

Time schedule:

1	Sep 25	Introduction (J. Ponce);
2	Oct 2	Instance-level recognition I. - Local invariant features (C. Schmid) Assignments: <i>Assignment 1 out</i>
	Oct 9	NO LECTURE
3	Oct 16	Instance-level recognition II. – Camera geometry, correspondence, efficient visual search (I. Laptev)
4	Oct 23	Instance-level recognition III. - Very large scale image indexing (C. Schmid) Bag-of-feature models for category-level recognition (C. Schmid) Assignments: <i>Assignment 1 due</i> <i>Assignment 2 out</i>
5	Oct 30	Sparse coding and dictionary learning for image analysis (J. Ponce) Category-level localization I. (J. Sivic) Assignments: <i>Topic suggestions for the final project are out</i>
6	Nov 6	Neural networks; Optimization methods Assignments: <i>Assignment 2 due</i> <i>Final project proposal due</i> <i>Assignment 3 out</i>
7	Nov 13	Category-level localization II. - Efficient fitting of pictorial structures; Human pose estimation (J. Sivic)
8	Nov 20	Motion and human actions (I. Laptev) Assignments: <i>Assignment 3 due</i>
9	Nov 27	Face detection and recognition, segmentation (C. Schmid)
10	Dec 4	Scenes and objects (J. Sivic)
11	Dec 11 Dec 12	Final project presentations and evaluation (I. Laptev, J. Sivic)

Object recognition and computer vision 2012

Class webpage:

<http://www.di.ens.fr/willow/teaching/recvis12/>

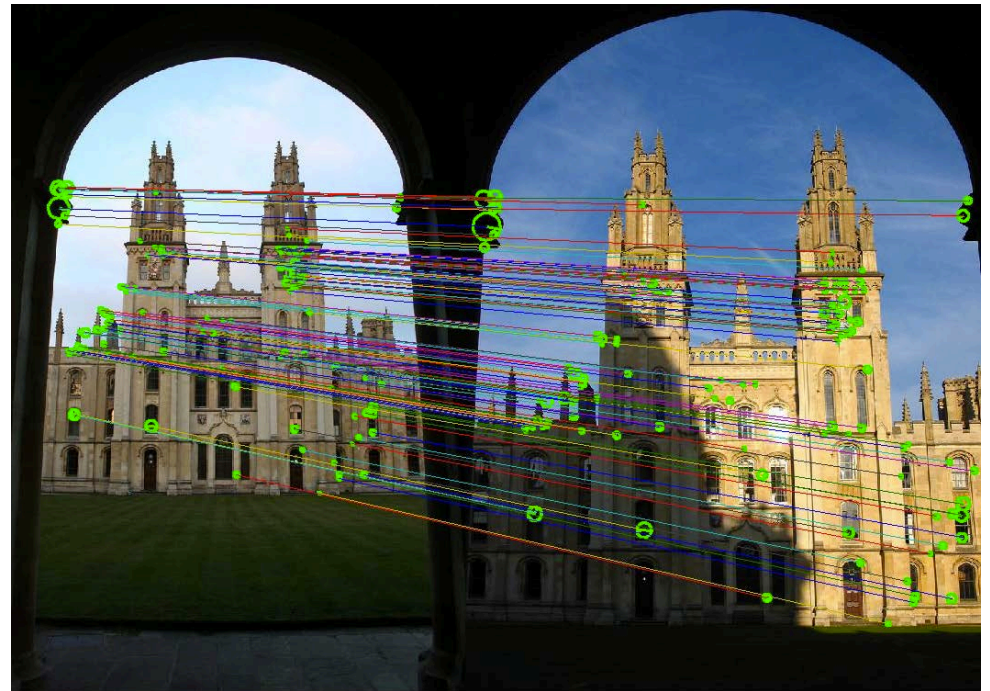
Grading:

- 3 programming assignments (50%)
 - Instance-level recognition
 - Image classification
 - Basic face detector
- Final project (50%)

More independent work, resulting in the report and a class presentation.

Assignment I: Instance level recognition

- Part I: Sparse features for matching specific objects in images
- Part II: Affine co-variant detectors
- Part III: Towards large scale retrieval
- Part IV: Large scale retrieval



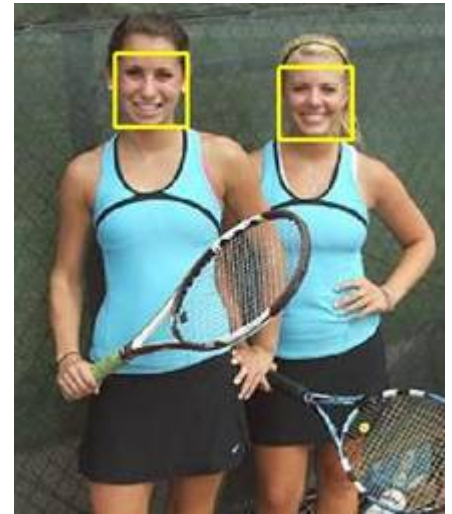
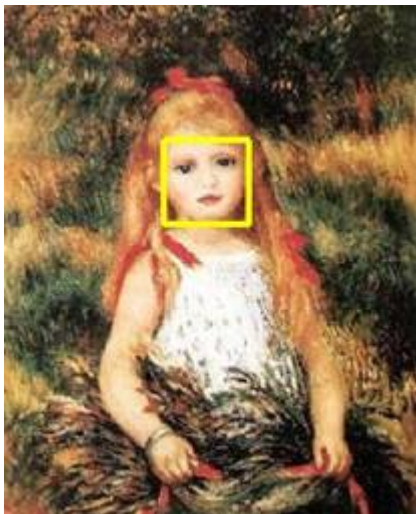
Assignment II: Image Classification

- Part 1: Training and testing an Image Classifier
- Part 2: Training an Image Classifier for Retrieval using Google images



Assignment III: Basic face detector

- Part 1: Prepare training data
- Part 2: Learn SVM face classifier
- Part 3: Apply and evaluate SVM classifier for detection



Final project

- Select the topic + write project proposal
 - Present the work in the class
 - Write project report
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- Can be done individually or as a group
 - The proposed project topics are from the recent top-conference publications in computer vision, see example topics from 2011 here: <http://www.di.ens.fr/willow/teaching/recvis11/finalproject/>
 - Student-defined projects are welcome
 - Final project can be joint with another MVA course

Matlab tutorial

Possible dates

- Sept 27 (Thursday) 15:00-17:00
- Sept 28 (Friday) 10:00-12:00
- Sept 28 (Friday) 15:00-17:00
- Oct 1 (Monday) 10:00-12:00

The tutorial will be at INRIA/Willow, 23 av. d'Italie, Paris

Come if you have no/limited experience with Matlab.

Research

Both WILLOW (J. Ponce, I. Laptev, J. Sivic) and LEAR (C. Schmid) groups are active in computer vision and visual recognition research.

<http://www.di.ens.fr/willow/>

<http://lear.inrialpes.fr/>

with close links to SIERRA – machine learning (F. Bach)

<http://www.di.ens.fr/sierra/>

There will be master internships available. Talk to us if you are interested.