## Our targets

Get the Feature of the faces by PCA

## profile

As we know, the images are consist of pixels, and an image is a multiple dimensions matrix for math and computer, in the aspect of extracting features with PCA, not all the information is available.

## theory

## [method](https://blog.csdn.net/puredreammer/article/details/52255025?ops_request_misc=%257B%2522request%255Fid%2522%253A%2522163981110516780274187767%2522%252C%2522scm%2522%253A%252220140713.130102334.pc%255Fall.%2522%257D&request_id=163981110516780274187767&biz_id=0&utm_medium=distribute.pc_search_result.none-task-blog-2~all~first_rank_ecpm_v1~rank_v31_ecpm-10-52255025.pc_search_result_cache&utm_term=python+++PCA&spm=1018.2226.3001.4187)

In the field of Machine Learning, sklearn package contain a PCA method, we could import it in python as the following code:

from sklearn.decomposition import PCA

reference: [the use of PCA](https://blog.csdn.net/qq_20135597/article/details/95247381?spm=1001.2101.3001.6650.3&utm_medium=distribute.pc_relevant.none-task-blog-2%7Edefault%7ECTRLIST%7Edefault-3.fixedcolumn&depth_1-utm_source=distribute.pc_relevant.none-task-blog-2%7Edefault%7ECTRLIST%7Edefault-3.fixedcolumn)

we should pass a gray image into the function,