# Settings:

* SIFT at key points
* 100 images per class for building the visual dictionary
* 2000 visual words
* 300 images per class to train the SVMs
* Linear kernel function
* 50 images per class for the testing phase (50 positive and 150 negative for each SVM)

**Total Average Precision: 93,54%**

**Airplanes list (average precision: 94,65%)**

'airplane 3'

'airplane30'

'airplane31'

'airplane 5'

'airplane39'

'airplane25'

'airplane 6'

'airplane48'

'airplane10'

'airplane20'

'airplane49'

'airplane37'

'airplane46'

'airplane38'

'airplane11'

'airplane27'

'airplane 4'

'airplane42'

'airplane23'

'airplane 2'

'airplane17'

'airplane26'

'airplane16'

'airplane32'

'airplane28'

'airplane18'

'airplane13'

'airplane22'

'airplane43'

'airplane34'

'airplane44'

'airplane 8'

'airplane29'

'airplane41'

'airplane21'

'airplane40'

'airplane35'

'airplane19'

'airplane12'

'airplane24'

'car36'

'airplane 7'

'airplane45'

'motorbike27'

'motorbike37'

'motorbike 5'

'airplane33'

'face39'

'car 1'

'face 6'

'airplane15'

'car33'

'face37'

'motorbike32'

'car39'

'car31'

'face43'

'car37'

'motorbike10'

'motorbike18'

'motorbike40'

'face15'

'airplane50'

'face 1'

'motorbike24'

'airplane47'

'face47'

'motorbike28'

'motorbike31'

'face 9'

'car24'

'airplane36'

'motorbike12'

'car41'

'motorbike34'

'motorbike33'

'airplane 9'

'face45'

'face23'

'face 7'

'motorbike11'

'motorbike43'

'motorbike14'

'motorbike 6'

'car20'

'car 6'

'face25'

'car47'

'face49'

'face14'

'airplane14'

'face19'

'car13'

'motorbike30'

'face21'

'face20'

'car18'

'car46'

'face24'

'motorbike50'

'motorbike45'

'face17'

'car 8'

'car43'

'face 4'

'motorbike47'

'motorbike38'

'motorbike15'

'motorbike 9'

'car11'

'car14'

'face30'

'motorbike13'

'motorbike26'

'motorbike19'

'car49'

'face16'

'motorbike39'

'car22'

'motorbike41'

'face26'

'car25'

'face36'

'face 5'

'car29'

'car15'

'motorbike21'

'motorbike22'

'motorbike35'

'car48'

'face48'

'car42'

'motorbike48'

'motorbike17'

'airplane 1'

'car21'

'face41'

'face29'

'car44'

'motorbike36'

'car12'

'car27'

'face27'

'car 5'

'face34'

'motorbike20'

'car40'

'car 3'

'face 3'

'motorbike29'

'face18'

'face13'

'car16'

'face44'

'motorbike16'

'motorbike42'

'car50'

'motorbike 2'

'car10'

'car34'

'car35'

'face35'

'face33'

'face22'

'face 8'

'face11'

'face38'

'car 9'

'face50'

'motorbike 4'

'car 7'

'motorbike46'

'car17'

'motorbike 1'

'motorbike49'

'car28'

'face28'

'car 4'

'car 2'

'face40'

'car26'

'face10'

'car45'

'motorbike25'

'car32'

'car23'

'face32'

'motorbike44'

'face42'

'car19'

'face12'

'motorbike23'

'motorbike 8'

'car30'

'face46'

'motorbike 3'

'motorbike 7'

'car38'

'face 2'

'face31'

**Cars list (average precision: 86,97%)**

'car38'

'car46'

'car37'

'car24'

'car30'

'car21'

'car12'

'car 4'

'car32'

'car39'

'car47'

'car16'

'car 2'

'car23'

'car14'

'car35'

'car48'

'car 9'

'car27'

'car26'

'car50'

'car10'

'car 1'

'car11'

'car19'

'car 7'

'car28'

'car49'

'car34'

'car18'

'car42'

'motorbike 7'

'motorbike49'

'motorbike 3'

'airplane29'

'car36'

'motorbike30'

'motorbike16'

'car33'

'airplane22'

'car13'

'car 3'

'car 6'

'airplane38'

'airplane 1'

'motorbike21'

'face 7'

'airplane17'

'motorbike13'

'car15'

'car40'

'face31'

'motorbike35'

'car 5'

'motorbike25'

'airplane12'

'motorbike 9'

'motorbike19'

'car31'

'airplane49'

'motorbike47'

'motorbike41'

'motorbike44'

'airplane36'

'motorbike 5'

'car44'

'motorbike26'

'motorbike22'

'car43'

'motorbike38'

'airplane16'

'car22'

'face24'

'car29'

'airplane33'

'motorbike48'

'motorbike33'

'airplane26'

'motorbike 8'

'motorbike 2'

'car45'

'car17'

'face36'

'motorbike29'

'face11'

'motorbike46'

'motorbike17'

'face26'

'motorbike 1'

'airplane44'

'airplane41'

'motorbike24'

'airplane19'

'motorbike50'

'airplane23'

'motorbike34'

'airplane42'

'face29'

'car25'

'airplane45'

'face47'

'car 8'

'airplane21'

'motorbike12'

'face35'

'face22'

'airplane11'

'face32'

'face13'

'airplane 8'

'car20'

'face33'

'motorbike 4'

'car41'

'face18'

'airplane24'

'motorbike42'

'face 8'

'airplane47'

'airplane13'

'airplane28'

'face49'

'airplane35'

'airplane25'

'airplane15'

'face40'

'airplane 9'

'airplane 7'

'face12'

'motorbike32'

'face 5'

'face50'

'face 2'

'airplane43'

'motorbike27'

'motorbike15'

'face19'

'airplane20'

'motorbike20'

'motorbike 6'

'face21'

'face46'

'motorbike40'

'airplane30'

'face38'

'motorbike11'

'face43'

'airplane32'

'motorbike37'

'airplane40'

'motorbike14'

'face23'

'motorbike18'

'face28'

'airplane 4'

'airplane34'

'motorbike36'

'face41'

'face39'

'face27'

'airplane 2'

'motorbike39'

'face14'

'face10'

'face42'

'airplane50'

'face20'

'face30'

'airplane14'

'face44'

'airplane18'

'motorbike43'

'face15'

'motorbike23'

'motorbike10'

'motorbike31'

'motorbike28'

'face45'

'face 1'

'motorbike45'

'face17'

'airplane48'

'airplane10'

'airplane31'

'face48'

'airplane 6'

'airplane46'

'face37'

'face 6'

'airplane27'

'face25'

'face 3'

'airplane39'

'face34'

'airplane 5'

'face16'

'airplane 3'

'airplane37'

'face 4'

'face 9'

**Faces list (average precision: 95,38%)**

'face 9'

'face16'

'face34'

'face12'

'face 3'

'face10'

'face42'

'face17'

'face 4'

'face 1'

'face41'

'face25'

'face37'

'face 2'

'face 8'

'face30'

'face50'

'face46'

'face44'

'face49'

'face43'

'face28'

'face45'

'face15'

'face22'

'face 6'

'face27'

'face32'

'face38'

'face39'

'face23'

'face18'

'face40'

'face33'

'face48'

'face36'

'face13'

'face21'

'face14'

'face35'

'face20'

'airplane37'

'face11'

'airplane41'

'face29'

'face19'

'car20'

'airplane50'

'airplane47'

'motorbike 8'

'car 8'

'airplane14'

'face 5'

'motorbike23'

'airplane20'

'face26'

'motorbike28'

'car25'

'motorbike31'

'car44'

'car40'

'car 3'

'motorbike10'

'motorbike11'

'motorbike48'

'car45'

'motorbike29'

'airplane 9'

'car31'

'airplane40'

'motorbike36'

'car34'

'airplane27'

'car29'

'airplane32'

'motorbike20'

'airplane13'

'face24'

'car42'

'face 7'

'motorbike27'

'car47'

'motorbike45'

'airplane44'

'airplane 2'

'motorbike44'

'car14'

'car41'

'airplane21'

'car35'

'car17'

'car 2'

'car 6'

'motorbike19'

'airplane17'

'airplane15'

'motorbike14'

'motorbike39'

'motorbike22'

'motorbike15'

'airplane 4'

'car13'

'airplane11'

'motorbike32'

'car43'

'face31'

'face47'

'motorbike 6'

'airplane12'

'motorbike18'

'car 9'

'car28'

'motorbike42'

'motorbike37'

'car48'

'car33'

'motorbike49'

'car22'

'motorbike50'

'motorbike26'

'airplane34'

'airplane33'

'motorbike 5'

'motorbike40'

'motorbike24'

'motorbike43'

'car15'

'motorbike 9'

'airplane 6'

'motorbike 1'

'car46'

'motorbike17'

'motorbike34'

'airplane 7'

'car49'

'car19'

'car36'

'airplane46'

'motorbike 2'

'airplane22'

'motorbike47'

'airplane45'

'motorbike25'

'airplane19'

'airplane28'

'airplane26'

'car12'

'car 5'

'airplane36'

'airplane 1'

'car23'

'motorbike12'

'airplane39'

'motorbike46'

'motorbike41'

'car26'

'motorbike35'

'airplane24'

'airplane16'

'airplane43'

'motorbike 4'

'car27'

'airplane18'

'motorbike33'

'car10'

'airplane 3'

'airplane23'

'motorbike38'

'car18'

'car32'

'airplane25'

'airplane 8'

'airplane35'

'motorbike13'

'airplane42'

'airplane10'

'airplane29'

'car11'

'car 7'

'car30'

'airplane 5'

'car50'

'car16'

'motorbike 7'

'car 4'

'airplane49'

'airplane30'

'motorbike 3'

'motorbike21'

'car21'

'car 1'

'car24'

'car39'

'motorbike16'

'airplane31'

'airplane48'

'motorbike30'

'airplane38'

'car37'

'car38'

**Motorbikes list (average precision: 97,16%)**

'motorbike 4'

'motorbike23'

'motorbike38'

'motorbike43'

'motorbike32'

'motorbike16'

'motorbike30'

'motorbike 1'

'motorbike28'

'motorbike21'

'motorbike39'

'motorbike40'

'motorbike50'

'motorbike12'

'motorbike14'

'motorbike24'

'motorbike13'

'motorbike 2'

'motorbike 7'

'motorbike31'

'motorbike18'

'motorbike35'

'motorbike34'

'motorbike49'

'motorbike 6'

'motorbike45'

'motorbike 3'

'motorbike26'

'motorbike41'

'airplane18'

'motorbike46'

'motorbike11'

'motorbike44'

'motorbike33'

'motorbike 8'

'airplane19'

'motorbike42'

'motorbike36'

'motorbike15'

'motorbike20'

'motorbike29'

'motorbike22'

'motorbike10'

'motorbike37'

'motorbike25'

'car19'

'car15'

'car 7'

'car50'

'motorbike 9'

'motorbike17'

'motorbike19'

'motorbike27'

'motorbike47'

'face47'

'motorbike48'

'motorbike 5'

'airplane35'

'car22'

'airplane48'

'face20'

'car45'

'face 5'

'airplane 9'

'airplane15'

'car11'

'face24'

'airplane36'

'car25'

'airplane14'

'airplane38'

'car23'

'car 5'

'airplane46'

'car10'

'airplane50'

'car16'

'face 7'

'airplane 7'

'car26'

'airplane 8'

'airplane24'

'airplane34'

'car32'

'car17'

'face31'

'car18'

'face48'

'face13'

'car33'

'face40'

'face 4'

'face 2'

'car28'

'car43'

'airplane 1'

'airplane33'

'airplane45'

'airplane49'

'car 6'

'car41'

'car 8'

'airplane43'

'airplane25'

'car 1'

'car20'

'face27'

'car29'

'airplane 2'

'car49'

'car 2'

'face19'

'car 9'

'face14'

'car42'

'car31'

'car44'

'car30'

'face11'

'airplane23'

'airplane22'

'face50'

'car 4'

'face44'

'airplane26'

'airplane29'

'face35'

'face49'

'face38'

'airplane 3'

'face33'

'face18'

'car 3'

'face32'

'airplane47'

'car40'

'airplane32'

'airplane42'

'airplane44'

'car24'

'car34'

'face30'

'face46'

'face28'

'airplane27'

'face26'

'face42'

'car48'

'face29'

'face17'

'face45'

'airplane 4'

'airplane21'

'car38'

'car21'

'face 6'

'airplane28'

'face39'

'airplane39'

'face22'

'car35'

'car36'

'face25'

'face 8'

'face23'

'airplane16'

'car27'

'airplane40'

'face21'

'face34'

'airplane11'

'airplane12'

'car12'

'car47'

'face36'

'airplane10'

'face15'

'face 3'

'airplane13'

'face37'

'face10'

'airplane 5'

'car13'

'face41'

'car37'

'airplane 6'

'face16'

'face 1'

'face12'

'airplane41'

'face43'

'car39'

'car14'

'car46'

'airplane30'

'airplane17'

'airplane37'

'face 9'

'airplane31'

'airplane20'