|  |  |  |  |
| --- | --- | --- | --- |
|  | Fisherface | Eigenface | Linear Subspaces |
| Process | Recognizes that a face is a Labertian Surface. Ratio maximizing between-class scatter versus the within-class scatter. | Pure mathematical means of comparing eigenface values. | Recognizes that a face is a Labertian Surface (High Definition 3D linear subspace). |
| Criterion | Uses ***LDA*** to find the subspace representation of a set of face images. | Uses ***PCA*** to maximize the scatter of all projected samples. | Uses ***LDA*** to find the subspace representation of a set of face images. |
| Light illumination | Insensitive | Sensitive | Insensitive |
| Facial Expression | Insensitive | Slightly sensitive and also with different various poses (Angle). | Insensitive |
| Facial Recognition Accuracy | High | Relatively High | Very High |
| Advantage | Can work under different lighting conditions. High Accuracy rate % | Requires no high-level processing. Can be flexible in terms of improvement. Recognition is simple and efficient. Relatively Accurate in % | Can work under different lighting conditions. High approximation process. |
| Drawback | Very complex and calculation of ratio of between-class scatter to within-class scatter requires a lot of processing time. | Learning is very time-consuming. Requires a large number of training sets. | Computationally expensive and memory intensive (Very heavy work load that would cause slow runtime). |