

ECCV 2012

12th European Conference on Computer Vision

Tutorials & Workshops

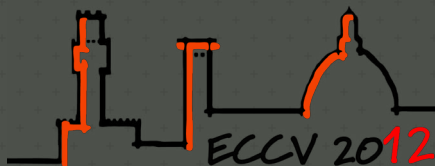


Tutorials & Workshops

October 7th / 12th / 13th, 2012

Palazzo degli Affari

Firenze, Italy



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ECCV 2012

12TH EUROPEAN CONFERENCE ON COMPUTER VISION

TUTORIALS AND WORKSHOPS

WELCOME TO THE 12TH EUROPEAN
CONFERENCE ON COMPUTER VISION,
HELD DURING OCTOBER 7-13, 2012 IN
FLORENCE, ITALY.

The European Conference on Computer Vision is one of the top conferences for researchers in this field and is held biennially in alternation with the International Conference on Computer Vision.

It was first held in 1990 in Antibes (France) with subsequent conferences in Santa Margherita Ligure (Italy) in 1992, Stockholm (Sweden) in 1994, Cambridge (UK) in 1996, Freiburg (Germany) in 1998, Dublin (Ireland) in 2000, Copenhagen (Denmark) in 2002, Prague (Czech Republic) in 2004, Graz (Austria) in 2006, Marseille (France) in 2008, and Heraklion (Greece) in 2010. To our great delight, the 12th conference is held in Florence, Italy.

ECCV has an established tradition of very high scientific quality and an overall duration of one week. ECCV 2012 will begin with a keynote lecture from the honorary chair, Tomaso Poggio.

The main conference follows over four days with 40 orals, 368 posters, 22 demos, and 12 industrial exhibits. There are also 8 tutorials and 21 workshops held before and after the main event.

For this event we introduced some novelties. These include innovations in the review policy, the publication of a conference booklet with all paper abstracts, a mobile version of the conference program, a twitter wall during oral presentations and the full video recording of oral speakers.

This conference is the result of a great deal of hard work by many people, who have been working enthusiastically since our first meetings in 2008. We are particularly grateful to the Program Chairs, who handled the review of about 1500 submissions and co-ordinated the efforts of over 50 area chairs and about 1000 reviewers. We are also indebted to all the other chairs who, with the support of our research teams, diligently helped us manage all aspects of the main conference, tutorials, workshops, exhibits, demos, proceedings, and web presence. Finally we thank our generous sponsors and Consulta Umbria for handling the registration of delegates and all financial aspects associated with the conference.

We hope you will enjoy ECCV 2012.
Benvenuti a Firenze!

Roberto Cipolla, Carlo Colombo and Alberto Del Bimbo
ECCV 2012 General Chairs

ECCV 2012

People

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CONFERENCE MANAGEMENT

Consulta Umbria, Perugia, Italy

ECCV 2012 Locations

Palazzo dei Congressi, Palazzo degli Affari



ECCV 2012
Main Entrance



PALAZZO AFFARI



PALAZZO DEI CONGRESSI

ECCV 2012 MAIN CONFERENCE
Oral and Demo Sessions, Exhibits

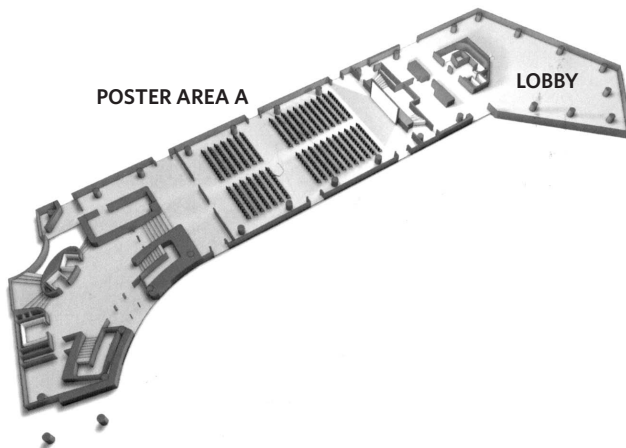


PALAZZO AFFARI

ECCV 2012 MAIN CONFERENCE
Poster Sessions
ECCV 2012 TUTORIALS
ECCV 2012 WORKSHOPS

PALAZZO AFFARI
Ground Floor

October 8th - 11th
ECCV 2012 MAIN CONFERENCE
Poster Sessions A

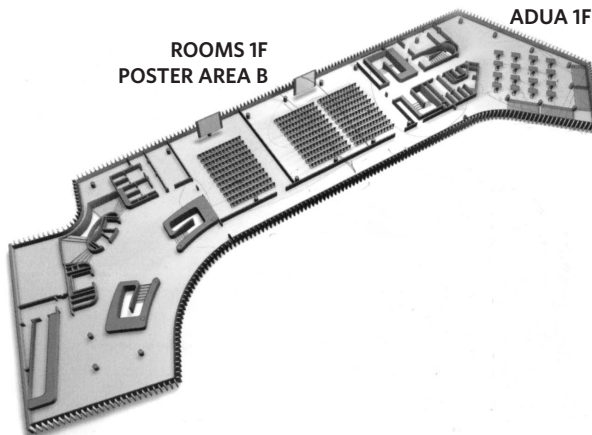


PALAZZO AFFARI
1st Floor

October 7th
ECCV 2012 TUTORIALS
ECCV 2012 WORKSHOPS

October 8th - 11th
ECCV 2012 MAIN CONFERENCE
Poster Sessions B

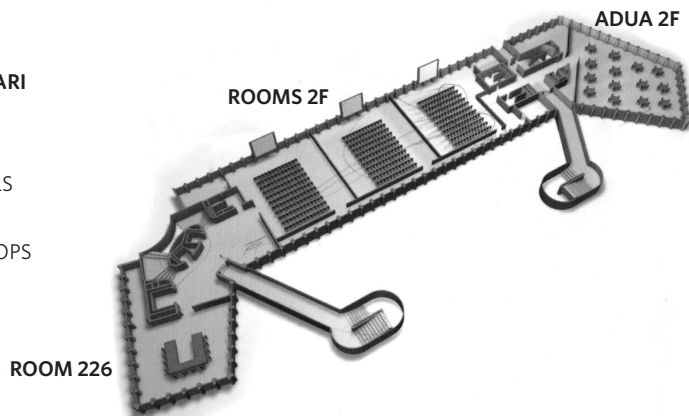
October 12th - 13th
ECCV 2012 WORKSHOPS



PALAZZO DEGLI AFFARI
2nd Floor

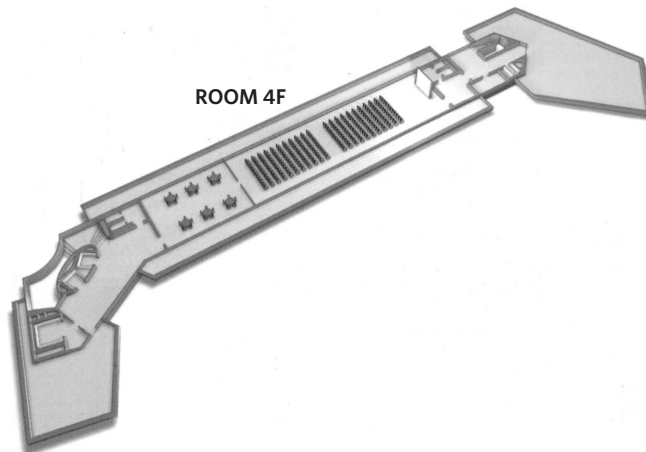
October 7th
ECCV 2012 TUTORIALS

October 12th - 13th
ECCV 2012 WORKSHOPS

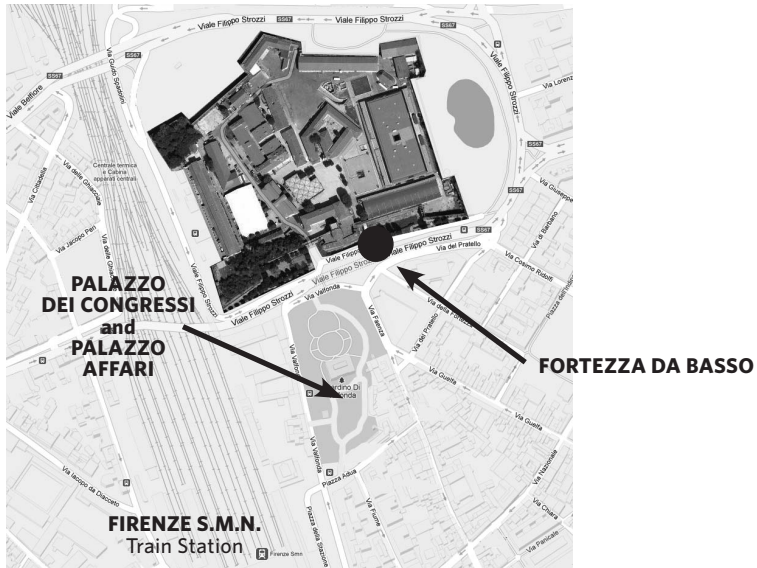


PALAZZO DEGLI AFFARI
4th Floor

October 7th
ECCV 2012 WORKSHOPS

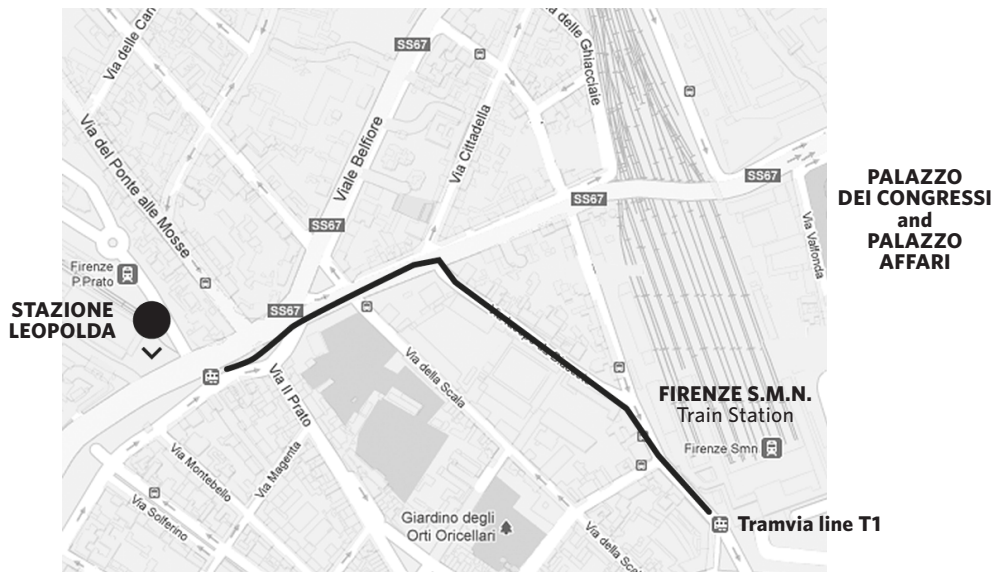


Fortezza Da Basso



FORTEZZA DA BASSO
ECCV 2012 WELCOME DINNER

Stazione Leopolda



STAZIONE LEOPOLDA ECCV 2012 GALA DINNER

Tramvia line T1
from Station Square

ECCV 2012 WORKSHOPS AND TUTORIALS

Program at a glance

SUNDAY 7 OCTOBER 2012	TUTORIALS, WORKSHOPS	pag. 20, 32
FRIDAY 12 OCTOBER 2012	WORKSHOPS	pag. 40
SATURDAY 13 OCTOBER 2012	WORKSHOPS	pag. 66

Tutorials

Sunday, October 7

Code	Location	09:15-13:00
T1	Room A 2F Affari	Vision Applications on Mobile using OpenCV Gary Bradski, Victor Eruhimov, Vadim Pisarevsky
T7	Room B 2F Affari	Additive Kernels and Explicit Embeddings for Large Scale Computer Vision Problems Jianxin Wu, Andrea Vedaldi, Subhransu Maji, Florent Perronnin
T4	Room C 2F Affari	Multi-View Geometry and Computational Photography using Non-Classical Cameras Srikumar Ramalingam, Amit Agrawal
T6	Adua 1F Affari	Sparse and Low-Rank Representation for Computer Vision — Theory, Algorithms and Applications. Yi Ma, John Wright, Allen Y. Yang

09:15-13:00 / 14:30-18:15

T9	Adua 2F Affari	Similarity-Based Pattern Analysis and Recognition Edwin R. Hancock, Vittorio Murino, Marcello Pelillo, Richard Wilson
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14:30-18:15

T2	Room A 2F Affari	Internet Video Search Cees G.M. Snoek, Arnold W.M. Smeulders
T8	Room B 2F Affari	Using MATLAB for Computer Vision: Computer Vision System Toolbox and More Bruce Tannenbaum, Dima Lisin, Witek Jachimczyk
T3	Adua 1F Affari	Modern features: advances, applications and software Andrea Vedaldi, Jiri Matas, Krystian Mikolajczyk, Tinne Tuytelaars, Cordelia Schmid, Andrew Zisserman

Workshops

Code	Location	09:15-13:00 / 14:30-18:15
WS1	Room A 1F Affari	5th Workshop on Non-Rigid Shape Analysis and Deformable Image Alignment (NORDIA). Stefano Berretti, Alexander Bronstein, Michael Bronstein, Umberto Castellani
WS2	Room A 4F Affari	1st Workshop on Visual Analysis and Geo-Localization of Large-Scale Imagery Mubarak Shah, Luc Van Gool, Asaad Hakeem, Alexei Efros, Niels Haering, James Hays, Hui Cheng
WS3	Room B 1F Affari	Workshop on Web-scale Vision and Social Media Lamberto Ballan, Alex C. Berg, Marco Bertini, Cees G. M. Snoek

Workshops

Friday, October 12

Code	Location	09:15-13:00 / 14:30-18:15
WS4	Room A 2F Affari	WebVision: The Workshop on Computer Vision for the Web Manik Varma, Samy Bengio
WS5	Room A 1F Affari	The PASCAL Visual Object Classes Challenge 2012 (VOC2012) Workshop Chris William, John Winn, Luc Van Gool, Andrew Zisserman, Alex Berg, Fei-Fei Li
WS6	Room B 2F Affari	4th International Workshop on Video Event Categorization, Tagging and Retrieval (VECTaR 2012). Tieniu Tan, Thomas S. Huang, Ling Shao, Jianguo Zhang, Liang Wang
WS7	Hall 226 Affari	1st International Workshop on Re-Identification (Re-Id 2012) Marco Cristani, Shaogang Gong, Yan Shuicheng
WS8	Adua 2F Affari	Workshop on Biological and Computer Vision Interfaces Olivier Faugeras, Pierre Kornprobst
WS9	Room C 2F Affari	VISART: "Where computer Vision Meets Art" Workshop Joao Paulo Costeira, Gustavo Carneiro, Nuno Pinho da Silva, Alessio Del Bue
WS10	Room B 1F Affari	2nd Workshop on Consumer Depth Cameras for Computer Vision (CDC4CV) Andrea Fossati, Juergen Gall, Helmut Grabner, Xiaofeng Ren, Kurt Konolige, Seungkyu Lee, Miles Hansard
WS11	Adua 1F Affari	Workshop on Unsolved Problems in Optical Flow and Stereo Estimation Daniel Kondermann, Bernd Jähne, Daniel Scharstein
WS12	Room C 1F Affari	"What's in a Face?" Workshop Arun Ross, Alice O'Toole, Maja Pantic, Antitza Dantcheva, Stefanos Zafeiriou

Workshops

Saturday, October 13

Code	Location	09:15-13:00
WS4	Room A 2F Affari	WebVision: The Workshop on Computer Vision for the Web Manik Varma, Samy Bengio
WS23	Hall 226 Affari	2nd International Workshop on Benchmarking Facial Image Analysis Technologies (BeFIT 2012). Hazim Kemal Ekenel, Gang Hua, Shiguang Shan
09:15-13:00 / 14:30-18:15		
WS15	Adua 2F Affari	4th Color and Photometry in Computer Vision Workshop Theo Gevers, Raimondo Schettini, Joost van de Weijer, Todd Zickler, Javier Vazquez-Corral
WS13	Room A 1F Affari	3rd Workshop on Computer Vision in Vehicle Technology: From Earth to Mars Atsushi Imiya, Antonio M. López
WS16	Room B 1F Affari	2nd Workshop on Parts and Attributes Christoph H. Lampert, Rogerio S. Feris
WS18	Room C 2F Affari	3rd IEEE International Workshop on Analysis and Retrieval of Tracked Events and Motion in Imagery Streams (ARTEMIS 2012). Anastasios Doulamis, Nikolaos D. Doulamis, Jordi González, Thomas B. Moeslund
WS19	Room C 1F Affari	1st Workshop on Action Recognition and Pose Estimation in Still Images Vittorio Ferrari, Ivan Laptev, Josef Sivic, Bangpeng Yao
WS20	Adua 1F Affari	Workshop on Higher-Order Models and Global Constraints in Computer Vision Kartek Alahari, Dhruv Batra, Srikumar Ramalingam, Nikos Paragios, Rich Zemel
WS21	Room B 2F Affari	Workshop on Information fusion in computer vision for concept recognition Jenny Benois-Pineau, Georges Quenot, Tomas Piatrik, Bogdan Ionescu
14:30-18:15		
WS22	Room A 2F Affari	QU3ST Workshop - 2.5D Sensing Technologies in Motion: The Quest for 3D David Fofi, Adrien Bartoli

Special Events

Monday, October 8, at Welcome Dinner

Location: Fortezza da Basso

Renaissance music and dances

Performers: "La Rossignol" and "Capriccio Armonico"

Tuesday, October 9, 20:30

Location: San Miniato al Monte

Gregorian chant

Performers: "Viri Galilaei"

Wednesday, October 10, at Gala Dinner

Location: Stazione Leopolda

Harmoniemusik

Performers: "Cameristi Fiorentini"

**ECCV 2012
TUTORIALS**

Technical Program

Sunday, October 7

Sunday, October 7
09:15-13:00

TUTORIAL T1

Vision Applications on Mobile using Open CV

Tutorialists

Gary Bradski, Victor Eruhimov, Vadim Pisarevsky

Abstract

It is forecast that in 2012, 450 Million smart phones with cameras will be sold, increasing to 650 Million units in 2013. Those with interests in commercial applications of computer vision simply cannot afford to ignore this growth in smart cameras enabled by mobile devices. This tutorial will get you going in computer vision application development on mobile devices using OpenCV. This tutorial is intended to be hands on.

Sunday, October 7
09:15-13:00

TUTORIAL T7

Additive Kernels and Explicit Embeddings for Large Scale Computer Vision Problems

Tutorialists

Jianxin Wu, Andrea Vedaldi, Subhransu Maji, Florent Perronnin

Abstract

It is generally accepted in our community that: in many vision tasks, more training images will usually lead to better performance. Furthermore, recent advances have shown that additive kernel and explicit embeddings are the best performers in most visual classification tasks—a fact that has been repeatedly verified by various papers and research-oriented public contests (e.g., the ImageNet Large Scale Visual Recognition Challenge.) In this tutorial, we will introduce the theories, applications, algorithms, software, and practical issues of using additive kernels and explicit embeddings in various computer vision domains, especially when the problem scale is very large.

Sunday, October 7
09:15-13:00

TUTORIAL T4

Multi-View Geometry and Computational Photography using Non-Classical Cameras

Tutorialists

Srikumar Ramalingam, Amit Agrawal

Abstract

This tutorial is meant as an introduction to the design, modeling and implementation of non-classical (multi-perspective) cameras for several computer vision and computational photography applications. The tutorial will provide an overall view of developing a complete system (capture, modeling, and synthesis/reconstruction) as well as provide sufficient details for calibration and modeling such non-central cameras. We hope to provide enough fundamentals to satisfy the technical specialist as well as tools/software's to aid graphics and vision researchers, including graduate students.

Sunday, October 7
09:15-13:00

TUTORIAL T6

Sparse and Low-Rank Representation for Computer Vision — Theory, Algorithms and Applications

Tutorialists

Yi Ma, John Wright, Allen Y. Yang

Abstract

The recent vibrant study of sparse representation and compressive sensing has led to numerous groundbreaking results in signal processing and machine learning. In this tutorial, we will present a series of three talks to provide a high-level overview about its theory, algorithms, and broad applications to computer vision and pattern recognition. We will also point out ready-to-use MATLAB toolboxes available for participants to further acquire hands-on experience on these related topics.

Sunday, October 7
09:15-13:00 / 14:30-18:15

TUTORIAL T9

Similarity-Based Pattern Analysis and Recognition

Tutorialists

Edwin R. Hancock, Vittorio Murino, Marcello Pelillo, Richard Wilson

Abstract

The presentation will revolve around two main themes, which basically correspond to the two fundamental questions that arise when abandoning the realm of vectorial, feature-based representations, namely: How can one obtain suitable similarity information from data representations that are more powerful than, or simply different from, the vectorial. How can similarity information be used in order to perform learning and classification tasks ? We shall assume no pre-existing knowledge of similarity-based techniques by the audience, thereby making the tutorial self- contained and understandable by a non-expert. The tutorial will commence with a clear overview of the basics of how dissimilarity data arise, and how it can be characterized as a prerequisite to analysis. We will focus in detail on the differences between Euclidean and non-Euclidean dissimilarities, and in particular the causes of non-Euclidean artifacts, how to test for them and when possible correct for them. With the basic definitions of dissimilarity to hand, we will move on to the topic of analysis in the dissimilarity domain, we will commence by showing how to derive dissimilarities for non- vectorial data, how to impose geometricity on such data via embedding and how to learn in the dissimilarity domain. Finally, we will illustrate how these ideas can be utilised in the computer vision domain with particular emphasis on the dissimilarity representation of shape.

Sunday, October 7
14:30-18:15

TUTORIAL T2

Internet Video Search

Tutorialists

Cees G.M. Snoek, Arnold W.M. Smeulders

Abstract

In this half-day tutorial we focus on the computer vision challenges in internet video search, present methods how to achieve state-of-the-art performance while maintaining efficient execution, and indicate how to obtain spatiotemporal improvements in the near future. Moreover, we give an overview of the latest developments and future trends in the field on the basis of the TRECVID competition – the leading competition for video search engines run by NIST – where we have achieved consistent top-2 performance over the years, including the 2008, 2009, 2010 and 2011 editions. This half-day tutorial is especially meant for researchers and practitioners who are new to the field of video search (introductory), people who have started in this direction (intermediate), or people who are interested in a summary of the state-of-the-art in this exciting area (general interest).

Sunday, October 7
14:30-18:15

TUTORIAL T8

Using MATLAB for Computer Vision: Computer Vision System Toolbox and More

Tutorialists

Bruce Tannenbaum, Dima Lisin, Witek Jachimczyk

Abstract

In this tutorial, we will share practical information about Computer Vision System Toolbox as well as other MATLAB products appropriate for computer vision. This tutorial assumes some experience with MATLAB and Image Processing Toolbox. We will focus mostly on Computer Vision System Toolbox.

Sunday, October 7
14:30-18:15

TUTORIAL T3

Modern features: advances, applications and software

Tutorialists

Andrea Vedaldi, Jiri Matas, Krystian Mikolajczyk, Tinne Tuytelaars, Cordelia Schmid,
Andrew Zisserman

Abstract

This course will introduce local feature detectors and descriptors as foundational tools in a variety of state-of-the-art computer vision applications. The first part of the tutorial will cover popular co-variant detectors (Harris, Laplacian, Hessian corners and blobs, scale and affine adaptation, MSER, SURF, FAST, etc.) and descriptors (SIFT, SURF, BRIEF, LIOP, etc.), with a particular emphasis on recent advances and additions to this set of tools. It will be shown how the various methods achieve different trade-offs in repeatability, speed, geometric accuracy, and applicability to different image contents in terms of their performance in benchmarks and applications (tracking, reconstruction, retrieval, stitching, text detection in the wild, etc.).

The second part of the tutorial will review software for computing local features and evaluating their performance automatically on benchmark data. In particular, two software resources will be introduced to the community for the first time: a novel extension to the popular open-source VLFeat library containing new reference implementations of co-variant feature detectors; and a novel benchmarking software superseding standard packages for the evaluation of co-variant feature detectors and descriptors. Finally, the tutorial will demonstrate the construction of a state-of-the-art large-scale image indexing system in a few hundred lines of MATLAB code by using these tools.

**ECCV 2012
WORKSHOPS**

Technical Program

Sunday, October 7

Friday, October 12

Saturday, October 13

Sunday, October 7
09:15-13:00 / 14:30-18:15

WORKSHOP WS1

5th Workshop on Non-Rigid Shape Analysis and Deformable Image Alignment (NORDIA)

Workshop Chairs

Stefano Berretti, Alexander Bronstein, Michael Bronstein, Umberto Castellani

Part 1 - 09:15

KEYNOTE TALK

Patrizio Frosini

ORAL SESSION 1

Reconstruction

Putting the pieces together: Regularized multi-part shape matching

Or Litany; Alex Bronstein; Michael Bronstein

Combined Motion Estimation and Reconstruction in Tomography

Geert Van Eyndhoven; Jan Sijbers; Joost Batenburg.

Part 2 - 11:00

ORAL SESSION 2

3D Shape

3D Object Classification using Scale Invariant Heat Kernels with Collaborative Classification

Mostafa Abdelrahman; Moumen El-Melegy; Aly Farag

3D Facial Landmark Localization using Combinatorial Search and Shape Regression

Federico Sukno; John Waddington; Paul Whelan

Statistical Shape Analysis for Population Studies via Level-set based Shape Morphing

Tammy Riklin Raviv, Yi Gao; James Levitt; Sylvain Bouix

POSTER SESSION

Group-Valued Regularization for Analysis of Articulated Motion

Guy Rosman; Michael Bronstein; Alex Bronstein; Xue-Cheng Tai; Ron Kimmel

Drawing an Automatic Sketch of Deformable Objects using only a few images

Smit Marvaniya; Sreyasee Bhattacharjee; Venkatesh Manickavasagam; Anurag Mittal

Surfaces: A Super-resolution Model for 3D Faces

Stefano Berretti; Alberto Del Bimbo; Pietro Pala

Stable spectral mesh filtering

Artiom Kovnatsky; Michael Bronstein; Alex Bronstein

Analytical Dynamic Programming Matching

Seiichi Uchida; Satoshi Hokahori; Yaokai Feng

Seidel, Tino Weinkauff: Correspondences of Persistent Feature Points on Near-Isometric Surfaces

Ying Yang; David Guenther; Stefanie Wuhrer; Alan Brunton; Ioannis Ivrissimtzis; Hans-Peter

Part 3 - 14:30

KEYNOTE TALK

Lourdes Agapito

ORAL SESSION 3

Nonrigid and coloured objects

3D Reconstruction of Non-Rigid Surfaces in Real-Time using Wedge Elements

Antonio Agudo; Begoña Calvo; José Maria Montiel

Schrodinger diffusion for shape analysis with texture

Jose Iglesias; Ron Kimmel

Part 4 - 16:30

ORAL SESSION 4

Deformable images

Anchored Deformable Face Ensemble Alignment

Xin Cheng; Sridha Sridharan; Jason Saragih; Simon Lucey

Multiple object tracking via prediction and filtering with a Sobolev-type metric on curves

Eleonora Bardelli; Maria Colombo; Andrea Mennucci

Facial Model Fitting based on Perturbation Learning and It's Evaluation on Challenging Real-World Diversities Images

Koichi Kinoshita

PANEL SESSION

Sunday, October 7
09:15-13:00 / 14:30-18:15

WORKSHOP WS2

1st Workshop on Visual Analysis and Geo-Localization of Large-Scale Imagery

Workshop Chairs

Mubarak Shah, Luc Van Gool, Asaad Hakeem, Alexei Efros, Niels Haering, James Hays, Hui Cheng

Part 1 - 09:15

INVITED TALKS

Alexei Efros
Josef Sivic

Part 2 - 11:00

INVITED TALKS

Noah Snavely
Cordelia Schmid

ORAL SESSION 1

Adaptive Rendering for Large-Scale Skyline Characterization and Matching

Jiejie Zhu, Mayank Bansal, Nick Vander Valk, Hui Cheng

Ultra-wide Baseline Facade Matching for Geo-Localization

Mayank Bansal, Kostas Daniilidis, Harpreet Sawhney

Part 3 - 14:30

ORAL SESSION2

A memory efficient discriminative approach for location aided recognition

Varsha Hedau, Sudipta Sinha, Lawrence Zitnick, Richard Szeliski

INVITED TALKS

Till Quack

Hui Cheng

Part 4 - 16:30

PANEL SESSION

Sunday, October 7
09:15-13:00 / 14:30-18:15

WORKSHOP WS3

Workshop on Web-scale Vision and Social Media

Workshop Chairs

Lamberto Ballan, Alex C. Berg, Marco Bertini, Cees G. M. Snoek

Part 1 - 09:15

INVITED TALK

Pietro Perona

ORAL SESSION 1

Best Paper

Weakly Supervised Learning of Object Segmentations from Web-Scale Videos

G. Hartmann, M. Grundmann, J. Hoffman, D. Tsai, V. Kwatra, O. Madani, S. Vijayanarasimhan, I. Essa, J. Rehg, R. Sukthankar

Part 2 - 11:00

ORAL SESSION 2

Towards Exhaustive Pairwise Matching in Large Image Collections

K. Srijan, C.V. Jawahar

Learning to Match Images in Large-Scale Collections

S. Cao, Noah Snavely

Large Vocabularies for Keypoint-based Representation and Matching of Image Patches

A. Sluzek

INVITED TALK

Lubomir Bourdev

Part 3 - 14:30

INVITED TALK

Hervé Jégou

ORAL SESSION 3

Classifier Ensemble Recommendation

P. Matikainen, M. Hebert, R. Sukthankar

Linearized Smooth Additive Classifiers

S. Maji

Part 4 - 16:30

ORAL SESSION 4

Ask'nSeek: a new game for object detection and labeling

A. Carlier, O. Marques, V. Charvillat

Efficient Mining of Repetitions in Large-Scale TV Streams with Product Quantization Hashing

J. Yuan, G. Gravier, S. Campion, X. Liu, Herve Jegou

An Efficient Parallel Strategy for Matching Visual Self-Similarities in Large Image Databases

K. Schwarz, T. Haeussler, H. Lensch

Friday, October 12
09:15-13:00 / 14:30-18:15

WORKSHOP WS4

WebVision: The Workshop on Computer Vision for the Web

Workshop Chairs

Manik Varma, Samy Bengio

Part 1 - 09:15

ORAL SESSION 1

Internet Computer Vision

Jitendra Malik

Crowds in the Cloud: the Artificial Artificial Technology

Fei-Fei Li

Part 2 - 11:00

ORAL SESSION 2

Don't Forget the Long Tail

Samy Bengio

Image Search Re-Ranking Using Click Data

Manik Varma

Internet-Driven Vision (from the perspective of a machine learning person at Google)

Jason Weston

Part 3 - 14:30

ORAL SESSION 3

3D Maps: Progress and Challenges

Steve Seitz

Learning and Adapting Visual Categories from Web Data

Trevor Darrell

Web Services for Evaluating and Federating Vision Algorithms

Rick Szeliski

Part 4 - 16:30

ORAL SESSION 4

Binary Codes for Large Scale Computer Vision

Rob Fergus

Searching in Billion-Scale Descriptor Datasets Using Inverted Multi-Indices

Victor Lempitsky

Recent Advances in Compact Hashing for Large-Scale Visual Search

Shih-Fu Chang

Saturday, October 13
09:15-13:00

Part 5 - 09:15

ORAL SESSION 5

The Visipedia Field Guide to North American Birds

Serge Belongie

Enriching e-books with web multimedia

Rakesh Agrawal

Integration of Metadata and Visual Content Analysis for Web Image Retrieval

Alexandr Krainov

Part 6 - 11:00

ORAL SESSION 6

Harvesting the Web for Multimodal Sentiment Analysis

Louis-Philippe Morency

Large-scale Nonparametrics for Vision via Small-Variance Asymptotics

Brian Kulis

Fine-grained Classification of Weakly Textured Objects

Hartmut Neven

PANEL SESSION

Friday, October 12
09:15-13:00 / 14:30-18:15

WORKSHOP WS5

The PASCAL Visual Object Classes Challenge 2012 (VOC2012)

Workshop Chairs

Chris Williams, John Winn, Luc Van Gool, Andrew Zisserman, Alex Berg, Fei-Fei Li

The program for the PASCAL WORKSHOP 2012 will be determined on the basis of the submissions to the PASCAL VOC 2012 competition and will be published just at the conference

Part 1 - 09:15

Conclusions from classification + detection results and announcement of winners

Participant talks

Part 2 - 11:00

Conclusions from segmentation results and announcement of winners

Participant talks

Conclusions from results for body part detection and announcement of winners

Participant talks

Pascal VOC 2012 wrap-up + comments by audience

Part 3 - 14:30

Pascal VOC Legac and discussion future of recognition

ImageNet challenge part I

Part 4 - 16:30

ImageNet challeng part II

Friday, October 12
09:15-13:00 / 14:30-18:15

WORKSHOP WS6

4th International Workshop on Video Event Categorization, Tagging and Retrieval (VECTaR 2012)

Workshop Chairs

Tieniu Tan, Thomas S. Huang, Ling Shao, Jianguo Zhang, Liang Wang

Part 1 - 09:15

KEYNOTE TALKS

Dong Xu
Tao Xiang

Part 2 - 11:00

ORAL SESSION 1

Atomic Action Features: A New Feature for Action Recognition

Qiang Zhou, Gang Wang

Spatio-Temporal SIFT and Its Application to Human Action Classification

Manal Alghamdi, Lei Zhang, Yoshihiko Gotoh

Statistics of Pairwise Co-occurring Local Spatio-Temporal Features for Human Action Recognition

Piotr Bilinski, Francois Bremond

Visual Code-Sentences: A New Video Representation based on Image Descriptor Sequences

Yusuke Mitarai, Masakazu Matsugu

Part 3 - 14:30

ORAL SESSION 2

Action Recognition Robust to Background Clutter by using Stereo Vision

Jordi Sanchez-Riera, Jan Cech, Radu Horaud

Recognizing Unseen Actions Across Cameras by Exploring the Correlated Subspace

Chun-Hao Huang, Yi-Ren Yeh, Yu-Chiang Frank Wang

Chinese Shadow Puppetry with an Interactive Interface Using the Kinect Sensor

Hui Zhang, Yuhao Song, Zhuo Chen, Ji Cai, Ke Lu

Group Dynamics and Multimodal Interaction Modeling using a Smart Digital Signage

Tony Tung, Randy Gomez, Tatsuya Kawahara, Takashi Matsuyama

Automated Textual Descriptions for a Wide Range of Video Events with 48 Human Actions

Gertjan Burghouts, Patrick Hanckmann, Klammer Schutte

Friday, October 12
09:15-13:00 / 14:30-18:15

WORKSHOP WS7

1st International Workshop on Re-Identification (Re-Id 2012)

Workshop Chairs

Marco Cristani, Shaogang Gong

Part 1 - 09:15

INVITED TALK

Domain Adaptation Methods for Re-identification of Faces

Rama Chellappa

Part 2 - 11:00

ORAL SESSION 1

Learning Implicit Transfer for Person Re-identification

Tamar Avraham, Ilya Gurvich, Michael Lindenbaum, Shaul Markovitch

Person Re-identification: What Features Are Important

Chunxiao Liu, Shaogang Gong, Chen Change Loy, Xinggang Lin

Towards Person Identification and Re-Identification With Attributes

Ryan Layne, Timothy Hospedales, Shaogang Gong

Local Descriptors encoded by Fisher Vectors for Person Re-identification

Bipeng Ma, Yu Su, Frederic Jurie

Part 3 - 14:30

INVITED TALK

Re-identification in practical large-scale surveillance

Anton van den Helgen

ORAL SESSION2

Re-Identification of Pedestrians in Crowds using Dynamic Time Warping

Damien Simonnet

Re-identification with RGB-D sensors

Igor Barros Barbosa, Marco Cristani, Alessio Del Bue, Loris Bazzani,
Vittorio Murino

Part 4 - 16:30

ORAL SESSION 3

Identity inference: generalizing person re-identification scenarios

Svebor Karaman, Andrew Bagdanov

A general method for appearance-based people search based on textual queries

Riccardo Satta, Giorgio Fumera, Fabio Roli

PANEL SESSION

Friday, October 12
09:15-13:00 / 14:30-18:15

WORKSHOP WS8

Workshop on Biological and Computer Vision Interfaces

Workshop Chairs

Olivier Faugeras, Pierre Kornprobst

Part 1 - 09:15

ORAL SESSION 1

Lessons from the primate visual system

Guy Orban

Neural Mechanisms of Form and Motion Detection and Integration: Biology meets Machine Vision

Heiko Neumann

Part 2 - 11:00

ORAL SESSION 2

Neural fields models of visual areas: principles, successes, and caveats

Olivier Faugeras

Visual cortex as a general-purpose information-processing device

James A. Bednar

Part 3 - 14:30

ORAL SESSION 3

Reading out the synaptic echoes of low-level perception

Yves Fregnac

Learning invariant feature hierarchies

Yann LeCun

Part 4 - 16:30

ORAL SESSION 4

Event-based silicon retinas and applications

Tobi Delbrück

Spike-based Image Processing : Can we reproduce biological vision in hardware?

Simon Thorpe

Friday, October 12
09:15-13:00 / 14:30-18:15

WORKSHOP WS9

VISART: “Where computer Vision Meets Art” Workshop

Workshop Chairs

Joao Paulo Costeira, Gustavo Carneiro, Nuno Pinho da Silva, Alessio Del Bue

Part 1 - 09:15

INVITED TALK

When Computers Look at Art: Image Analysis in Humanistic Studies of the Visual Arts

David Stork

ORAL SESSION 1

PHOG-Derived Aesthetic Measures Applied to Color Photographs of Artworks, Natural Scenes and Objects

Christoph Redies, Seyed Ali Amirshahi, Michael, Joachim Denzler

Wehrli 2.0: An Algorithm for “Tidying up Art”

Nikolai Ufer, Mohamed Souiai, Daniel Cremers

Part 2 - 11:00

INVITED TALK

More Than Meets the Eye

Hans Brandhorst

ORAL SESSION 2

Feature Vector Definition for a Decision Tree Based Craquelure Identification in Old Paintings

Joanna Gancarczyk

Computer-Aided Reclamation of Lost Art

Maria Lena Demetriou, Jon Hardeberg, Gabriel Adelman

Evaluation of Digital Inpainting Quality in the Context of Artwork Restoration

Alexandra Oncu Feier, Jon Hardeberg, Ferdinand Deger

Part 3 - 14:30

INVITED TALK

Where Is 'The Birth of Venus'? Google Art from Bird's- Eye View

Jianxiang Xiao

ORAL SESSION 3

Shaping Art with Art: Morphological Analysis for Investigating Artistic Reproductions

Juan Antonio Monroy Kuhn, Peter, Bjorn Ommer

Artificial Mosaics with Irregular Tiles Based on Gradient Vector Flow

Sebastiano Battiato, Alfredo Milone, Giovanni Puglisi

Identification of Illustrators

Pinar Duygulu, Fadime Sener, Nermin Samet

Part 4 - 16:30

INVITED TALK

Azulejos and Prints - Looking for Matching

Rosário Salema de Carvalho

PANEL SESSION

Friday, October 12
09:15-13:00 / 14:30-18:15

WORKSHOP WS10

2nd Workshop on Consumer Depth Cameras for Computer Vision (CDC4CV)

Workshop Chairs

Andrea Fossati, Juergen Gall, Helmut Grabner, Xiaofeng Ren, Kurt Konolige, Seungkyu Lee,
Miles Hansard

Part 1 - 09:15

INVITED TALK

Interacting with Humans: Developments in Human Pose Estimation/Gesture Recognition for Kinect
Pushmeet Kohli

Part 2 - 11:00

ORAL SESSION 1

Sensor Fusion

Locally Consistent ToF and Stereo Data Fusion

Carlo Dal Mutto, Pietro Zanuttigh, Stefano Mattoccia, Guido Cortelazzo

High Accuracy TOF and Stereo Sensor Fusion At Interactive Rates

Rahul Nair, Frank Lenzen, Stephan Meister, Henrik Schaefer, Christoph Garbe, Daniel Kondermann

A Modular Framework for 2D/3D and Multi-Modal Segmentation and Joint Super-Resolution

Benjamin Langmann, Klaus Hartmann, Otmar Loffeld

ORAL SESSION 2

Scene Understanding

Real-Time Plane Segmentation and Obstacle Detection of 3D Point Clouds for Indoor Scenes

Zhe Wang, Hong Liu, Yueliang Qian, Tao Xu

Combining Textural and Geometrical Descriptors for Scene Recognition

Neslihan Bayramoglu, Janne Heikkil, Matti Pietikainen

Part 3 - 14:30

INVITED TALK

Imperial College London - Real-Time SLAM with Moving Cameras

Andrew Davison

ORAL SESSION 3

Human-Based Analysis

Human-Centric Indoor Environment Modeling from Depth Videos

Jiwen Lu, Gang Wang

Human Daily Action Analysis with Multi-View and Color-Depth Data

Zhongwei Cheng, Lei Qin, Yituo Ye, Qingming Huang, Qi Tian

Part 4 - 16:30

ORAL SESSION 4

Object Detection & Recognition

Viewpoint Invariant Matching via Developable Surfaces

Bernhard Zeisl, Kevin Koeser, Marc Pollefeys

A unified energy minimization framework for model fitting in depth

Carl Ren, Ian Reid

Object Recognition Robust to Imperfect Depth Data

David Fouhey, Alvaro Collet, Martial Hebert, Siddhartha Srinivasa

3D Object Detection with Multiple Kinects

Wandi Susanto, Marcus Rohrbach, Bernt Schiele

Friday, October 12
09:15-13:00 / 14:30-18:15

WORKSHOP WS11

Workshop on Unsolved Problems in Optical Flow and Stereo Estimation

Workshop Chairs

Daniel Kondermann, Bernd Jähne, Daniel Scharstein

Part 1 - 09:15

INVITED TALKS

Michael Black
Raquel Urtasun

KEYNOTE TALK

Robust Vision Challenge Results

Part 2 - 11:00

INVITED TALKS

Rick Szeliski
Gabriel Brostow

Part 3 - 14:30

POSTER SESSION

Combining Monocular Geometric Cues with Traditional Stereo Cues for Consumer Camera Stereo

Adarsh Kowdle, Andrew Gallagher, Tsuhan Chen

Quality assessment of non-dense image correspondences

Anita Sellent, Jochen Wingbermühle

A Complete Confidence Framework for Optical Flow

Patricia Márquez-Valle, Debora Gil, Aura Hernández-Sabaté

An Improved Stereo Matching Algorithm with Ground plane and Temporal Smoothness Constraints

Cevahir Cigla, Aydin Alatan

On the Evaluation of Scene Flow Estimation

Philippos Mordohai

Analysis of KITTI Data for Stereo Analysis with Stereo Confidence Measures

Ralf Haeusler, Reinhard Klette

Lessons and insights from creating a synthetic optical flow benchmark

Jonas Wulff, Daniel Butler, Garrett Stanley, Michael Black

INVITED TALKS

Daniel Cremers

Wolfgang Förstner

Part 4 - 16:30

PANEL SESSION

Unsolved problems and longterm goals?

Friday, October 12
09:15-13:00 / 14:30-18:15

WORKSHOP WS12

“What’s in a Face?” Workshop

Workshop Chairs

Arun Ross, Alice O’Toole, Maja Pantic, Antitza Dantcheva, Stefanos Zafeiriou

Part 1 - 09:15

INVITED TALK

Representing faces

Alan Johnston

ORAL SESSION 1

Modeling and Detection of Wrinkles in Aging Human Faces using Marked Point Processes

Nazre Batool, Rama Chellappa

How Does Aging Affect Facial Components?

Charles Otto, Hu Han, Anil Jain

Spatio-temporal Multifeature for Facial Analysis

Zahid Riaz

Part 2 - 11:00

INVITED TALK

The Third Dimension of Face Recognition: A Perspective on Promises and Challenges

Ioannis A. Kakadiaris

ORAL SESSION 2

The Role of Facial Regions in Evaluating Social Dimensions

David Masip Rodo, Alexander Todorov, Jordi Vitrià Marca

Illumination Suppression using self lighting ratios for 3D-2D face recognition

Xi Zhao, Shishir Shah, Ioannis Kakadiaris

Robust Learning from Normals for 3D face recognition

Ioannis Marras, Stefanos Zafeiriou, Georgios Tzimiropoulos

Coupled Marginal Fisher Analysis for Low-resolution Face Recognition

Stephen Siena, Vishnu Naresh Boddeti, B.V.K. Vijaya Kumar

Part 3 - 14:30

PANEL SESSION

An Interdisciplinary Research Agenda on Facial Analysis and Interpretation

Part 4 - 16:30

ORAL SESSION 3

Exploring Bag of Words Architectures in the Facial Expression Domain

Karan Sikka, Tingfan Wu, Josh Susskind, Marian Bartlett

Kernel Conditional Ordinal Random Fields for Temporal Segmentation of Facial Action Units

Ognjen Rudovic, Vladimir Pavlovic, Maja Pantic

Exploring the Facial Expression Perception-Production Link Using Real-time Automated Facial Expression Recognition

David Deriso, Josh Susskind, Jim Tanaka, John Herrington, Robert Schultz, Marian Bartlettos

POSTER SESSION

Understanding Critical Factors in Appearance-based Gender Categorization

Enrico Grosso, Andrea Lagorio, Luca Pulina, Massimo Tistarelli

Facial Landmarking: Comparing Automatic Landmarking Methods with Applications in Soft Biometrics

Amrutha Sethuram, Karl Ricanek, Jason Saragih, Chris Boehnen

Gender recognition using cognitive modeling

Jens Fagertun

Periocular Recognition Using Retinotopic Sampling and Gabor Decomposition

Fernando Alonso-Fernandez, Josef Bigun

Exploiting Perception for Face Analysis: Image Abstraction for Head Pose Estimation

Anant Puri, Brejesh Lall

Complex Bingham Distribution for facial Feature detection

Eslam Mostafa (University of Louisville) Aly Farag

Saturday, October 13
09:15-13:00

WORKSHOP WS23

2nd International Workshop on Benchmarking Facial Image Analysis Technologies (BeFIT 2012)

Workshop Chairs

Hazim Kemal Ekenel, Gang Hua, Shiguang Shan

Part 1 - 09:15

INVITED TALK

On the Importance of Benchmarking in Facial Image Analysis

Sébastien Marcel

ORAL SESSION 1

Benchmarking Frameworks

A Virtual Environment Tool for Benchmarking Face Analysis Systems

Mauricio Correa, Javier Ruiz-del-Solar, Rodrigo Verschae

An Open Source Framework for Standardized Comparisons of Face Recognition Algorithms

Manuel Günther, Roy Wallace, Sébastien Marcel

Part 2 - 11:00

INVITED TALK

Face Recognition Technology Evaluations: an Industry Perspective

Shihong Lao

ORAL SESSION 2

Automatic Facial Image Analysis

Adaptive Registration for Occlusion Robust 3D Face Recognition

Nese Alyuz, Berk Gokberk, Lale Akarun

Robust and Computationally Efficient Face Detection using Gaussian Derivative Features of Higher Orders

John Ruiz Hernandez, James Crowley, Claudine Combe, Augustin Lux, Matti Pietikäinen

Multi-view Facial Expression Recognition with the Generic Sparse Coding Feature

Usman Tariq, Jianchao Yang, Thomas Huang

Saturday, October 13
09:15-13:00 / 14:30-18:15

WORKSHOP WS15

4th Color and Photometry in Computer Vision Workshop

Workshop Chairs

Theo Gevers, Raimondo Schettini, Joost van de Weijer, Todd Zickler, Javier Vazquez-Corral

Part 1 - 09:15

KEYNOTE TALK

Physics-Based Vision: From Natural Lighting to Volumetric Scattering

Ravi Ravamoorthi

ORAL SESSION 1

Estimating Surface Normals from Spherical Stokes Reflectance Fields

Giuseppe Claudio Guarnera, Pieter Peers, Paul Debevec, Abhijeet Ghosh

Base Material for Photometric Stereo

David Tingdahl, Christoph Godau, Luc Van Gool

Robust Luminance and Chromaticity for Matte Regression in Polynomial Texture Mapping

Mingjing Zhang, Mark Drew

Part 2 - 11:00

ORAL SESSION 2

Illuminant estimation from projections on the Planckian locus

Baptiste Mazin, Julie Delon, Yann Gousseau

Lighting estimation in indoor environments from low quality images

Natalia Neverova, Damien Muselet, Alain Tremeau

Color constancy using single colors

Simone Bianco

An effective method for Illumination-Invariant representation of color images

Takahiko Horiuchi, Abdelhameed Ibrahim, Hideki Kadoi, Shoji Tominaga

Specularity, the Zeta-Image, and Information-Theoretic Illuminant Estimation

Mark Drew, Hamid Reza Vaezi Joze, Graham Finlayson

High Information Rate and Efficient Color Barcode Decoding

Homayoun Bagherinia, Roberto Manduchi

Part 3 - 14:30

KEYNOTE TALK

RGB+: Exploiting Near-Infrared to Advance Computer Vision and Computational Photography

Sabine Süsstrunk

ORAL SESSION 3

A Fisheye Camera System for Polarisation Detection on UAVs

Wolfgang Stuerzl, Nicole Carey

Time-Lapse Image Fusion

Francisco Estrada

HDR Imaging under Non-Uniform Blurring

C.S. Vijay, Paramanand Chandramouli, Rajagopalan Ambasamudram

Part 4 - 16:30

ORAL SESSION 4

Semantic Image Segmentation Using Visible and Near-Infrared Channels

Neda Salamat, Diane Larlus, Gabriela Csurka, Sabine Susstrunk

Utilization of False Color Images in Shadow Detection

Yagiz Aksoy, Aydin Alatan

Robust Estimation of Pigment Distributions from Multiband Skin Images and its application to realistic skin image synthesis

1710 Motonori Doi, Akira Kimachi, Shogo Nishi, Shoji Tominaga

Uzawa block relaxation methods for color image restoration

Cédric Loosli, Stéphanie Jehan-Besson, Jonas Koko

Saturday, October 13
09:15-13:00 / 14:30-18:15

WORKSHOP WS13

3rd Workshop on Computer Vision in Vehicle Technology: From Earth to Mars

Workshop Chairs

Atsushi Imiya , Antonio M. López

Part 1 - 09:15

INVITED TALK

PROVISG and PROVISCOUT planetary robotics

Tomas Pajdla

ORAL SESSION 1

Monocular Rear-View Obstacle Detection Using Residual Flow

Jose Molineres, Shinko Y. Cheng, Yuri Owechko, Dan Levi, Wende Zhang

Subtraction-Based Forward Obstacle Detection using Illumination Insensitive Feature for Driving-Support

Haruya Kyutoku, Daisuke Deguchi, Tomokazu Takahashi, Yoshito Mekada, Ichiro Ide, Hiroshi Murase

Part 2 - 11:00

ORAL SESSION 2

Adaptive Visual Obstacle Detection for Mobile Robots Using Monocular Camera

Ibrahim K. Iyidir, F. Boray Tek, Dogan Kircali

Data-driven Vehicle Identification by Image Matching

Jose A. Rodriguez-Serrano, Harsimrat Sandhawalia, Raja Bala, Florent Perronnin, Craig Saunders

POSTER SESSION

A Vision-Based Navigation Facility for Planetary Entry Descent Landing

Piergiorgio Lanza, Nicoletta Noceti, Corrado Maddaleno, Antonio Toma, Luca Zini, Francesca Odone

CYKLS: Detect Pedestrian's Dart Focusing on an Appearance Change

Masahiro Ogawa, Hideo Fukamachi, Ryuji Funayama, Toshiki Kindo

Pose-Invariant Face Recognition in Videos for Human-Machine Interaction

Bogdan Raducanu, Fadi Dornaika

Hierarchical Properties of Multi-resolution Optical Flow Computation

Yusuke Kameda, Atsushi Imiya, Tomoya Sakai

Part 3 - 14:30

INVITED TALK

Smart cars for safe pedestrians

Dariu M. Gavrilă

ORAL SESSION 3

Semantic Road Segmentation via Multi-Scale Ensembles of Learned Features

Jose M. Alvarez, Yann LeCun, Theo Gevers, Antonio M. Lopez

Monocular Visual Odometry and Dense 3D Reconstruction for On-Road Vehicles

Menglong Zhu, Srikumar Ramalingam, Yuichi Taguchi, Tyler Garaas

Part 4 - 16:30

INVITED TALK

Pixels, Stixels, and Objects

David Pfeiffer, Friedrich Erbs, Uwe Franke

ORAL SESSION 4

Fast Stixel Computation for Fast Pedestrian Detection

Rodrigo Benenson, Markus Mathias, Radu Timofte, Luc Van Gool

PANEL SESSION

Best paper announcement and Workshop closing

Saturday, October 13
09:15-13:00 / 14:30-18:15

WORKSHOP WS16

2nd Workshop on Parts and Attributes

Workshop Chairs

Christoph H. Lampert, Rogerio S. Feris

Part 1 - 09:15

INVITED TALK

Attributes and Hashing

David Forsyth

ORAL SESSION 1

Discovering a Lexicon of Parts and Attributes

Subhransu Maji

Curated Harvesting and Annotation for a Dataset of Hundreds of North American Bird Species

Ryan Farrell, Serge Belongie, Pietro Perona

Part 2 - 11:00

INVITED TALK

Limitations of Part Models, and How to Break Them

Deva Ramanan

ORAL SESSION 2

How Important are 'Deformable Parts' in the Deformable Parts Model?

Santosh Divvala, Alexei Efros, Martial Hebert

Bounding Part Scores for Rapid Detection with Deformable Part Models

Iasonas Kokkinos

Part 3 - 14:30

INVITED TALK

The Neural Coding of Parts and Relations in Object Recognition

Irving Biederman

ORAL SESSION 3

Learning Compact Visual Attributes for Large-scale Image Classification

Yu Su, Frederic Jurie

Unsupervised Learning of Discriminative Relative Visual Attributes

Shugao Ma, Stan Sclaroff, Nazli Ikizler-Cinbis

Part 4 - 16:30

INVITED TALK

Relative Attributes: Teaching a System through Visual Comparisons

Kristen Grauman

PANEL SESSION

Parts vs. Attributes vs. Global Representations

Saturday, October 13
09:15-13:00 / 14:30-18:15

WORKSHOP WS18

3rd IEEE International Workshop on Analysis and Retrieval of Tracked Events and Motion in Imagery Streams (ARTEMIS 2012)

Workshop Chairs

Anastasios Doulamis, Nikolaos D. Doulamis, Jordi González, Thomas B. Moeslund, Marco Bertini

Part 1 - 09:15

ORAL SESSION 1

Human Behaviour Analysis

A method for online Analysis of structured Processes using Bayesian Filters and Echo State Networks

Dimitrios Kosmopoulos, Fillia Makedon

Monocular Camera Fall Detection System Exploiting 3D Measures: A Semi-Supervised Learning Approach

Konstantinos Makantasis, Eftychios Protopapadakis, Lazaros Grammatikopoulos, Anastasios Doulamis, Christos Stentoumis

Person Identification using Full-Body Motion and Anthropometric Biometrics from Kinect Videos

Brent Munsell, Andrew Temlyakov, Chengzheng Qu, Song Wang

Spatio-temporal Video Representation with Locality-Constrained Linear Coding

Manal Alghamdi, Nouf Alharbi, Yoshihiko Gotoh

Real Time Detection of Social Interactions in Surveillance Video

Nicola Conci, Paolo Rota, Nicu Sebe

Towards Space-Time Semantics In Two Frames

Karla Brki, Axel Pinz, Zoran Kalafati, Siniša Šegvi

Part 2 - 11:00

ORAL SESSION 2

Trajectory and Scene Analysis

SuperFloXels: A Mid-Level Representation for Video Sequences

Avinash Ravichandran, Chaohui Wang, Michalis Raptis, Stefano Soatto

Relative Camera Localisation in Non-Overlapping Camera Networks using Multiple Trajectories

Vijay John, Gwenn Engleblenne, Ben Krose

Detecting Interesting Events using Unsupervised Density Ratio Estimation

Yuichi Ito, Kris Kitani, James Bagnell, Martial Hebert

Destination Flow for Crowd Simulation

Stefano Pellegrini, Juergen Gall, Leonid Sigal, Luc Van Gool

Part 3 - 14:30

ORAL SESSION 3

Tracking and Motion Models

3D Rotation Invariant Decomposition of Motion Signals

Quentin Barthélemy, Anthony Larue, Jérôme Mars

Learn to Move: Activity Specific Motion Models for Tracking by Detection

Thomas Mauthner, Peter Roth, Horst Bischof

Flow Counting using Realboosted Multi-sized Window Detectors

Håkan Ardö, Mikael Nilsson, Rikard Berthilsson

Dynamic Markov Random Field Model for Visual Tracking

Daehwank Kim, Ki-Hong Kim, Gil-Haeng Lee, Daijin Kim

Part 4 - 16:30

ORAL SESSION 4

Image and Video Segmentation

Mode Seeking with an Adaptive Distance Measure

Guodong Pan, Lifeng Shang, Dirk Schnieders, Kenneth Wong

Constrained Clustering with Local Constraint Propagation

Ping He, Xiaohua Xu, Ling Chen

Occlusion Handling in Video Segmentation via Predictive Feedback

Jeremie Papon, Alexey Abramov, Florentin Woergoetter

PANEL SESSION

Saturday, October 13
09:15-13:00 / 14:30-18:15

WORKSHOP WS19

1st Workshop on Action Recognition and Pose Estimation in Still Images

Workshop Chairs

Vittorio Ferrari, Ivan Laptev, Josef Sivic, Bangpeng Yao

Part 1 - 09:15

INVITED TALKS

One-shot human pose estimation by inferring dense correspondences to the Vitruvian Manifold

Jamie Shotton

Human representation of object and space affordance

Aude Oliva

POSTER SESSION

Collective activity localization with contextual spatial pyramid

Shigeyuki Odashima, Masamichi Shimosaka, Takuhiro Kaneko, Rui Fukui, Tomomasa Sato

Viewpoint invariant collective activity recognition with relative action context

Takuhiro Kaneko, Masamichi Shimosaka, Shigeyuki Odashima, Rui Fukui, Tomomasa Sato

On recognizing actions in still images via multiple features

Fadime Sener, Cagdas Bas, Nazli Ikizler-Cinbis

Part 2 - 11:00

INVITED TALKS

David Forsyth

Humans, actions, and objects

Abhinav Gupta

Part 3 - 14:30

INVITED TALKS

Multi-body and multi-object pose estimation

Deva Ramanan

The future of action recognition

Jitendra Malik

PANEL SESSION

Saturday, October 13
09:15-13:00 / 14:30-18:15

WORKSHOP WS20

Workshop on Higher-Order Models and Global Constraints in Computer Vision

Workshop Chairs

Karteek Alahari, Dhruv Batra, Srikumar Ramalingam, Nikos Paragios, Rich Zemel

Part 1 - 09:15

INVITED TALK

Endre Boros

ORAL SESSION 1

Tighter Relaxations for Higher-Order Models based on Generalized Roof Duality

Johan Fredriksson, Carl Olsson, Petter Strandmark, Fredrik Kahl

Approximate Envelope Minimization for Curvature Regularity

Stefan Heber, Rene Ranftl, Thomas Pock

Part 2 - 11:00

INVITED TALK

Fredrik Kahl

ORAL SESSION 2

Relating Things and Stuff by High-Order Potential Modeling

Byung-soo Kim, Min Sun, Pushmeet Kohli, Silvio Savarese

POSTER SESSION

Submodular Relaxation for MRFs with High-Order Potentials

Anton Osokin, Dmitry Vetrov

Adjacency Matrix Construction Using Sparse Coding for Label Propagation

Haixia Zheng, H. S. Horace Ip, Liang Tao

Climbing: A unified approach for global constraints on hierarchical segmentation

Bangalore Kiran, Jean Serra, Jean Cousty

Tighter Relaxations for Higher-Order Models based on Generalized Roof Duality

Johan Fredriksson, Carl Olsson, Petter Strandmark, Fredrik Kahl

Approximate Envelope Minimization for Curvature Regularity

Stefan Heber, Rene Ranftl, Thomas Pock

Relating Things and Stuff by High-Order Potential Modeling

Byung-soo Kim, Min Sun, Pushmeet Kohli, Silvio Savarese

Part 3 - 14:30

INVITED TALKS

Yann LeCun

Nikos Komodakis

Part 4 - 16:30

INVITED TALK

Rene Vidal

PANEL SESSION

Saturday, October 13
09:15-13:00 / 14:30-18:15

WORKSHOP WS21

Workshop on Information fusion in computer vision for concept recognition

Workshop Chairs

Jenny Benois-Pineau, Georges Quenot, Tomas Piatrik, Bogdan Ionescu

Part 1 - 09:15

KEYNOTE TALK

What to fuse for visual concept recognition?

Cees G. M. Snoek

ORAL SESSION 1

Hierarchical late fusion for concept detection in videos

Tiberius Strat, Alexandre Benoit, Hervé Bredin, Georges Quénot, Patrick Lambert

Fast and Adaptive Deep Fusion Learning for Detecting Visual Objects

Nikolaos Doulamis, Anastasios Doulamis

Hybrid Pooling Fusion in the BoW Pipeline

Marc Law, Nicolas Thome, Matthieu Cord

Part 2 - 11:00

POSTER SESSION

Joint Sparsity-based Robust Multimodal Biometrics Recognition

Sumit Shekhar, Vishal Patel, Nasser Nasrabadi, Rama Chellappa

GPS-based Multi-Viewpoint Integration for Anticipative Scene Analysis

Kohji Kamejima

Fusion of speech, faces and text for person identification in TV broadcast

Herve Bredin, Johann Poignant, Makarand Tapaswi, Guillaume Fortier, Viet Bac Le, Thibault Napoleon, Hua Gao, Claude Barras, Sophie Rosset, Laurent Besacier, Jakob Verbeek, Georges Quénot, Frederic Jurie, Hazim Kemal Ekenel

Explicit Performance Metric Optimization for Fusion-based Video Retrieval

Ilseo Kim, Sangmin Oh, Byungki Byun, Amitha Perera, Chin-Hui Lee

Unsupervised Classemes

Simone Santini, Claudio Cusano, Riccardo Satta

A benchmarking campaign for the multimodal detection of violent scenes in movies

Claire-Hélène Demarty, Cédric Penet, Guillaume Gravier, Mohammad Soleymani

A Selective Weighted Late Fusion for Visual Concept Recognition

Ningning Liu, Emmanuel Dellandrea, Liming Chen

Part 3 - 14:30

KEYNOTE TALK

Crowdsourcing for Multimedia: Information Fusion and Evaluation

Martha Larson

ORAL SESSION 2

Fusion of multiple visual cues for visual saliency extraction from wearable camera settings with strong motion

Hugo Boujut, Jenny Benois-Pineau, Rémi Mégret

Enhancing Semantic Features with Compositional Analysis for Scene Recognition

Miriam Redi, Bernard Merialdo

Object Reading : Text Recognition for Object Recognition

Sezer Karaoglu, Theo Gevers, Jan Gemert

Bayesian multimodal fusion in forensic applications

Virginia Fernandez Arguedas, Qianni Zhang, Ebroul Izquierdo

Part 4 - 16:30

PANEL SESSION

Saturday, October 13
14:30-18:15

WORKSHOP WS22

***QU3ST Workshop – 2.5D Sensing Technologies in Motion:
The Quest for 3D***

Workshop Chairs

David Fofi, Adrien Bartoli

Part 1 - 14:30

KEYNOTE TALK

Real-Time Monocular SLAM and Spatial Perception

Andrew Davison

ORAL SESSION 1

Noise Modelling and Uncertainty Propagation for TOF Sensors

Amira Belhedi, Adrien Bartoli, Steve Bourgeois, Kamel Hamrouni, Vincent Gay-Bellile, Patrick Sayd

HDepth Enhancement by Fusion for Passive and Active Sensing

Frederic Garcia, Djamila Aouada, Hashim Abdella, Thomas Solignac, Bruno Mirbach, Bjorn Ottersten

Part 2 - 16:30

ORAL SESSION 2

Single Color One-shot Scan using Topology Information

Hitoshi Masuyama, Ryo Furukawa, Ryusuke Sagawa, Hiroshi Kawasaki

View Planning Approach for Automatic 3D Digitization of Unknown Objects

Souhaïel Khalfoui, Ralph Seulin, Yohan Fougerolle, David Fofi

2.1 Depth Estimation of Frames in Image Sequences Using Motion Occlusions

Guillem Palou, Philippe Salembier

Joint Spatio-Temporal Depth Features Fusion Framework for 3D Structure Estimation in Urban Environment

Mohamad Motasem Nawaf, Alain Tremeau

PANEL SESSION

Notes

