Abstract

In daily life, gender information is important for personalization purposes. For example, people use this information for social interaction interests. Many social interactions critically depend on the correct gender perception of the parties involved. Gender classification task is required on some applications. One of them is the application to restrict access a certain place based on sex. In such cases, high accuracy system is necessary because misinterpretation can cause a fatal impact.

This final project uses the combination of AdaBoost algorithm and Support Vector Machine (known as AdaBoostSVM) to imitate the human ability for classifying gender based on face images. By using the AdaBoost algorithm as a framework and some RBFSVM (SVM with RBF kernel) as its component classifier, can produce a high accurate classification system.

As the result of experiment, the highest accuracy is 86%. The accuracy of AdaBoostSVM is not better than the accuracy of a single SVM classifier. This result happens because there is dilemma between accuracy and diversity in gender classification problem. If we combine these accurate but non-diverse classifiers often cause the performance of AdaBoost algorithm becomes not optimum.

Keywords: classification, gender, AdaBoost algorithm, Support Vector Machine