Recently, we were looking at the libraries provided in Face Detection Data Set and Benchmark (FDDB) to find out the suitable ones and evaluate which one is better.

What we need for our project: face detector and face landmarks (features) detector.

So here are the libraries we have studied.

1. [**Face detection, pose estimation and landmark localization in the wild**](http://www.ics.uci.edu/~xzhu/paper/face-cvpr12.pdf)

Paper: <http://www.ics.uci.edu/~xzhu/paper/face-cvpr12.pdf>

Website: <http://www.ics.uci.edu/~xzhu/face/>

This library provides a landmark detector.

Pros and cons:

* Easy to use (where the code is already written)
* Output is accurate
* Information in comments is not enough, so it is hard to understand the code

1. **CascadeCNN – A Convolutional Neural Network Cascade for Face Detection**

Paper: <http://personal.stevens.edu/~hli18/papers/CVPR2015_CasCNN.pdf>

The library provides both face detector and point detector.

Face detector outputs a bounding box.

The point detector outputs the points on the photos and tells where the eyes, nose and mouth are.

Pros and cons:

* Accurate
* Only a few points (5 or 6 points) are output in the point detector

1. **Some other libraries in FDDB (not going to use)**

Libraries without code provided:

* DP2MFD – A Deep Pyramid Deformable Parts Model for Face Detection
* SURF Cascade

Libraries which are not suitable for our project:

* PEP-Adapt – Probabilistic Elastic Part Model for Unsupervised Face Detector Adaption
* ACF-multiscale – Aggregate channel features for multi-view face detection
* CCF – Convolutional Channel Features