed Eyes
Closed Eyes
Closed Eyes