

./VisualStudio

- MSVS project for distracted and drowsy driving detection

./apps

- Other functions offered by Stasm library.

./data

- Cascade classifier

./stasm

- source code of stasm library. It has been optimized for 194-landmark model
- ./MOD_1/mh: generated model files

./tasm

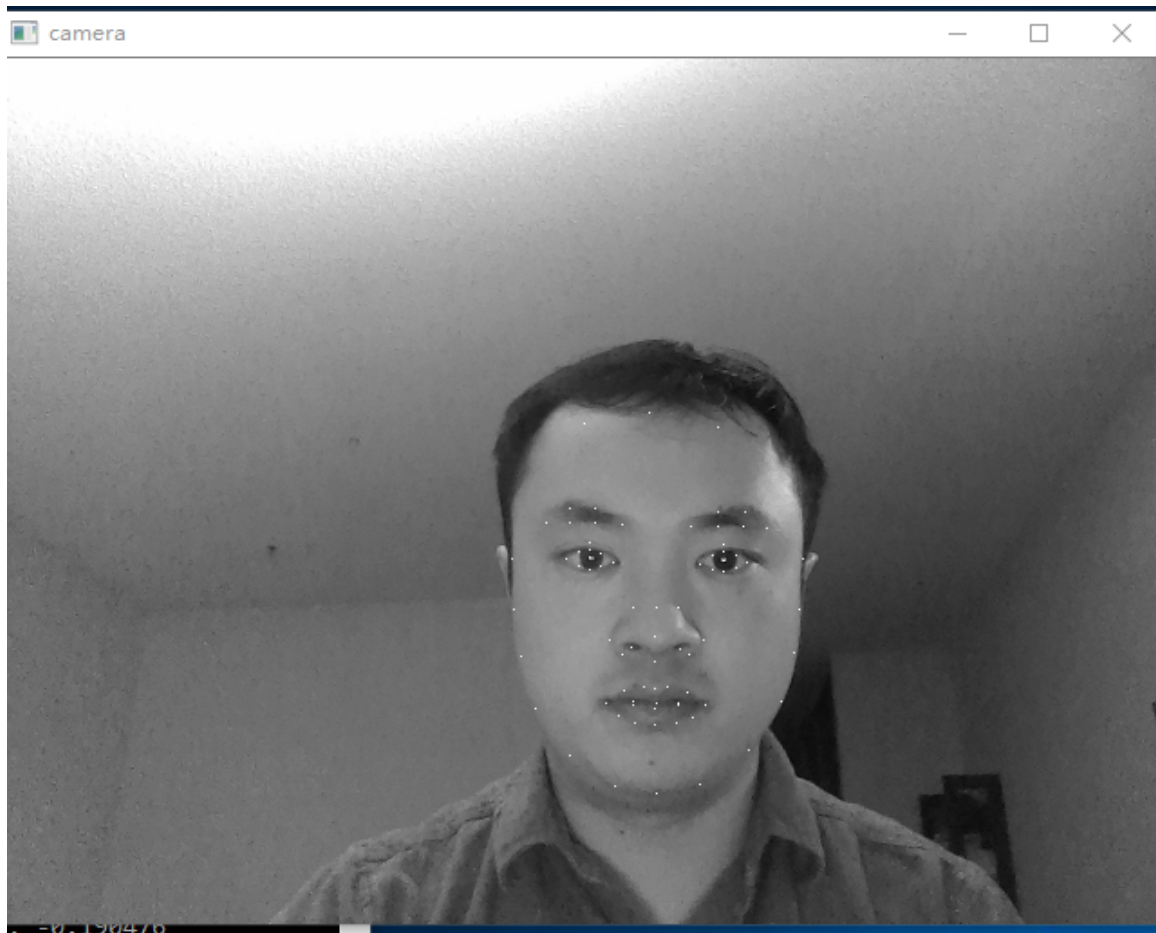
- source code from stasm library

input C++ libraries

opencv_calib3d249.lib; opencv_contrib249.lib; opencv_core249.lib;
opencv_features2d249.lib; opencv_flann249.lib; opencv_gpu249.lib;
opencv_highgui249.lib; opencv_imgproc249.lib; opencv_legacy249.lib;
opencv_ml249.lib; opencv_nonfree249.lib; opencv_objdetect249.lib;
opencv_photo249.lib; opencv_stitching249.lib; opencv_ts249.lib;
opencv_video249.lib; opencv_videostab249.lib;

opencv_calib3d249d.lib; opencv_contrib249d.lib; opencv_core249d.lib;
opencv_features2d249d.lib; opencv_flann249d.lib; opencv_gpu249d.lib;
opencv_highgui249d.lib; opencv_imgproc249d.lib; opencv_legacy249d.lib;
opencv_ml249d.lib; opencv_nonfree249d.lib; opencv_objdetect249d.lib;
opencv_photo249d.lib; opencv_stitching249d.lib; opencv_ts249d.lib;
opencv_video249d.lib; opencv_videostab249d.lib;

Facial landmark localization result



Information printed on the console

```

Upper face features: -0.0104167, 0.0108696, 42, 0.861905, -0.0416667, -0.05
Lower face features: 0.666667, 0.016129, -0.00259067, -323
Open Rate: 0.828571
nasal wrinkles: 54
Upper face features: -0, -0, 41, 0.828571, -0, 0
Lower face features: 0, 0, -0, -323
Open Rate: 0.828571
nasal wrinkles: 63
Upper face features: -0.0105263, -0.0322581, 39, 0.828571, 0.04, 0.0526316
Lower face features: -0.4, -0.047619, -0, -326
Open Rate: 0.861905
nasal wrinkles: 81
Upper face features: -0, -0, 40, 0.861905, -0, 0
Lower face features: 0, 0, -0, -326
Open Rate: 0.861905
nasal wrinkles: 83
Upper face features: 0.0106383, -0.0333333, 37, 0.861905, -0.115385, 0.05
Lower face features: -0.333333, 0, 0.0025974, -327
Open Rate: 0.828571
nasal wrinkles: 81
Upper face features: -0, -0, 36, 0.828571, -0, 0
Lower face features: 0, 0, -0, -327
Open Rate: 0.828571
nasal wrinkles: 76

```

When users looking to the left, a series of left arrows are printed on the console

```

nasal wrinkles: 50
Upper face features: -0, -0, 43, 0.875855, -0, 0
Lower face features: 0, 0, -0, -271
Open Rate: 0.875855
nasal wrinkles: 41
Upper face features: 0.019802, -0.0210526, 45, 0.875855, -
Lower face features: 0, 0.015625, -0, -270
<-- <-- <-- <-- <-- <--
Open Rate: 0.857576
nasal wrinkles: 64
Upper face features: -0, -0, 45, 0.857576, -0, 0
Lower face features: 0, 0, -0, -270
<-- <-- <-- <-- <-- <--
Open Rate: 0.857576
nasal wrinkles: 63

```

When drowsy driving is detected

```
nasal wrinkles: 87
Upper face features: -0.00917431, -0.0344828, 42, 0.802387, -0.0526316, -0.14285
Lower face features: -0.5, -0.0645161, -0.00429185, -175
Open Rate: 0.77037
=====Drowsy Driving Detected=====
nasal wrinkles: 85
Upper face features: -0, -0, 41, 0.77037, -0, 0
Lower face features: 0, 0, -0, -175
Open Rate: 0.77037
=====Drowsy Driving Detected=====
nasal wrinkles: 64
Upper face features: -0.037037, -0, 42, 0.77037, -0, 0
Lower face features: 0.5, 0.0172414, -0, -174
Open Rate: 0.77037
=====Drowsy Driving Detected=====
nasal wrinkles: 54
Upper face features: -0, -0, 43, 0.77037, -0, 0
Lower face features: 0, 0, -0, -174
Open Rate: 0.77037
=====Drowsy Driving Detected=====
nasal wrinkles: 48
```