



Learning multiple classifiers in computer vision

Tae-Kyun Kim
University of Cambridge, Cambridge, UK

Abstract

It is known that visual cells (visual features) selectively respond to imagery patterns in perception. Learning process may be associated with co-clusters of visual features and imagery data in a way that facilitates visual perception. This has been formulated in the context of multiple classifier learning in computer vision. Classifiers, each of which is often comprised of a set of visual features, are learnt to take expertise on particular object images, jointly conquering all images. In this talk, we will have a close look at Boosting and mixture of experts. Standard methods are reviewed followed by up-to-date methods which include multiple classifier boosting, multiple instance boosting, Joint Boost, Random Forest, Super tree, locally linear models and their alignment and etc. The benefits of learning multiple classifiers would be demonstrated in multimodal/multipose object recognition, detection, rapid tracking and segmentation tasks.

Syllabus: , mixture of experts, multiple classifier learning, Random forest, locally linear models, object recognition, tracking, class segmentation.