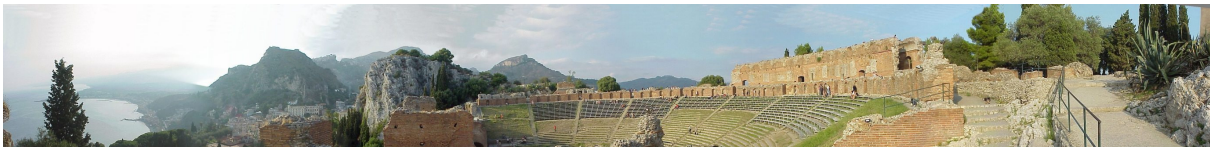




International Computer Vision Summer School 2007

Detection, Recognition and Segmentation in Context



Sicily ~ 9-14 July, 2007

www.dmi.unict.it/icvss - icvss@dm.unict.it



MOTIVATION AND DESCRIPTION

A fundamental and challenging problem in Computer Vision is the semantic interpretation of a scene captured by a camera. Several algorithms have been proposed to achieve automatic detection, recognition and segmentation of object classes in still images and videos. Recent studies have pointed out the importance of local and global context in solving these problems satisfactorily. State-of-the-art results have been obtained by principled modelling of the various and often hierarchical types of contextual interaction that are present in images and videos.

The first edition of the International Computer Vision Summer School is aimed to provide an objective, clear and in-depth summary of the state-of-the-art research in Detection, Segmentation and Recognition in Context. The courses will be delivered by world renowned experts in the field, from both academia and industry, and will cover both theoretical and practical aspects of the effective use of context in solving computer vision problems.

The School is especially aimed to provide a stimulating space for young researchers and Ph.D. Students. The participants will benefit from direct interaction and discussions with world leaders in computer vision and machine learning. The students will have also the possibility to present the results of their research on the topic of the school, and to interact with their scientific peers, in a friendly and constructive environment.



APPLICATION

The school will be open to about 100 qualified, motivated and pre-selected students. Ph. D. students, post-docs, young researchers (both academic and industrial), senior researchers (both academic and industrial) or academic/industrial professionals are encouraged to [apply](#).

The expected school fee will be in the order of 600,00 € for Phd students and 700 € for others. The application should be done before 1 February 2007. The fee will include, all courses, handling material, coffee breaks, a social guided tour to Taormina, tour and social dinner to Donna Fugata Castle and bus service from Catania Airport to School Location and viceversa. Late registration and on-site payment can be done with an extra payment of 100 €.

POSTER SUBMISSION

Accepted students may submit a poster to present their research activity. A selected subset from the submitted poster will be selected by the school committee for a short presentation. A best presentation prize of 600 € (supported by industrial sponsor) will be given to the best presentation selected by the school committee.

DEADLINES

Student Application: 1 February 2007

Notification Acceptance: 20 Feb 2007

Registration and Poster Submission: 31 March 2007

Oral Presentation Notification: 25 June 2007

Banking Account

Consorzio Catania Ricerche
Unicredit Banca D'Impresa Catania, Corso Sicilia, 40 Catania
ABI: 03226
CAB: 16900
C/C: 000004117059
CIN: V
BIC SWIFT CODE: UNCRIT2VCTW

ENQUIRY AND INFORMATION

ICVSS 2007 WEB: www.dmi.unict.it/icvss

ICVSS 2007 EMAIL: icvss@dmi.unict.it



SCHOOL COURSES

Speaker: Serge J. Belongie, University of California, San Diego, USA

Lecture Title: Matching with Shape Contexts

Syllabus: Shape Context, Shape Distance, Feature Correspondence, Deformable Templates, Thin Plate Spline

Abstract: http://svg.dmi.unict.it/icvss2007/Abstracts/S_J_Belongie.pdf

Speaker: Christopher M. Bishop, Microsoft Research Ltd, Cambridge, UK

Lecture Title: Graphical Models and Approximate Inference

Syllabus: Graphical Models, Approximate Inference

Abstract: http://svg.dmi.unict.it/icvss2007/Abstracts/C_M_Bishop.pdf

Speaker: Li Fei-Fei, Princeton University, USA

Lecture Title: Object recognition: an introduction and a few case studies

Syllabus: Object Recognition

Abstract: http://svg.dmi.unict.it/icvss2007/Abstracts/L_Fei-Fei.pdf

Speaker: Michael Brady, Oxford University, UK

Lecture Title: Medical image analysis : breast, colorectal and liver cancer

Syllabus: Medical images, registration, (level set) segmentation, PDF estimation, feature detection using the monogenic signal, shape representation for tumour growth, decision support, cellular processes

Abstract: http://svg.dmi.unict.it/icvss2007/Abstracts/M_Brady.pdf

Speaker: Sanjiv Kumar, Google Research, Carnegie Mellon University, USA

Lecture Title: Discriminative Graphical Models for Classification

Syllabus: Graphical models, Discriminative methods, Image classification, Image context, Markov Random Field, Conditional Random Field, Discriminative Random Field

Abstract: http://svg.dmi.unict.it/icvss2007/Abstracts/S_Kumar.pdf

Speaker: LeCun Yann, New York University, USA

Lecture Title: Supervised and Unsupervised Methods for Learning Invariant Feature Hierarchies

Syllabus: Supervised and Unsupervised learning, object recognition, invariant representations, deep belief networks, energy-based models, feature hierarchies

Abstract: http://svg.dmi.unict.it/icvss2007/Abstracts/Y_LeCun.pdf

Speaker: Cordelia Schmid, INRIA, FR

Lecture Title: Recognition and Matching Based on Local Invariant Features

Syllabus: Scale and affine invariant keypoint detectors, Image description, Object recognition, Image matching, Image classification

Abstract: http://svg.dmi.unict.it/icvss2007/Abstracts/C_Schmid.pdf

Speaker: Stefano Soatto, UCLA, USA

Lecture Title: Image and Shape Matching

Syllabus: Image and shape matching

Abstract: http://svg.dmi.unict.it/icvss2007/Abstracts/S_Soatto.pdf

Speaker: Philip Torr, Oxford Brookes University, UK

Lecture Title: Graph Cuts and Their use in Computer Vision

Syllabus: Graph Cuts, Markov Random Fields, Video Segmentation, OBJCUT, Applications in Computer Vision

Abstract: http://svg.dmi.unict.it/icvss2007/Abstracts/P_Torr.pdf

Speaker: Antonio Torralba, Massachusetts Institute of Technology, Cambridge, MA

Lecture Title: Gist, The role of Context

Syllabus: Gist, The role of Context, Scene understanding

Abstract: http://svg.dmi.unict.it/icvss2007/Abstracts/A_Torralba.pdf



ADVANCES RESEARCH SEMINARS

Speaker: Maeda Ken-ichi, Toshiba, Japan

Lecture Title: The Mutual Subspace Method - Canonical Correlation

Syllabus: Subspace Method, Mutual Subspace Method, Canonical Angle, Face Recognition, Character Recognition

Abstract: http://svg.dmi.unict.it/icvss2007/Abstracts/K_Maeda.pdf

Speaker: Silvio Savarese, University of Illinois at Urbana-Champaign, USA

Title: 2D and 3D spatial reasoning for object categorization

Syllabus: Object categorization, Spatial reasoning, Shape representation, Correlograms, 3D modeling

Abstract: http://svg.dmi.unict.it/icvss2007/Abstracts/S_Savarese.pdf

READING GROUP SESSION

Speaker: Michael Brady, Oxford University, UK

Syllabus: Markov random fields, segmentation, motion

Related Papers: [http://svg.dmi.unict.it/icvss2007/Brady\(2\)_ICVSS_2007.zip](http://svg.dmi.unict.it/icvss2007/Brady(2)_ICVSS_2007.zip)

LABORATORY, IMPLEMENTATION DETAILS, DEMO, RESOURCES

Speaker: Gabriel Brostow, University of Cambridge, UK

Lecture Title: OpenCV, Datasets and resources

Syllabus: OpenCV, Datasets and resources

Abstract: http://svg.dmi.unict.it/icvss2007/Abstracts/G_Brostow.pdf

Speaker: Matthew Johnson, University of Cambridge, UK

Lecture Title: Vision.NET: Rapid and Robust Research with C#

Syllabus: Efficient Object Oriented Programming for Vision, Effective Library Development, Easy GUIs

Abstract: http://svg.dmi.unict.it/icvss2007/Abstracts/M_Johnson.pdf

Speaker: Jamie Shotton, University of Cambridge, UK

Lecture Title: Classification.NET: Efficient and Accurate Classification in C#

Syllabus: Visual Studio, Boosting, TextonBoost

Abstract: http://svg.dmi.unict.it/icvss2007/Abstracts/J_Shotton.pdf

Speaker: Björn Stenger, Toshiba Research Europe Laboratory, UK

Lecture Title: Template-based recognition, efficient search and applications in HCI

Syllabus: Recognition with templates, Vision for HCI

Abstract: http://svg.dmi.unict.it/icvss2007/Abstracts/B_Stenger.pdf

Speaker: Arasanathan Thayananthan, University of Cambridge, UK

Lecture Title: Unsupervised Motion Segmentation in Videos

Syllabus: Video Segmentation, Learning and Inference, Matlab, Netlab,

Abstract: http://svg.dmi.unict.it/icvss2007/Abstracts/A_Thayananthan.pdf

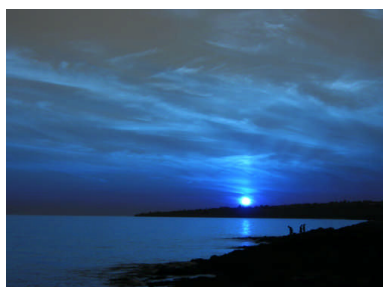
SCHOOL LOCATION

The school will be hosted by Hotel Village Baia Samuele in Punta Samperi - Scicli (RG), Sicily from 9-14 July 2007. Sicily is one of the most beautiful island of the Mediterranean Area. The island is very rich in archeological sites from various Ancient Civilizations. The sea, weather, food and the wine are excellent.

In particular Punta Sampieri - Scicli (RG) is located in the South-eastern of Sicily in a late Baroque area called Val di Noto. The Val di Noto area is inserted in the Unesco World Heritage List including eight towns: Caltagirone, Militello Val di Catania, Catania, Modica, Noto, Palazzolo, Ragusa and Scicli.

The location of the school rises in the middle of an ample bay delimited on the west from Sampieri and on the east from a bluff, on which is founded an ancient furnace, rare example of industrial archaeology. The Hotel Village "Baia Samuele" stretches in a sweet slant to the beach: 120 thousand square meters delimited from rows of secular cypresses. An ultramodern village with an original architecture, pleasant design and all comforts you can imagine. The frame of plants and flowers, typical of this angle of Sicily, in front of the island of Malta, completes this gilded dream of the Mediterranean.

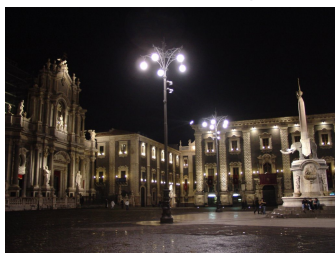
Pictures From Sicily



Sunset – Punta Sampietri



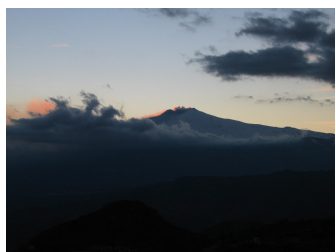
Taormina - Location chosen for the social guided tour



Catania



Scicli - St. Bartelemy



Volcano Etna – Panorama from Catania



A Traditional Sicilian Cart (Carretto Siciliano).



ACCOMMODATION RESERVATION

ICVSS participants must make reservations for accommodation at Hotel Village Baia Samuele, **no later than 15 March 2007**, using the apposite module ([Accommodation Reservation Module](#)) to be sent by fax (+39 0932939725) at Baia Samuele reception. **After 15 March 2007 there is no guarantee for reservations in Hotel Village Baia Samuele.**

The prices for ICVSS participants are the follows:

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The prices for ICVSS participants are the follows:

Accommodation in Hotel

Single Room + Breakfast + Lunch + Dinner	160 Euro - pax - per day
Double room + Breakfast + Lunch + Dinner	132 Euro - pax - per day

Accommodation in Village

Single Room + Breakfast + Lunch + Dinner	140 Euro - pax - per day
Double room + Breakfast + Lunch + Dinner	116 Euro - pax - per day
Triple room + Breakfast + Lunch + Dinner	112 Euro - pax - per day

Children

Reductions for children sleeping in parents room are:

Children from 0 to 3 years	Free
Children from 3to 12 years	50% of reduction

SCHOOL BUS SERVICE

The following bus service will be provided by the school (without charge):

FROM	TO	DEPARTURE - Sunday 8 July 2007
Catania Airport	School Location - Baia Samulele	12.00 A.M.
Catania Airport	School Location - Baia Samulele	18.00 P.M.

Saturday 14 July 2007 the social tour to Taormina (without charge) includes the possibility to have a bus stop to the Catania Airport following the schedule below:

FROM	TO	DEPARTURE - Saturday 14 July 2007	ARRIVAL - Saturday 14 July 2007
Baia Samuele	Catania Airport	8.30 A.M.	10.30 A.M.
Catania Airport	Taormina	10.45 A.M.	11.30 A.M.
Taormina	Catania Airport	16.30 P.M.	17.15 P.M.
Catania Airport	Baia Samuele	17.15 P.M.	19.15 P.M.



SHUTTLE SERVICE

It is available a shuttle service provided by Baia Samuele Staff:

- Taxi max 3 passengers - about 150 Euro
- Mini Bus max 11 passengers - about 220 Euro

Reservation can be done directly on site during the school or by email to:
sabrina@baidasamuele.it

PUBLIC TRANSPORTATION

The following indications can be used for participants who want to use public transportation:

Catania Airport --> Pozzallo Station --> School Location (Baia Samuele)

From Catania Airport to Pozzallo Train Station

[Bus - AST Lines - Timetable](#)

From Pozzallo Train Station to School Location

Taxi to Baia Samuele (about 15 Euro)

School Location (Baia Samuele) --> Pozzallo Station --> Catania Airport

School Location to Pozzallo Train Station

Taxi to Pozzallo Train Station (about 15 Euro)

From Pozzallo Train Station to Catania Airport

[Bus - AST Lines - Timetable](#)



SCHOOL COMMITTEE

Directors

- ❖ Roberto Cipolla, University of Cambridge, UK
- ❖ Sebastiano Battiato, University of Catania, IT

Co-Directors

- ❖ Giovanni Gallo, University of Catania, IT
- ❖ Giovanni Maria Farinella, University of Catania, IT

Laboratory, Demonstrations and Academic Assessment

- ❖ Gabriel Brostow, University of Cambridge, UK
- ❖ Matthew Johnson, University of Cambridge, UK
- ❖ Jamie Shotton, University of Cambridge, UK
- ❖ Arasanathan Thayananthan, University of Cambridge, UK
- ❖ Björn Stenger, Toshiba Research Europe Laboratory, UK

Speakers

- ❖ Serge J. Belongie, University of California, San Diego, USA
- ❖ Christopher M. Bishop, Microsoft Research Ltd, Cambridge, UK
- ❖ Li Fei-Fei, Princeton University, USA
- ❖ Michael Brady, Oxford University, UK
- ❖ Sanjiv Kumar, Google Research, Carnegie Mellon University, USA
- ❖ Maeda Ken-ichi, Toshiba, Japan
- ❖ Yann LeCun, New York University, USA
- ❖ Silvio Savarese, University of Illinois at Urbana-Champaign, USA
- ❖ Cordelia Schmid, INRIA, FR
- ❖ Stefano Soatto, UCLA, USA
- ❖ Philip Torr, Oxford Brookes University, UK
- ❖ Antonio Torralba, Massachusetts Institute of Technology, Cambridge, MA

Local Arrangements

- ❖ Filippo Stanco, University of Catania, IT
- ❖ Gaetano Impoco, University of Catania, IT

Local Organizers

- ❖ IPLAB Staff, University of Catania, IT

SPONSORS



STMicroelectronics



University of Catania



Faculty of Science - Catania



Gruppo Italiano Ricercatori
in Pattern Recognition



Consorzio Catania Ricerche



University of Cambridge

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Toshiba Research Europe Ltd



Computer Vision & Robotics Group
University of Cambridge

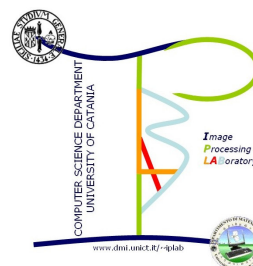


Image Processing Laboratory
University of Catania