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Registration Desk Opening Hours

1 December	8.30am – 2pm
2 December	8.30am – 7pm
3 December	8.00am – 5pm
4 December	8.30am – 5pm
5 December	8.30am – 5pm
6 December	8.30am – 5pm
7 December	8.30am – 5pm
8 December	8.30am – 4pm

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Internet Wifi
Network name: ICCV2013
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PAMI/TC Meeting
Bayside Auditorium
19:00 Tuesday, Dec. 3

Award Sessions
Bayside Auditorium
18:45 – 19:00 Tuesday Dec. 3
Bayside Auditorium
18:45 – 19:00 Wednesday Dec. 4

Welcome Reception
Bayside Grand Hall
19:00 Wednesday Dec. 4

Keynote Speech: Prof. Brian Schmidt
Bayside Auditorium
13:45 – 14:45 Friday Dec. 6

Tutorials Sunday, Dec 1

09:00 - 13:00	**Don't Relax: Why Non-Convex Algorithms are Often Needed for Sparse Estimation** *Organizers: David Wipf* *Room: 103*
09:00 - 13:00	**Part-based Models for Recognition** *Organizers: Subhransu Maji, Lubomir Buordev, Ross Girshick* *Room: 104*
09:00 - 13:00	**Sparsity Estimation and Robust Learning: A Half-quadratic Minimization View** *Organizers: Ran He, Wei-Shi Zheng, Wang Liang* *Room: 202*
09:00 - 13:00	**Spectral geometry methods in 3D data analysis** *Organizers: Alexander Bronstein, Michael Bronstein* *Room:201*
14:00 - 18:00	**Image and Video Matting** *Organizers: Ehsan Shahrian, Margrit Gelautz, Brian Price* *Room: 104*
14:00 - 18:00	**Introduction to Statistical Optimization for Geometric Estimation** *Organizers: Kenichi Kanatani* *Room: 201*
14:00 - 18:00	**Low-Dimensional Subspaces in Computer Vision** *Organizers: Roland Angst* *Room: 202*
14:00 - 18:00	**Sparse and Low-Rank Representations in Computer Vision -- Theory, Algorithms, and Applications** *Organizers: Bernard Ghanem, John Wright, Allen Y. Yang* *Room: 103*

Tutorials Monday, Dec 2

09:00 - 13:00	**Decision Forests and Fields for Computer Vision** *Organizers: Jamie Shotton, Sebastian Nowozin* *Room: 202*
14:00 - 18:00	**Dense Image Correspondences for Computer Vision** *Organizers: Ce Liu, Zhuowen Tu, Michael Rubinstein* *Room: 202*

Main Conference at a Glance

	Dec. 3rd Tuesday
08:50-09:00	Welcome & Opening Remarks Location: Bayside Auditorium
09:00-10:00	Oral 1A: Recognition (4) Chair: Cordelia Schmid Location: Bayside Auditorium
10:00-10:45	Poster Spotlights (52) Chair: Vittorio Ferrari Location: Bayside Auditorium
10:45-12:15	Poster Session Location: Bayside Grand Hall
12:15-14:15	**Lunch Break**
14:15-15:00	Oral 1B: Computational Photography (3) Chair: Srinivasa Narasimhan Location: Bayside Auditorium
15:00-15:45	Poster Spotlights (52) Chair: Yasuyuki Matsushita Location: Bayside Auditorium
15:45-16:15	**Break**
16:15-17.15	Oral 1C: 3D Vision (4) Chair: Fredrik Kahl Location: Bayside Auditorium
17:15-18:45	Poster Session Location: Bayside Grand Hall
18:45-19:00	Award Session Location: Bayside Auditorium
19:00-Finish	PAMI TC Location: Bayside Auditorium

	Dec. 4th Wednesday
09:00-10:00	Oral 2A: Low Level Vision (4) Chair: Michael Brown Location: Bayside Auditorium
10:00-10:45	Poster Spotlights (52) Chair: Erik Learned-Miller Location: Bayside Auditorium
10:45-12:15	Poster Session Location: Bayside Grand Hall
12:15-14:15	**Lunch Break**
14:15-15:00	Oral 2B: Motion and Tracking (3) Chair: Ian Reid Location: Bayside Auditorium
15:00-15:45	Poster Spotlights (52) Chair: Raquel Urtasun Location: Bayside Auditorium
15:45-16:15	**Break**
16:15-17.15	Oral 2C: Recognition (4) Chair: Antonio Torralba Location: Bayside Auditorium
17:15-18:45	Poster Session Location: Bayside Grand Hall
18:45-19:00	Award Session Location: Bayside Auditorium
19:00-Finish	Welcome Reception Location: Bayside Grand Hall

	Dec. 5th Thursday
09:00-10:00	Oral 3A: Segmentation (4) Chair: Rene Vidal Location: Bayside Auditorium
10:00-10:45	Poster Spotlights (52) Chair: Kyoung Mu Lee Location: Bayside Auditorium
10:45-12:15	Poster Session Location: Bayside Grand Hall
12:15-14:15	**Lunch Break**
14:15-15:00	Oral 3B: Motion and Tracking (3) Chair: Michal Irani Location: Bayside Auditorium
15:00-15:45	Poster Spotlights (52) Chair: Tinne Tuytelaars Location: Bayside Auditorium
15:45-16:15	**Break**
16:15-17:15	Oral 3C: Optimization (4) Chair: Ramin Zabih Location: Bayside Auditorium
17:15-18:45	Poster Session Location: Bayside Grand Hall

	Dec. 6th Friday
09:00-10:00	Oral 4A: Recognition (4) Chair: Kristen Graumann Location: Bayside Auditorium
10:00-10:45	Poster Spotlights (52) Chair: Josef Sivic Location: Bayside Auditorium
10:45-12:15	Poster Session Location: Bayside Grand Hall
12:15-13:45	**Lunch Break**
13:45-14:45	Keynote Speech Location: Bayside Auditorium
14:45-15:15	**Break**
15:15-16:15	Oral 4B: Gaze, Face & Gesture (4) Chair: Serge Belongie Location: Bayside Auditorium
16:15-17:00	Poster Spotlights (50) Chair: Hongdong Li Location: Bayside Auditorium
17:00-18:30	Poster Session Location: Bayside Grand Hall

Main Conference
Tuesday December 3

8:50 - 9:00 Welcome & Opening Remarks (Announce Marr Prize)
Location: Bayside Auditorium

9:00 - 10:00 Oral Session 1A Recognition
Orals 1A:01 – 1A:04
Chair: Cordelia Schmid
Location: Bayside Auditorium

1 HOGgles: Visualizing Object Detection Features, Carl Vondrick, MIT; Aditya Khosla; Tomasz Malisiewicz; Antonio Torralba, MIT

2 How Do You Tell a Blackbird from a Crow? Thomas Berg, Columbia University; Peter N. Belhumeur, Columbia University, USA

3 Regionlets for Generic Object Detection, Xiaoyu Wang, NEC Labs America; Ming Yang, NEC Labs America; Shenghuo Zhu; Yuanqing Lin

4 Learning Graphs to Match, Minsu Cho; Karteek Alahari, ENS-Willow; Jean Ponce, ENS, France

10:00 - 10:45 Spotlights
Chair: Vittorio Ferrari
Location: Bayside Auditorium

10:45 - 12:15 Poster Session 1A:
Posters 1A:01 - 1A:52
Location: Bayside Grand Hall

1 Shape Anchors for Data-driven Multi-view Reconstruction, Andrew Owens, MIT; Jianxiong Xiao, Princeton University; Antonio Torralba, MIT; Bill Freeman, MIT, USA

2 Deterministic Fitting of Multiple Structures using Iterative MaxFS with Inlier Scale Estimation, Kwang Hee Lee, Sogang University; Sang Wook Lee, Sogang University, Korea

3 Constant Time Weighted Median Filtering for Stereo Matching and Beyond, Ziyang Ma, Institute of Software, CAS; Kaiming He, Microsoft Research Asia; Yichen Wei; Jian Sun, Microsoft Research Asia; Enhua Wu, Faculty of Science and Technology, University of Macau

4 Refractive Structure-from-Motion on Underwater Images, Anne Jordt-Sedlazeck, Kiel University; Reinhard Koch, Christian-Albrechts-Universitat Kiel

5 Live Metric 3D Reconstruction on Mobile Phones, Petri Tanskanen, ETH Zurich; Kalin Kolev, ETH Zurich; Lorenz Meier, ETH Zurich; Federico Camposeco, ETH Zurich; Olivier Saurer, ETH Zurich; Marc Pollefeys, ETH

6 Joint Subspace Stabilization for Stereoscopic Video, Feng Liu, Portland State University; Yuzhen Niu; Hailin Jin

7 Video Synopsis by Heterogeneous Multi-Source Correlation, Xiatian Zhu, Queen Mary, Univ. of London; Chen Change Loy, CUHK; Shaogang Gong, EECS, QMUL

8 DCSH - Matching Patches in RGBD Images, Yaron Eshet; Simon Korman, Tel-Aviv University; Eyal Ofek, Microsoft; Shai Avidan, Tel-Aviv University

9 Scene Text Localization and Recognition with Oriented Stroke Detection, Lukáš Neumann; Jiri Matas, Czech Technical University

10 Adapting Classification Cascades to New Domains, vidit Jain; Sachin Sudhakar Farfade,

11 Deep Learning Identity-Preserving Face Space, Zhenyao Zhu, CUHK; Ping Luo, CUHK; Xiaogan Wang; Xiaoou Tang

12 Multi-stage Contextual Deep Learning for Pedestrian Detection, Xingyu Zeng, The Chinese University of HK; Wanli Ouyang, The Chinese University of HK; Xiaogang Wang, The Chinese University of Hong Kong, Hongkong

13 Unsupervised Random Forest Manifold Alignment for Lipreading, Yuru Pei, Peking University; Tae-Kyun Kim, Imperial College London; Hongbin Zha, Peking University

14 Calibration-free Gaze Estimation using Human Gaze Patterns, Fares Alnajar, University of Amsterdam; Theo Gevers, University of Amsterdam; Roberto Valenti; Sennay Ghebreab, University of Amsterdam

15 Partial Sum Minimization of Singular Values in RPCA for Low-Level Vision, Tae-Hyun Oh, KAIST; Hyeongwoo Kim, KAIST; Yu-Wing Tai, KAIST, Korea; Jean-Charles Bazin, ETH-Z; In So Kweon, KAIST

16 Saliency Detection: A Boolean Map Approach, Jianming Zhang, Boston University; Stan Sclaroff, Boston University

17 Topology-Constrained Layered Tracking with Latent Flow, Jason Chang, CSAIL, MIT; John W. Fisher III, MIT

18 Stacked Predictive Sparse Coding for Classification of Distinct Regions in Tumor Histopathology, Hang Chang, Lawrence Berkeley National Lab; Yin Zhou, Nandita Nayak; Paul Spellman; Bahram Parvin

19 Higher Order Matching for Consistent Multiple Target Tracking, Chetan Arora; Amir Globerson

20 A General Dense Image Matching Framework Combining Direct and Feature-Based Costs, Jim Braux-Zin, CEA, LIST; Romain Dupont, CEA, LIST; Adrien Bartoli, Université d'Auvergne

21 Revisiting Example Dependent Cost-Sensitive Learning with Decision Trees, Oisin Mac Aodha, UCL; Gabriel J. Brostow

22 Modeling Self-Occlusions in Dynamic Shape and Appearance Tracking, Yanchao Yang, KAUST; Ganesh Sundaramoorthi, KAUST

23 A Convex Optimization Framework for Active Learning, Ehsan Elhamifar, UC Berkeley; Guillermo Sapiro, Duke; Allen Yang; S. Shankar Sastry, UC Berkeley

24 A Generalized Iterated Shrinkage Algorithm for Non-convex Sparse Coding, Wangmeng Zuo, Harbin Institute of Technology; Deyu Meng, Xi'an Jiaotong University; Lei Zhang, The Hong Kong Polytechnic University; Xiangchu Feng, School of Science, Xidian University; David Zhang, The Hong Kong Polytechnic University

25 Latent Space Sparse Subspace Clustering, Vishal M. Patel, UMIACS; Hien Van Nguyen, UMIACS; Rene Vidal, Johns Hopkins University

26 Tracking Revisited using RGBD Camera: Unified Benchmark and Baselines, Shuran Song, Princeton University; Jianxiong Xiao, Princeton University

27 A Simple Model for Intrinsic Image Decomposition with Depth Cues, Qifeng Chen; Vladlen Koltun, Stanford University

28 Quadruplet-wise Image Similarity Learning, Marc T. Law, LIP6; Nicolas Thome, LIP6; Matthieu Cord

29 Complementary Projection Hashing, Zhongming Jin, Zhejiang University; Yao Hu, Zhejiang University;Yue Lin; Debing Zhang, Zhejiang University; Shiding Lin, Deng Cai; Xuelong Li

30 Find the Best Path: an Efcient and Accurate Classier for Image Hierarchies, Min Sun; Wan Huang, University of Michigan at Ann Arbor; Silvio Savarese, University of Michigan at Ann Arbor

31 Detecting Dynamic Objects with Multi-View Background Subtraction, Raúl Díaz, University of California, Irvine; Sam Hallman, University of California, Irvine; Charless C. Fowlkes, University of California, Irvine

32 Low-Rank Sparse Coding for Image Classification, Tianzhu Zhang, ADSC of UIUC in Singapore; Bernard Ghanem, KAUST; Si Liu, National University of Singapore; Changsheng Xu, CASIA; Narendra Ahuja

33 Allocentric Pose Estimation, M. José Oramas, KU Leuven - ESAT; Luc De Raedt, KU Leuven - CS; Tinne Tuytelaars, KU Leuven

34 Attribute Pivots for Guiding Relevance Feedback in Image Search, Adriana Kovashka; Kristen Grauman, University of Texas at Austin

35 Decomposing Bag of Words Histograms, Ankit Gandhi, IIIT Hyderabad; Karteek Alahari, ENS-Willow; C. V. Jawahar, IIIT Hyderabad

36 SYM-FISH: A Symmetry-Aware Flip Invariant Sketch Histogram Shape Descriptor, Xiaochun Cao, Chinese Academy of Sciences; Hua Zhang, Tju; Si Liu, National University of Singapore; Xiaojie Guo, Tianjin University; Liang Lin

37 Symbiotic Segmentation and Part Localization for Fine-Grained Categorization, Yuning Chai, University of Oxford; Victor Lempitsky, Skolkovo Institute of Science and Technology; Andrew Zisserman, University of Oxford

38 Image Set Classification Using Holistic Multiple Order Statistics Features and Localized Multi-Kernel Metric Learning, Jiwen Lu, Advanced Digital Sciences Center, Singapore; Gang Wang, NTU; Pierre Moulin, UIUC

39 Learning a Dictionary of Shape Epitomes with Application to Image Labeling, Liang-Chieh Chen, UCLA; George Papandreou, UCLA; Alan L. Yuille, UCLA

40 Pyramid Coding for Functional Scene Element Recognition in Video Scenes, Eran Swears, Kitware Inc.; Anthony Hoogs, Kitware, USA; Kim Boyer, RPI

41 Box In the Box: Joint 3D Layout and Object Reasoning from Single Images, Alexander G. Schwing, ETH Zurich; Sanja Fidler, TTIC; Marc Pollefeys, ETH; Raquel Urtasun, Toyota Technological Institute at Chicago

42 Semantic Transform: Weakly Supervised Semantic Inference for Relating Visual Attributes, Sukrit Shankar, Cambridge University; Joan Lasenby, Univerity of Cambridge; Roberto Cipolla, Cambridge University

43 From Subcategories to Visual Composites: A Multi-Level Framework for Object Detection, Tian Lan, Simon Fraser University; Michalis Raptis, Disney Research Pittsburgh; Leonid Sigal; Greg Mori, Simon Fraser University

44 Online Video SEEDS for Temporal Window Objectness, Michael Van den Bergh, ETH; Gemma Roig, ETH; Xavier Boix, ETH; Santiago Manen, BIWI ETH Zurich; Luc Van Gool, ETH

45 Temporally Consistent Superpixels, Matthias Reso, TNT LUH Hannover; Jörn Jachalsky; Bodo Rosenhahn; Jörn Ostermann, Institut fr Informationsverarbeitung / Universitt Hannover

46 Semi-supervised Learning for Large Scale Image Cosegmentation, Zhengxiang Wang, Fujitsu R&D Center; Rujie Liu, Fujitsu R&D Center

47 Automatic Kronecker Product Model Based Detection of Repeated Patterns in 2D Urban Images, Juan Liu, Graduate Center City University of New York; Emmanouil Psarakis, University of Patras; Ioannis Stamos, CUNY

48 Group Norm for Learning Structured SVMs with Unstructured Latent Variables, Daozheng Chen, UMD; Dhruv Batra, Virginia Tech; William T. Freeman

49 Alternating Regression Forests for Object Detection and Pose Estimation, Samuel Schulter, TUGraz; Christian Leistner, Microsoft; Paul Wohlhart, TU Graz; Peter M. Roth; Horst Bischof, Graz University of Technology

50 Dynamic Label Propagation for Semi-supervised Multi-class Multi-label Classification, Bo Wang, Stanford University; Zhuowen Tu,University of California, San Diego,USA; John K. Tsotsos, York University, Canada

51 Translating Video Content to Natural Language Descriptions, Marcus Rohrbach, MPI Informatics; Wei Qiu, Coli.uni-saarland.de; Ivan Titov, Saarland University; Stefan Thater; Manfred Pinkal, Saarland University; Bernt Schiele, MPI Informatics, Germany

52 POP: Person Re-Identification Post-Rank Optimisation, Chunxiao Liu, Tsinghua University; Chen Change Loy, CUHK; Shaogang Gong, EECS, QMUL; Guijin Wang, Tsinghua University

12:15 - 14:15 Lunch

14:15 - 15:00 Oral Session 1B Computational Photography
Orals 1B:01 – 1B:03
Chair: Srinivasa Narasimhan
Location: Bayside Auditorium

1 First-Photon Imaging: Scene Depth and Reflectance Acquisition from One Detected Photon per Pixel, Ahmed Kirmani, MIT; Dongeek Shin, MIT; Dheera Venkatraman, MIT; Franco N. C. Wong, MIT; Vivek K Goyal, MIT

2 Separating Reflective and Fluorescent Components using High Frequency Illumination in the Spectral Domain, Ying Fu, The University of Tokyo; Antony Lam, National Institute of Informatics; Imari Sato; Takahiro Okabe; Yoichi Sato, The University of Tokyo, Japan

3 Rolling Shutter Stereo, Olivier Saurer, ETH Zurich; Kevin Koeser; Jean-Yves Bouguet, Google; Marc Pollefeys, ETH

15:00 - 15:45 Spotlights (45 mins)
Chair: Yasuyuki Matsushita
Location: Bayside Auditorium

15:45 - 16:15 Break (30 mins)

16:15 - 17:15 Oral Session 1C 3D Vision
Orals 1C:01 – 1C:04
Chair: Fredrik Kahl
Location: Bayside Auditorium

1 Elastic Fragments for Dense Scene Reconstruction, Qian-Yi Zhou, Stanford University; Stephen Miller, Stanford University; Vladlen Koltun, Stanford University

2 A Global Linear Method for Camera Pose Registration, Nianjuan Jiang, ADSC; Zhaopeng Cui, NUS; Ping Tan

3 A Rotational Stereo Model Based On XSlit Imaging, Jinwei Ye, University of Delaware; Yu Ji, University of Delaware; Jingyi Yu, University of Delaware

4 Lifting 3D Manhattan Lines from a Single Image, Srikumar Ramalingam, MERL; Matthew Brand, MERL

17:15 - 18:45 Poster Session 1B : Posters 1B:01-1B:52
Location: Bayside Grand Hall

1 Dynamic Probabilistic Volumetric Models, Ali Osman Ulusoy, Brown University; Octavian Biris; Joseph L. Mundy, Brown University

2 Network Principles for SfM: Disambiguating Repeated Structures with Local Context, Kyle Wilson, Cornell University; Noah Snavely, Cornell University

3 Efficient and Robust Large-Scale Rotation Averaging, Avishek Chatterjee, Indian Institute of Science; Venu Madhav Govindu, Indian Institute of Science

4 Pose Estimation with Unknown Focal Length using Points, Directions and Lines, Yubin Kuang, Lund University; Kalle Åström, Lund University

5 Unsupervised Intrinsic Calibration from a Single Frame Using a Plumb-Line Approach, R. Melo, ISR-Coimbra; M. Antunes; J.P. Barreto; G. Falcão; N. Gonalves

6 Structured Light in Sunlight, Mohit Gupta, Qi Yin, Columbia University; Shree K. Nayar, Columbia University

7 Content-Aware Rotation, Kaiming He, Mirosoft Research Asia; Huiwen Chang, Tsinghua University; Jian Sun, Microsoft Research, Asia

8 Fast Direct Super-Resolution by Simple Functions, Chih-Yuan Yang, UC Merced; Ming-Hsuan Yang, UC Merced, USA

9 Recognizing Text with Perspective Distortion in Natural Scenes, Trung Quy Phan, National University of Singapore; Palaiahnakote Shivakumara, University of Malaya; Shangxuan Tian, National University of Singapore; Chew Lim Tan, National University of Singapore

10 Rank Minimization across Appearance and Shape for AAM Ensemble Fitting, Xin Cheng, Queensland U of Tech; Sridharan Sridha, Queenland U of Tech; Jason Saragih, Queenland U of Tech; Simon Lucey

11 Face Recognition via Archetype Hull Ranking, Yuanjun Xiong, The Chinese University of Hong Kong; Wei Liu, IBM T. J. Watson Research; Deli Zhao, The Chinese University of Hong Kong; Xiaoou Tang, The Chinese University of Hong Kong

12 Optimization problems for fast AAM fitting in-the-wild, Georgios Tzimiropoulos, University of Lincoln/Imperial College London; Maja Pantic, Imperial College

13 Robust Feature Set Matching for Partial Face Recognition, Renliang Weng, Nanyang Technological Universi; Jiwen Lu, Advanced Digital Sciences Center, Singapore; Junlin Hu, NTU; Gao Yang, Nanyang Technological University; Yap-Peng Tan

14 Cross-view Action Recognition over Heterogeneous Feature Spaces, Xinxiao Wu; Han Wang, Beijing Insititute of technolo; Cuiwei Liu; Yunde Jia

15 Efficient Image Dehazing with Boundary Constraint and Contextual Regularization, Gaofeng Meng, Chinese Academy of Sciences; Ying Wang; Jiangyong Duan; Shiming Xiang, NLPR, CASIA; Chunhong Pan, NLPR, CASIA

16 From Where and How to What We See, S. Karthikeyan Vadivel, UCSB; Vignesh Jagadeesh, UCSB; Renuka Shenoy, UCSB; Miguel Eckstein, UCSB; B.S. Manjunath, UCSB

17 Restoring an Image Taken through a Window Covered with Dirt or Rain, David Eigen, Courant Institute, NYU; Dilip Krishnan, NYU; Rob Fergus, New York University

18 Uncertainty-driven Efficiently-Sampled Sparse Graphical Models for Concurrent Tumor Segmentation and Atlas Registration, Sarah Parisot, Ecole Centrale Paris; William Wells III, Surgical Planning Laboratory, Harvard Medical School; Stphane Chemouny, Intrasense SA; Hugues Duffau, Hpital Gui de Chauliac; Nikos Paragios, Ecole Centrale de Paris

19 Tracking via Robust Multi-Task Multi-View Joint Sparse Representation, Zhibin Hong, University of Technology, Sydney; Xue Mei, Future Mobility Research department, Toyota Research Institute, North America; Danil Prokhorov, TTC; Dacheng Tao, University of Technology, Sydney

20 Online Robust Non-negative Dictionary Learning for Visual Tracking, Naiyan Wang, HKUST; Jingdong Wang, Microsoft Research Asia; Dit-Yan Yeung, HKUST

21 Robust Object Tracking with Online Multi-lifespan Dictionary Learning, Junliang Xing, Institute of Automation, Chinese Academy of Sciences; Jin Gao, Institute of Automation Chinese Academy of Sciences; Bing Li, NLPR, CASIA; Weiming Hu, Institute of Automation Chinese Academy of Sciences; Shuicheng Yan, NUS, Singapore

22 Depth from Combining Defocus and Correspondence Using Light-Field Cameras, Michael W. Tao; Sunil Hadap, Adobe Inc.; Jitendra Malik, UC Berkeley; Ravi Ramamoorthi, U.C. Berkeley

23 Affine-Constrained Group Sparse Coding and Its Application to Image-Based Classifications, Yu-Tseh Chi, University of Florida; Mohsen Ali; Muhammad Rushdi; Jeffrey Ho, University of Florida

24 Sparse Variation Dictionary Learning for Face Recognition with A Single Training Sample per Person, Meng Yang, ETH Zuricn; Luc Van Gool, ETH; Lei Zhang, The Hong Kong Polytechnic University

25 On the Mean Curvature Flow on Graphs with Applications in Image and Manifold Processing, Abdallah El Chakik, Greyc Laboratory; abderrahim ELmoataz; ahcen Sadi

26 Perceptual Fidelity Aware Mean Squared Error, Wufeng Xue, Xi'an Jiaotong University; Xuanqin Mou, Xi'an Jiaotong University; Lei Zhang, The Hong Kong Polytechnic University; Xiangchu Feng, School of Science, Xidian University

27 Real-World Normal Map Capture for Nearly Flat Reflective Surfaces, Bastien Jacquet, ETH Zurich; Christian Hne, ETH Zrich; Kevin Koser; Marc Pollefeys, ETH

28 Human Attribute Recognition by Rich Appearance Dictionary, Jungseock Joo, UCLA; Shuo Wang; Song-Chun Zhu, UCLA

29 Deformable Part Descriptors for Fine-Grained Recognition and Attribute Prediction, Ning Zhang, EECS, UC Berkeley; Ryan Farrell, ICSI, UC Berkeley; Forest landola; Trevor Darrell

30 Handling Uncertain Tags in Visual Recognition, Arash Vahdat, Simon Fraser University; Greg Mori, Simon Fraser University

31 Implied Feedback: Learning Nuances of User Behavior in Image Search, Devi Parikh, Virginia Tech; Kristen Grauman, University of Texas at Austin

32 Learning Near-Optimal Cost-Sensitive Decision Policy for Object Detection, Tianfu Wu, UCLA; Song Chun Zhu, UCLA

33 NYC3DCars: A Dataset of 3D Vehicles in Geographic Context, Kevin Matzen, Cornell University; Noah Snavely, Cornell, USA

34 Unsupervised Domain Adaptation by Domain Invariant Projection, Mahsa Baktashmotlagh, University of Queensland; Mehrtash T. Harandi, NICTA; Brian C. Lovell; Mathieu Salzmann, NICTA

35 SIFTpack: A Compact Representation for Efficient SIFT Matching, Alexandra Gilinsky, Technion; Lihi Zelnik Manor, Technion, Israel

36 PhotoOCR: Reading Text in Uncontrolled Conditions, Alessandro Bissacco, Google Inc.;Mark Cummins, Google; Yuval Netzer, Google; Hartmut Neven, Google

37 Probabilistic Elastic Part Model for Unsupervised Face Detector Adaptation, Haoxiang Li, Stevens Institute of Technology; Gang Hua, Stevens Institute of Technology; Zhe Lin, Adobe Research; Jonathan Brandt, Adobe; Jianchao Yang, Adobe Systems Inc.

38 New Graph Structured Sparsity Model for Multi-label Image Annotations, Xiao Cai, University of Texas at Arlington; Feiping Nie, University of Texas at Arlington; Weidong Cai; Heng Huang, UTA

39 Heterogeneous Auto-Similarities of Characteristics (HASC): Exploiting Relational Information for Classification, Marco San Biagio, IIT; Marco Crocco, IIT; Marco Cristani, IIT; Samuele Martelli, IIT; Vittorio Murino, Istituto Italiano di Tecnologia

40 A Fully Hierarchical Approach for Finding Correspondences in Non-rigid Shapes, Ivan Sipiran, Department of Computer and Information Science - University of Konstanz; Benjamin Bustos, University of Chile

41 Learning to Rank Using Privileged Information, Viktoriia Sharmanska, IST Austria; Novi Quadrianto, University of Cambridge; Christoph H. Lampert, Institute of Science and Technology Austria

42 Joint Segmentation and Pose Tracking of Human in Natural Videos, Taegyu Lim, Samsung; Seunghoon Hong, POSTECH; Bohyung Han, POSTECH; Joon Hee Han, POSTECH

43 Characterizing Layouts of Outdoor Scenes Using Spatial Topic Processes, Dahua Lin, TTIC; Jianxiong Xiao, Princeton University

44 Image Co-Segmentation via Consistent Functional Maps, Fan Wang, Stanford University; Qixing Huang, Stanford University; Leonidas J. Guibas, Stanford University

45 Exemplar Cut, Jimei Yang, UC Merced; Yi-Hsuan Tsai, UC Merced; Ming-Hsuan Yang, UC Merced, USA

46 Parallel Transport of Deformations in Shape Space of Elastic Surfaces, Qian Xie, Florida State University; Sebastian Kurtek, Ohiao State University; Huiling Le; Anuj Srivastava

47 A Method of Perceptual-Based Shape Decomposition, Chang Ma, Peking University; Zhongqian Dong, Peking University; Tingting Jiang, Peking University; Yizhou Wang, Peking University; Wen Gao

48 Curvature-Aware Regularization on Riemannian Submanifolds, Kwang In Kim, MPI for Informatics; James Tompkin, MPI Informatik; Christian Theobalt, MPI fuer Informatik

49 Linear Sequence Discriminant Analysis: A Model-Based Dimensionality Reduction Method for Vector Sequences, Bing Su, Tsinghua University; Xiaoqing Ding, Tsinghua University

50 Frustratingly Easy NBNN Domain Adaptation, Tatiana Tommasi, Tatiana Tommasi KU Leuven, Belgium; Barbara Caputo, University of Rome La Sapienza, Italy

51 Video Event Understanding using Natural Language Descriptions, Vignesh Ramanathan, Stanford University; Percy Liang, Stanford University; Li Fei-Fei, Stanford University

52 ACTIVE: Activity Concept Transitions in Video Event Classification, Chen Sun, University of Southern Califor; Ram Nevatia

18:45-19:00 Award Session
Location: Bayside Auditorium

19:00 IEEE PAMI Technical Committee Meeting
Location: Bayside Auditorium

Main Conference
Wednesday December 4

9:00 -10:00 Oral Session 2A Low Level Vision
Orals 2A:01 – 2A:03
Chair: Michael Brown
Location: Bayside Auditorium

1 Analysis of Scores, Datasets, and Models in Visual Saliency Prediction, Ali Borji; Dicky Sihite, University of Southern California (USC); Hamed R. Tavakoli, University of Oulu; Dicky N. Sihite; Laurent Itti, University of Southern California (USC)

2 A Color Constancy Model with Double-Opponency Mechanisms, Shaobing Gao, UESTC; Kaifu Yang, UESTC; Chaoyi LI; Yongjie Li, UESTC

3 Towards Guaranteed Illumination Models for Non-Convex Objects, Yuqian Zhang, Columbia University; Cun Mu, Columbia University; Han-wen Kuo, Columbia University; John Wright

4 Nonparametric Blind Super-resolution, Tomer Michaeli, Weizmann Institute of Science; Michal Irani, Weizmann Institute, Israel

10:00 - 10:45 Spotlights
Chair: Erik Learned-Miller
Location: Bayside Auditorium

10:45 - 12:15 Poster session 2A:
Posters 2A:01 – 2A:52
Location: Bayside Grand Hall

1 Street View Motion-from-Structure-from-Motion, Bryan Klingner, Google; David Martin, Google; James Roseborough, Google

2 A Robust Analytical Solution to Isometric Shape-from-Template with Focal Length Calibration, Adrien Bartoli, Université d'Auvergne; Daniel Pizarro, ALCoV-ISIT; Toby Collins, ALCoV-ISIT

3 Point-Based 3D Reconstruction of Thin Objects, Benjamin Ummenhofer, University of Freiburg; Thomas Brox

4 Space-Time Tradeoffs in Photo Sequencing, Tali Dekel (Basha) , TAU; Yael Moses; Shai Avidan, Tel-Aviv University

5 An Enhanced Structure-from-Motion Paradigm Based on the Absolute Dual Quadric and Images of Circular Points, Lilian Calvet, University of Toulouse; Pierre Gurdjos, IRIT

6 Image Guided Depth Upsampling Using Anisotropic Total Generalized Variation, David Ferstl, Graz University of Technology; Christian Reinbacher; Rene Ranftl; Matthias Rther; Horst Bischof, Graz University of Technology

7 Fluttering Pattern Generation Using Modified Legendre Sequence for Coded Exposure Imaging, Hae-Gon Jeon, KAIST; Joon-Young Lee, KAIST; Yudeog Han, KAIST; Seon Joo Kim, Yonsei University; In So Kweon, KAIST, Korea

8 Towards Motion Aware Light Field Video for Dynamic Scenes, Salil Tambe, Rice University; Ashok Veeraraghavan, Rice University; Amit Agrawal, MERL

9 Handwritten Word Spotting with Corrected Attributes, Jon Almazn, Computer Vision Center; Albert Gordo, INRIA; Alicia Fornés, Computer Vision Center; Ernest Valveny, Computer Vision Center

10 Exemplar-based Graph Matching for Robust Facial Landmark Localization, Feng Zhou, Carnegie Mellon University; Jonathan Brandt, Adobe; Zhe Lin, Adobe Research

11 Cascaded Shape Space Pruning for Robust Facial Landmark Detection, Xiaowei Zhao, ICT,CAS; Shiguang Shan, Chinese Academy of Sciences, China; Xiujuan Chai, jdl; Xilin Chen

12 Two-Point Gait: Decoupling Gait from Body Shape, Stephen Lombardi, Drexel Unversity; Ko Nishino, Drexel University, USA; Yasushi Makihara, Osaka university; Yasushi Yagi

13 Learning People Detectors for Tracking in Crowded Scenes, Siyu Tang, Max planck institute ; Mykhaylo Andriluka, Max Planck Institute for Informatics; Anton Milan, TU Darmstadt; Konrad Schindler, ETH Zurich; Stefan Roth, TU Darmstadt; Bernt Schiele, MPI Informatics, Germany

14 Efficient Pedestrian Detection by Directly Optimizing the Partial Area under the ROC Curve, Sakrapee Paisitkriangkrai, The University of Adelaide; Chunhua Shen, The University of Adelaide; Anton Van Den Hengel, University of Adelaide

15 Example-Based Facade Texture Synthesis, Dengxin Dai, CVL, ETH Zurich; Hayko Riemenschneider, CVL, ETH Zurich; Gerhard Schmitt, ETH Zurich; Luc Van Gool, ETH

16 Single-Patch Low-Rank Prior for Non-pointwise Impulse Noise Removal, Ruixuan Wang, University of Dundee; Emanuele Trucco, University of Dundee

17 SGTD: Structure Gradient and Texture Decorrelating Regularization for Image Decomposition, Qiegen Liu; Jianbo Liu; Pei Dong; Dong Liang, Shenzhen Institutes of Advance

18 Drosophila Embryo Stage Annotation Using Label Propagation, Tomas Kazmar, IMP/ISTA; Evgeny Z. Kvon, IMP; Alexander Stark, IMP; Christoph H. Lampert, Institute of Science and Technology Austria

19 Measuring Flow Complexity in Videos, Saad Ali

20 Real-time Body Tracking with One Depth Camera and Inertial Sensors, Thomas Helten, MPI Informatik; Meinard Müller, International Audio Laboratories Erlangen; Hans-Peter Seidel, MPI Informatik; Christian Theobalt, MPI fuer Informatik

21 Constructing Adaptive Complex Cells for Robust Visual Tracking, Dapeng Chen, Xi'an Jiaotong University; Zejian Yuan, Xi'an jiaotong University; Yang Wu, Kyoto University; Geng Zhang, Xi'an Jiaotong University; Nanning Zheng, Xi'an Jiaotong University

22 Camera Alignment Using Trajectory Intersections in Unsynchronized Videos, Thomas Kuo, UC Santa Barbara; Santhoshkumar Sunderrajan, UCSB; B.S. Manjunath, UCSB

23 Slice Sampling Particle Belief Propagation, Oliver Müller, Leibniz University Hannover; Michael Ying Yang, Leibniz University Hannover; Bodo Rosenhahn, Leibniz University Hannover

24 Multi-Attributed Dictionary Learning for Sparse Coding, Chen-Kuo Chiang, National Tsing Hua University; Te-Feng Su; Chih Yen; Shang-Hong Lai, NTHU

25 Semi-supervised Robust Dictionary Learning via Efficient l-Norms Minimization, Hua Wang, Colorado School of Mines; Feiping Nie, University of Texas at Arlington; Heng Huang, UTA

26 Saliency and Human Fixations: State-of-the-art and Study of Comparison Metrics, Nicolas Riche, UMONS; Matthieu Duvinage, UMONS; Matei Mancas, UMONS; Bernard Gosselin, UMONS; Thierry Dutoit, UMONS

27 Multiview Photometric Stereo Using Planar Mesh Parameterization, Jaesik Park, KAIST; Sudipta N. Sinha; Yasuyuki Matsushita, Microsoft Research Asia; Yu-Wing Tai, KAIST, Korea; In So Kweon, KAIST

28 Elastic Net Constraints for Shape Matching, Emanuele Rodola, The University of Tokyo; Andrea Torsello; Tatsuya Harada, University of Tokyo; Yasuo Kuniyoshi, The University of Tokyo, Daniel Cremers, TU Munich

29 No Matter Where You Are: Flexible Graph-guided Multi-task Learning for Multi-view Head Pose Classification under Target Motion, Yan Yan, University of Trento; Elisa Ricci, University of Perugia; Ramanathan Subramanian, Advanced Digital Sciences Center in Singapore; Oswald Lanz, FBK Fondazione Bruno Kessler; nicu Sebe, University of Trento

30 Compositional Models for Video Event Detection: A Multiple Kernel Learning Latent Variable Approach, Arash Vahdat, Simon Fraser University; Kevin Cannons, Simon Fraser University; Greg Mori, Simon Fraser University; Sangmin Oh, Kitware Inc.; Ilseo Kim

31 Event Recognition in Photo Collections with a Stopwatch HMM, Lukas Bossard, ETH Zurich; Matthieu Guillaumin, ETH Zurich; Luc Van Gool, ETH Zurich

32 Nested Shape Descriptors, Jeffrey Byrne, University of Pennsylvania; Jianbo Shi

33 Collaborative Active Learning of a Kernel Machine Ensemble for Recognition, Gang Hua, Stevens Institute of Technology; Chengjiang Long, Stevens Institute of Technology; Ming Yang, NEC Labs America; Yan Gao, Northwestern University

34 A Max-Margin Perspective on Sparse Representation-Based Classification, Zhaowen Wang, UIUC; Jianchao Yang, Adobe Systems Inc.; Nasser Nasrabadi, US Army Research Lab; Thomas Huang, University of Illinois at Urbana-Champaign

35 Attribute Dominance: What Pops Out?, Naman Turakhia; Devi Parikh

36 Neighbor-To-Neighbor Search for Fast Coding of Feature Vectors, Nakamasa Inoue, Tokyo Institute of Technology; Koichi Shinoda, Tokyo Institute of Technology

37 Text Localization in Natural Images using Stroke Feature Transform and Text Covariance Descriptors, Weilin Huang, Adobe Research; Zhe Lin, Adobe Research; Jianchao Yang, Adobe Systems Inc.; Jue Wang

38 A Framework for Shape Analysis via Hilbert Space Embedding, Sadeep Jayasumana, ANU; Mathieu Salzmann, NICTA; Hongdong Li, Australia National University; Mehrtash Harandi, NICTA

39 Offline Mobile Instance Retrieval with a Small Memory Footprint, Jayaguru Panda, IIIT Hyderabad; Michael Brown, National University of Singapore; C. V. Jawahar, IIIT Hyderabad

40 BOLD Features to Detect Texture-less Objects, Federico Tombari, University of Bologna; Alessandro Franchi; Luigi Di Stefano

41 Estimating the 3D Layout of Indoor Scenes and its Clutter from Depth Sensors, Jian Zhang, ; Chen Kan; Alexander Schwing, ETH Zurich; Raquel Urtasun, Toyota Technological Institute at Chicago

42 A Non-parametric Bayesian Network Prior of Human Pose, Andreas Lehrmann, MPI for Intelligent Systems; Peter V. Gehler, Max Planck; Sebastian Nowozin, Microsoft Research Cambridge

43 Pictorial Human Spaces: How Well do Humans Perceive a 3D Articulated Pose?, Elisabeta Marinoiu, Romanian Academy of Science; Dragos Papava, Institute of Mathematics of the Romanian Academy; Cristian Sminchisescu, Lund University

44 Co-Segmentation by Composition, Alon Faktor, Weizmann Institute of Science; Michal Irani, Weizmann Institute, Israel

45 Cosegmentation and Cosketch by Unsupervised Learning, Jifeng Dai, Tsinghua University; UCLA; Ying Nian Wu, UCLA; Jie Zhou, Tsinghua University; Song Chun Zhu, UCLA

46 Predicting Sufficient Annotation Strength for Interactive Foreground Segmentation, Suyog Jain; Kristen Grauman, University of Texas at Austin

47 Sequential Bayesian Model Update under Structured Scene Prior for Semantic Road Scenes Labeling, Evgeny Levinkov, MPII; Mario Fritz, MPI Informatics

48 Learning Graph Matching: Oriented to Category Modeling from Cluttered Scenes, Quanshi Zhang, University of Tokyo; Xuan Song, University of Tokyo; Xiaowei Shao, University of Tokyo; Huijing Zhao, Peking University; Ryosuke Shibasaki, University of Tokyo

49 Robust Matrix Factorization with Unknown Noise, Deyu Meng, Xi'an Jiaotong University; Fernando de la Torre, Carnegie Mellon University

50 Correlation Adaptive Subspace Segmentation by Trace Lasso, Canyi Lu, National University of Singapo; Jiashi Feng, NUS; Zhouchen Lin, Peking University ; Shuicheng Yan, NUS, Singapore

51 Monte Carlo Tree Search for Scheduling Activity Recognition, Mohamed Amer, OREGON STATE UNIVERSITY; Sinisa Todorovic, "Oregon State University, USA"; Alan Fern, Oregon State University; Song Chun Zhu, UCLA

52 Manipulation Pattern Discovery: A Nonparametric Bayesian Approach, Bingbing NI, Advanced Digital Sciences Center (ADSC), Singapor; Pierre Moulin, UIUC

12:15 - 14:15 Lunch

14:15 - 15:00 Oral Session 2B Motion and Tracking, Orals 2B:01 - 2B:03
Chair: Ian Reid
Location: Bayside Auditorium

1 Perspective Motion Segmentation via Collaborative Clustering, Zhuwen Li, NUS; Jiaming Guo, NUS; Loong-Fah Cheong, NUS; Steven Zhiying Zhou, NUS

2 Piecewise Rigid Scene Flow, Christoph Vogel, ETH Zurich; Konrad Schindler, ETH Zurich; Stefan Roth, TU Darmstadt

3 DeepFlow: Large Displacement Optical Flow with Deep Matching, Philippe Weinzaepfel, INRIA; Jerome Revaud; Zaid Harchaoui, INRIA; Cordelia Schmid, "INRIA, France

15:00 - 15:45 Spotlights (45 mins)
Chair: Raquel Urtasun
Location: Bayside Auditorium

15:45 - 16:15 Break (30 mins)

16:15 – 17:15 Oral Session 2C Recognition Orals 2C:01 – 2C:04
Chair: Antonio Torralba
Location: Bayside Auditorium

1 Shufflets: shared mid-level parts for fast multi-category detection, Iasonas Kokkinos, Ecole Centrale Paris, France

2 To Aggregate or Not to aggregate: Selective Match Kernels for Image Search, Giorgos Tolias; Yannis Avrithis, NTUA; Hervé Jégou, INRIA

3 NEIL: Extracting Visual Knowledge from Web Data, Xinlei Chen, CMU; Abhinav Shrivastava, Carnegie Mellon University; Abhinav Gupta

4 Holistic Scene Understanding for 3D Object Detection with RGBD cameras, Dahua Lin, TTIC; Sanja Fidler, TTI Chicago; Raquel Urtasun, Toyota Technological Institute at Chicago

17:15 – 18:45 Poster Session 2B: Posters 2B:01 – 2B:52
Location: Bayside Grand Hall

1 3D Scene Understanding by Voxel-CRF, Byung-soo Kim; Pushmeet Kohli, Microsoft Research, UK; Silvio Savarese, University of Michigan, USA

2 Complex 3D General Object Reconstruction from Line Drawings, Linjie Yang, CUHK; Jianzhuang Liu, CUHK; Xiaoou Tang, Chinese University of Hong Kong

3 Subpixel Scanning Invariant to Indirect Lighting Using Quadratic Code Length, Nicolas Martin, Université de Montréal; Vincent Couture, Université de Montréal; Sébastien Roy, Université de Montréal

4 Semi-Dense Visual Odometry for a Monocular Camera, Jakob Engel, Jürgen Sturm, Daniel Cremers, TU Munich

5 Go-ICP: Solving the 3D Registration Problem Efficiently and Globally Optimally, Jiaolong Yang, Beijing Inst. of Tech.; Hongdong Li, Australia National University; Yunde Jia

6 Forward Motion Deblurring, Shicheng Zheng, CUHK; Li Xu, CUHK; Jiaya Jia, Chinese University of Hong Kong

7 Fibonacci Exposure Bracketing for High Dynamic Range Imaging, Mohit Gupta; Daisuke Iso, Columbia University; Shree K. Nayar, Columbia University

8 Compensating for Motion during Direct-Global Separation, Supreeth Achar, Carnegie Mellon University; Stephen T. Nuske, Carnegie Mellon University; Srinivasa G. Narasimhan, Carnegie Mellon University

9 Hybrid Deep Learning for Face Verification, Yi Sun, CUHK; Xiaogang Wang, The Chinese University of Hong Kong, Hongkong

10 Like Father, Like Son: Facial Expression Dynamics for Kinship Verification, Hamdi Dibeklioglu, University of Amsterdam; Albert Salah, Bogazici University; Theo Gevers, University of Amsterdam

11 Handling Occlusions with Franken-Classifiers, Markus Mathias, KU Leuven; Rodrigo Benenson, MPI-Inf; Radu Timofte, KU Leuven; Luc Van Gool, KU Leuven

12 Robust Face Landmark Estimation under Occlusion, Xavier P. Burgos Artizzu, Caltech; Pietro Perona, Caltech, USA; Piotr Dollar

13 Fingerspelling Recognition with Semi-Markov Conditional Random Fields, Taehwan Kim, TTIC; Gregory Shakhnarovich, TTIC; Karen Livescu, TTIC

14 Efficient Salient Region Detection with Soft Image Abstraction, Ming-Ming Cheng, Oxford Brookes University; Jonathan Warrell, Oxford Brookes University; Wenyan Lin, Oxford Brookes University; Shuai Zheng, Oxford Brookes University; Vibhav Vineet, Oxford Brookes University; Nigel Crook

15 Cross-Field Joint Image Restoration via Scale Map, Qiong Yan, CUHK; Xiaoyong Shen, CUHK; Li Xu, CUHK; Shaojie Zhuo, qualcomm.com; Xiaopeng Zhang, ; Liang Shen, ; Jiaya Jia, Chinese University of Hong Kong

16 A Joint Intensity and Depth Co-Sparse Analysis Model for Depth Map Super-Resolution, Martin Kiechle, Technische Universität München; Simon Hawe, Technische Universitt Munchen; Martin Kleinsteuber, Technische Universitt Munchen

17 Detecting Irregular Curvilinear Structures in Gray Scale and Color Imagery using Multi-Directional Oriented Flux, Engin Turetken, EPFL; Carlos Becker, EPFL; Przemyslaw Glowacki, EPFL; Fethallah Benmansour; Pascal Fua, EPFL, Switzerland

18 STAR3D: Simultaneous Tracking and Reconstruction of 3D Objects Using RGB-D Data, Carl Yuheng Ren, Oxford University; Victor Prisacariu, Oxford; David Murray, Oxford; Ian Reid, University of Adelaide

19 Discriminant Tracking Using Tensor Representation with Semi-supervised Improvement, Jin Gao, Institute of Automation Chinese Academy of Sciences; Junliang Xing, Institute of Automation, Chinese Academy of Sciences ; Weiming Hu, Institute of Automation Chinese Academy of Sciences; Steve Maybank, Birkbeck College, London

20 Coherent Motion Segmentation in Noving Camera Videos Using Optical Flow Orientations, Manjunath Narayana; Allen Hanson, University of Massachusetts Amherst; Erik Learned-Miller, University of Massachusetts at Amherst

21 Minimal Basis Facility Location for Subspace Segmentation, Choon-Meng Lee, NUS; Loong-Fah Cheong, NUS

22 Non-Convex P-norm Projection for Robust Sparsity, Mithun Das Gupta, Ricoh Innovations Pvt. Ltd.; Sanjeev Kumar, Qualcomm

23 Log-Euclidean Kernels for Sparse Representation and Dictionary Learning, Peihua Li, Dalian University of Technolog; Qilong Wang; Wangmeng Zuo, Harbin Institute of Technology; Lei Zhang, The Hong Kong Polytechnic University

24 Large-scale Image Annotation by Efficient and Robust Kernel Metric Learning, Zheyun Feng, Michigan State University; Rong Jin, Michigan State University; Anil Jain, Michigan State University

25 High Quality Shape from a single RGB-D Image under Uncalibrated Natural Illumination, Yudeog Han, KAIST Joon-Young Lee, KAIST; In So Kweon, KAIST, Korea

26 SUN3D: A Database of Big Spaces Reconstructed Using SfM and Object Labels, Jianxiong Xiao, Princeton University; Andrew Owens, MIT; Antonio Torralba, MIT

27 The Interestingness of Images, Michael Gygli, ETH Zurich; Helmut Grabner, ETH Zurich; Hayko Riemenschneider, CVL, ETH Zurich;Fabian Nater, upicto GmbH; Luc Van Gool, ETH

28 Hierarchical Part Matching for Fine-Grained Visual Categorization, Lingxi Xie, Tsinghua University; Qi Tian, University of Texas at San Antonio; Shuicheng Yan, NUS, Singapore; Bo Zhang, Tsinghua University

29 Joint Optimization for Consistent Multiple Graph Matching, Junchi Yan, Shanghai Jiao Tong University; Yu Tian, Shanghai Jiao Tong University; Hongyuan Zha, Georgia Tech; Xiaokang Yang; Ya Zhang, Shanghai Jiao Tong University; Stephen M. Chu

30 Unbiased Metric Learning: On the Utilization of Multiple Datasets and Web Images for Softening Bias, Chen Fang, Dartmouth College; Ye Xu, Dartmouth College; Daniel N. Rockmore, Dartmouth College

31 Saliency Detection via Absorbing Markov Chain, Bowen Jiang, DUT; Lihe Zhang, DUT, China; Huchuan Lu, DUT,China; Chuan Yang; Ming-Hsuan Yang,UC Merced, USA

32 Semantic-Aware Co-indexing for Image Retrieval, Shiliang Zhang, UTSA; Ming Yang, NEC Labs America; Xiaoyu Wang, NEC Labs America; Yuanqing Lin; Qi Tian, University of Texas at San Antonio

33 Learning the Visual Interpretation of Sentences, C. Lawrence Zitnick, Microsoft Research, USA; Devi Parikh, Virginia Tech; Lucy Vanderwende, Microsoft Research

34 A Novel Earth Mover's Distance Methodology for Image Matching with Gaussian Mixture Models, Peihua Li, Dalian University of Technolog; Qilong Wang; Lei Zhang, The Hong Kong Polytechnic University

35 Hierarchical Joint Max-Margin Learning of Mid and Top Level Representations for Visual Recognition, Hans Lbel, Universidad Catlica de Chile; René Vidal, Johns Hopkins University; Alvaro Soto, Universidad Catlica de Chile

36 Query-adaptive Asymmetrical Dissimilarities for Visual Object Retrieval, Cai-Zhi Zhu, National Institute of Informatics; Hervé Jégou, INRIA; Shin'Ichi Satoh, NII

37 Fine-Grained Categorization by Alignments, Efstratios Gavves, University of Amsterdam; Basura Fernando, KU Leuven; Cees Snoek, University of Amsterdam; Arnold Smeulders; Tinne Tuytelaars, KU Leuven

38 Locally Affine Sparse-to-Dense Matching for Motion and Occlusion Estimation, Marius Leordeanu, Institute of Mathematics of the Romanian Academy; Andrei Zanfir; Cristian Sminchisescu, Lund University

39 Predicting an Object Location using a Global Image Representation, Jose A. Rodriguez Serrano; Diane Larlus,

40 Heterogeneous Image Feature Integration via Multi-Modal Semi-Supervised Learning Model, Xiao Cai, University of Texas at Arlington; Feiping Nie, University of Texas at Arlington; Heng Huang, UTA

41 Building Parts-based Object Detectors via 3D Geometry, Abhinav Shrivastava, Carnegie Mellon University; Abhinav Gupta

42 Detecting Curved Symmetric Parts using a Deformable Disc Model, Tom Sie Ho Lee, University of Toronto; Sanja Fidler, TTI Chicago; Sven Dickinson, University of Toronto

43 Category-Independent Object-level Saliency Detection, Yangqing Jia, UC Berkeley; Mei Han, Google Research

44 GrabCut in One Cut, Meng Tang, University of Western Ontario; Lena Gorelick, University of Western Ontario; Olga Veksler, University of Western Ontario; Yuri Boykov, University of Western Ontario, Canada

45 Fast Object Segmentation in Unconstrained Video, Anestis Papazoglou, University of Edinburgh; Vittorio Ferrari, University of Edinburgh

46 Bayesian Robust Matrix Factorization for Image and Video Processing, Naiyan Wang, HKUST; Dit-Yan Yeung, HKUST

47 Recursive Estimation of the Stein Center of SPD Matrices and its Applications, Hesamoddin Salehian, University of Florida; Guang Cheng; Baba Vemuri, University of Florida, USA; Jeffrey Ho, University of Florida

48 Correntropy Induced L2 Graph for Robust Subspace Clustering, Canyi Lu, National University of Singapore; Jinhui Tang; Min Lin; Liang Lin; Shuicheng Yan, NUS, Singapore; Zhouchen Lin, Peking University

49 Group Sparsity and Geometry Constrained Dictionary Learning for Action Recognition from Depth Maps, Jiajia Luo, The University of Tennessee; Wei Wang; Hairong Qi,

50 Action and Event Recognition with Fisher vectors on a Compact Feature Set, Dan Oneata, INRIA; Jakob Verbeek, INRIA, France; Cordelia Schmid, INRIA, France

51 Stable Hyper-pooling and Query Expansion for Event Detection, Matthijs Douze, INRIA; Jérôme Revaud; Cordelia Schmid, INRIA, France; Hervé Jégou, INRIA

52 Active Learning of an Action Detector from Untrimmed Videos, Sunil Bandla, University of Texas at Austin; Kristen Grauman, University of Texas at Austin

18:45-19:00 Award Session
Location: Bayside Auditorium

19:00: Welcome Reception
Location: Bayside Grand Hall

Main Conference
Thursday December 5

9:00 - 10:00 Oral Session 3A Recognition + Segmentation, Orals 3A:01 - 3A:04
Chair: Rene Vidal
Location: Bayside Auditorium

1 Structured Forest for Fast Edge Detection, Piotr Dollár, C. Lawrence Zitnick, Microsoft Research, USA

2 Weakly Supervised Learning of Image Partitioning Using Decision Trees with Structured Split Criteria, Christoph Straehle, HCI, University of Heidelberg; Ullrich Koethe; Fred A. Hamprecht, HCI, University of Heidelberg

3 Style-aware Mid-level Representation for Discovering Visual Connections in Space and Time, Yong Jae Lee, Robotics Institute, Carnegie Mellon University; Alexei A. Efros, CMU; Martial Hebert, CMU, USA

4 Coarse-to-fine Semantic Video Segmentation using Supervoxel Trees, Aastha Jain, Linkedin; Rene Vidal, Johns Hopkins University

10:00 - 10:45 Spotlights
Chair: Kyoung Mu Lee
Location: Bayside Auditorium

10:45 - 12:15 Poster session 3A: Posters 3A:01 - 3A:52
Location: Bayside Grand Hall

1 3DNN: Viewpoint Invariant 3D Geometry Matching for Scene Understanding, Scott Satkin, google, Carnegie Mellon University; Martial Hebert

2 Local Signal Equalization for Correspondence Matching, Derek Bradley, Disney Research Zurich; Thabo Beeler, Disney Research Zurich

3 Monocular Image 3D Human Pose Estimation under Self-Occlusion, Ibrahim Radwan, University of Canberra; Abhinav Dhall, Australian National University; Roland Goecke

4 Multi-View 3D Reconstruction from Uncalibrated Radially-Symmetric Cameras, Jae-Hak Kim, Australian National University; Yuchao Dai, Australian National University; Hongdong Li, Australian National University and NICTA; Xin Du, Zhejiang University; Jonghyuk Kim, Australian National University

5 Corrected-Moment Illuminant Estimation, Graham D. Finlayson, University of East Anglia

6 Target-Driven Moire Pattern Synthesis by Phase Modulation, Pei-Hen Tsai, National Taiwan University; Yung-Yu Chuang, National Taiwan University

7 Anchored Neighborhood Regression for Fast Example-Based Super-Resolution, Radu Timofte, KU Leuven; Vincent De Smet, KU Leuven; Luc Van Gool, KU Leuven

8 Multi-Scale Topological Features for Hand Posture Representation and Analysis, Kaoning Hu, SUNY - Binghamton; Lijun Yin, Binghamton University State University of New York

9 Sieving Regression Forest Votes for Facial Feature Detection in the Wild, Heng Yang, Queen Mary Uni. of London; Ioannis Patras,

10 Pose-free Facial Landmark Fitting via Optimized Part Mixtures and Cascaded Deformable Shape Model, Xiang Yu, Rutgers University; Junzhou Huang, University of Texas at Arlington; Shaoting Zhang, Rutgers University; Wang Yan, Rutgers University; Dimitris Metaxas, Rutgers University

11 Markov Network-Based Unified Classifier for Face Identification, Wonjun Hwang, Samsung AIT; Kyungshik Roh; Junmo Kim, KAIST

12 Fast High Dimensional Vector Multiplication Based Face Recognition, Oren Barkan, Tel Aviv University; Jonathan Weill, Tel Aviv University; Lior Wolf, Tel Aviv University, Israel; Hagai Aronowitz, IBM Research

13 A Generalized Low-Rank Appearance Model for Spatio-Temporally Correlated Rain Streaks, Yi-Lei Chen, NTHU, Taiwan; Chiou-Ting Hsu, NTHU, Taiwan

14 Salient Region Detection by UFO: Uniqueness, Focusness and Objectness, Peng Jiang, Shandong University; Haibin Ling; Jingyi Yu; Jingliang Peng, cs.sdu.edu.cn

15 Estimating the Material Properties of Fabric from Video, Katherine L. Bouman, MIT; Bei Xiao, MIT; Peter Battaglia, MIT; Bill Freeman MIT; William T. Freeman

16 Multiple Non-Rigid Surface Detection and Registration, Yi Wu, UC Merced; Yoshihisa Ijiri, OMRON; Ming-Hsuan Yang, UC Merced, USA

17 Discriminative Label Propagation for Multi-object Tracking with Sporadic Appearance Features, K.C. Amit Kumar, Universit catholique de Louva; Christophe De Vleeschouwer, UCL

18 Online Motion Segmentation using Dynamic Label Propagation, Ali Elqursh, Rutgers University; Ahmed Elgammal

19 A Unified Rolling Shutter and Motion Blur Model for Dense 3D Visual Tracking, Maxime Meilland, I3S-CNRS-UNS; Tom Drummond, Monash University; Andrew Comport, CNRS-I3S/UNS

20 Shortest Paths with Curvature and Torsion, Petter Strandmark, Lund University; Johannes Ulén, Lund University; Fredrik Kahl, Lund University; Leo Grady, HeartFlow Inc.

21 Bounded Labeling Function for Global Segmentation of Multi-Part Objects with Geometric Constraints, Masoud S. Nosrati, Simon Fraser University; Shawn Andrews, SFU; Ghassan Hamarneh, SFU

22 Randomized Ensemble Tracking, Qinxun Bai, Boston University; Zheng Wu,; Stan Sclaroff, Boston University; Margrit Betke, Boston University; Camille Monnier,

23 Discriminatively Trained Templates for 3D Object Detection: A Real Time Scalable Approach, Reyes Rios-Cabrera, KULeuven; Tinne Tuytelaars, KU Leuven

24 Joint Deep Learning for Pedestrian Detection, Wanli Ouyang, The Chinese University of HK; Xiaogang Wang, The Chinese University of Hong Kong, Hongkong

25 Detecting Avocados to Zucchinis: What Have We Done, and Where Are We Going?, Olga Russakovsky; Jia Deng, Stanford University; Zhiheng Huang, Stanford University; Alexander C. Berg, Stony Brook University; Fei-Fei Li, Stanford University

26 Ensemble Projections for Semi-supervised Image Classification, Dengxin Dai, CVL, ETH Zurich; Luc Van Gool, ETH

27 Latent Task Adaptation with Large-scale Hierarchies, Yangqing Jia, UC Berkeley; Trevor Darrell,

28 Learning Coupled Feature Spaces for Cross-modal Matching, Kaiye Wang, NLPR; Ran He, NLPR, CASIA; Wei Wang, NLPR; Liang Wang; Tieniu Tan, NLPR, China

29 CoDeL: A Human Co-detection and Labeling Framework, Jianping Shi, CUHK; Renjie Liao, CUHK; Jiaya Jia, Chinese University of Hong Kong

30 How Related Exemplars Help Complex Event Detection in Web Videos?, Yi Yang, cmu.edu; Zhigang Ma, The University of Trento; Zhongwen Xu, Carnegie Mellon University; Shuicheng Yan, NUS, Singapore; Alexander Hauptmann, Carnegie Mellon University

31 Pose Estimation and Segmentation of People in 3D Movies, Karteek Alahari, ENS-Willow; Guillaume Seguin; Josef Sivic, Ecole Normale Suprieure; Ivan Laptev, INRIA, France

32 A Unified Probabilistic Approach Modeling Relationships between Attributes and Objects, Xiaoyang Wang, RPI; Qiang Ji,

33 Fast Neighborhood Graph Search using Cartesian Concatenation, Jing Wang, Peking University; Jingdong Wang, Microsoft Research Asia; Gang Zeng, Peking University; Rui Gan; Shipeng Li; Baining Guo

34 Codemaps Segment, Classify and Search Objects Locally, Zhenyang Li, University of Amsterdam; Efstratios Gavves, University of Amsterdam; Koen van de Sande; Cees Snoek, University of Amsterdam; Arnold Smeulders,

35 Support Surface Prediction in Indoor Scenes, Ruiqi Guo, UIUC; Derek Hoiem, University of Illinois at Urbana-Champaign

36 Incorporating Cloud Distribution in Sky Representation, Kuan-Chuan Peng, Cornell University; Tsuhan Chen,

37 Spoken Attributes: Mixing Binary and Relative Attributes to Say the Right Thing, Amir Sadovnik, Cornell University; Andrew Gallagher; Devi Parikh, Virginia Tech; Tsuhan Chen,

38 Image Segmentation with Cascaded Hierarchical Models and Logistic Disjunctive Normal Networks, Mojtaba Seyedhosseini, SCI; Mehdi Sajjadi, SCI; Tolga Tasdizen, SCI

39 Semantic Segmentation without Annotating Segments, Wei Xia, NUS; Csaba Domokos, NUS; Jian Dong, NUS; Loong-Fah Cheong, NUS; Shuicheng Yan, NUS, Singapore

40 Progressive Multigrid Eigensolvers for Multiscale Spectral Segmentation, Michael Maire, California Institute of Technology; Stella X. Yu, University of California, Berkeley / ICSI

41 Video Segmentation by Tracking Many Figure-Ground Segments, Fuxin Li, Georgia Inst. of Tech.; Taeyoung Kim, Georgia Institute of Technology; Ahmad Humayun, ; David Tsai, Georgia Institute of Technology; James M. Rehg, Georgia Institute of Technology

42 Transfer Feature Learning with Joint Distribution Adaptation, Mingsheng Long, Tsinghua University; Jianmin Wang, Tsinghua University; Guiguang Ding, Tsinghua University; Philip S. Yu, University of Illinois at Chicago

43 Manifold Based Face Synthesis from Sparse Samples, Hongteng Xu, Georgia Tech; Hongyuan Zha, Georgia Tech

44 Robust Dictionary Learning by Error Source Decomposition, Zhuoyuan Chen, Northwestern University; Ying Wu, Northwestern University

45 Inferring "Dark Matter" and "Dark Energy" from Videos, Dan Xie, University of California Los Angeles; Song Chun Zhu, UCLA; Sinisa Todorovic, Oregon State University, USA

46 Video Co-segmentation for Meaningful Action Extraction, Jiaming Guo, NUS; Zhuwen Li, NUS; Loong-Fah Cheong, NUS; Zhiying Zhou, NUS

47 Flattening Supervoxel Hierarchies by the Uniform Entropy Slice, Chenliang Xu, SUNY at Buffalo; Spencer Whitt, SUNY at Buffalo; Jason J. Corso, SUNY Buffalo, USA

48 From Actemes to Action: A Strongly-supervised Representation for Detailed Action Understanding, Weiyu Zhang, University of Pennsylvania; Menglong Zhu, University of Pennsylvania; Konstantinos Derpanis, University of Pennsylvania

49 From Semi-Supervised to Transfer Counting of Crowds, Chen Change Loy, CUHK; Shaogang Gong, EECS, QMUL; Tao Xiang, EECS, QMUL

50 Learning to Share Latent Tasks for Action Recognition, Qiang Zhou, NUS, Singapore; Gang Wang, NTU; Kui Jia; Qi Zhao, National Univ. of Singapore

51 Large Scale Video Hashing via Structure Learning, Guangnan Ye, Columbia University; Dong Liu, Columbia University; Jun Wang, IBM T. J. Watson Research; Shih-Fu Chang, Columbia University

52 Finding Actors and Actions in Movies, Piotr Bojanowski, INRIA; Francis Bach, ENS and INRIA, France; Ivan Laptev, INRIA, France; Jean Ponce, ENS, France; Cordelia Schmid, INRIA, France; Josef Sivic, Ecole Normale Suprieure

12:15 - 14:15 Lunch

14:15 - 15:00 Oral Session 3B Motion and Tracking, Orals 3B:01 – 3B:03
Chair: Michal Irani
Location: Bayside Auditorium

1 Hierarchical Data-driven Descent for Efficient Optimal Deformation Estimation, Yuandong Tian, Carnegie Mellon University; Srinivasa G. Narasimhan, Carnegie Mellon University

2 Orderless Tracking through Model-Averaged Posterior Estimation, Seunghoon Hong, POSTECH; Suha Kwak, POSTECH; Bohyung Han, POSTECH

3 The Way They Move: Tracking Multiple Targets with Similar Appearance, Caglayan Dicle, neu.edu; Octavia Camps; Mario Sznaier, Northeastern University

15:00 – 15:45 Spotlights (45 mins)
Chair: Tinne Tuytelaars
Location: Bayside Auditorium

15:45 – 16:15 Break (30 mins)

16:15 – 17:15 Oral Session 3C Optimization Orals 3C:01 – 3C:04
Chair: Ramin Zabih
Location: Bayside Auditorium

1 Active MAP Inference in CRFs for Efficient Semantic Segmentation, Gemma Roig, ETH; Xavier Boix, ETH; Roderick De Nijs, TUM; Sebastian Ramos, Computer Vision Center (CVC); Luc Van Gool, ETH

2 Potts Model, Parametric Maxflow and K-Submodular Functions, Igor Gridchyn, IST Austria; Vladimir Kolmogorov, IST, Austria

3 Proportion Priors for Image Sequence Segmentation, Claudia Nieuwenhuis; Evgeny Strekalovskiy, TU Munich; Daniel Cremers, Technische Universitt Munchen

4 Tree Shape Priors with Connectivity Constraints using Convex Relaxation on General Graphs, Jan Stühmer, Technische Universität München; Peter Schröder, Caltech; Daniel Cremers, Technische Universität München

17:15 – 18:45 Poster session 3B: Posters 3B:01 – 3B:52
Location: Bayside Grand Hall

1 Revisiting the PnP Problem: A Fast, General and Optimal Solution, Yinqiang Zheng, Tokyo Institute of Technology; Yubin Kuang, Lund University; Shigeki Sugimoto, Tokyo Institute of Technology; Kalle Åström, Lund University; Masatoshi Okutomi, Tokyo Institute of Technology

2 Direct Optimization of Frame-to-Frame Rotation, Laurent Kneip, ETH Zurich; Simon Lynen, ETH Zurich

3 PM-Huber: PatchMatch with Huber Regularization for Stereo Matching, Philipp Heise, TU Mnchen; Sebastian Klose, TU Mnchen; Brian Jensen, TU Mnchen; Alois Knoll, TU Mnchen

4 Extrinsic Camera Calibration without A Direct View Using Spherical Mirror, Amit Agrawal, MERL

5 Robust Non-parametric Data Fitting for Correspondence Modeling, Wen-Yan Lin, Oxford Brookes; Ming-Ming Chen; Shuai Zheng; Jiangbo Lu, Advanced Digital Sciences Cent; Nigel Crook

6 Deblurring by Example using Dense Correspondence, Yoav HaCohen, Hebrew University; Eli Shechtman, Adobe Research; Dani Lischinski, Hebrew University

7 On One-Shot Kernels: Explicit Feature Maps and Properties, Stefanos Zafeiriou, Imperial; Irene Kotsia, Imperial College London/Middlesex University

8 Facial Action Unit Event Detection by Cascade of Tasks, Xiaoyu Ding, Southeast University; Wen-Sheng Chu, Carnegie Mellon University; Fernando De la Torre, Carnegie Mellon University ; Jeffrey F. Cohn, University of Pittsburgh; Qiao Wang, Southeast University

9 Similarity Metric Learning for Face Recognition, Qiong Cao, University of Exeter; Yiming Ying, University of Exeter; Peng Li, University of Bristol

10 Random Faces Guided Sparse Many-to-One Encoder for Pose-Invariant Face Recognition, Yizhe Zhang; Ming Shao, Northeastern University; Edward K. Wong, Polytechnic Institute of NYU; Yun Fu, Northeastern University

11 Breaking the Chain: Liberation from the Temporal Markov Assumption for Tracking Human Poses, Ryan Tokola; Wongun Choi, University of Michigan; Silvio Savarese, University of Michigan, USA

12 Exploiting Reflection Change for Automatic Reflection Removal, Yu Li, NUS; Michael S. Brown, National University of Singapore

13 Shape Index Descriptors Applied to Texture-Based Galaxy Analysis, Kim Steenstrup Pedersen, diku.dk; Kristoffer Stensbo-Smidt, DIKU; Andrew Zirm, NBI KU; Christian Igel, DIKU

14 Robust Tucker Tensor Decomposition for Effective Image Representation, Miao Zhang, University of Texas at Arlingt; Chris Ding, University of Texas at Arlingt

15 Interactive Markerless Articulated Hand Motion Tracking Using RGB and Depth Data, Srinath Sridhar, MPI Informatik and Saarland University; Antti Oulasvirta, MPI Informatik and Saarland University; Christian Theobalt, MPI Informatik and Saarland University

16 Video Motion for Every Visible Point, Susanna Ricco, Duke University; Carlo Tomasi, Duke University

17 EVSAC: Accelerating Hypotheses Generation by Modeling Matching Scores with Extreme Value Theory, Victor Fragoso, UCSB; Pradeep Sen, UCSB; Sergio Rodriguez, UCSB; Matthew Turk, UCSB

18 PixelTrack: A fast Adaptive Algorithm for Tracking Non-rigid Objects, Stefan Duffner, LIRIS, INSA de Lyon; Christophe Garcia, LIRIS, INSA de Lyon

19 Unifying Nuclear Norm and Bilinear Factorization Approaches for Low-rank Matrix Decomposition, Ricardo Cabral, Carnegie Mellon University; Fernando de la Torre, Carnegie Mellon University ; João P. Costeira, Instituto de Sistemas e Robotica; Alexandre Bernardino, Instituto de Sistemas e Robotica

20 Coupled Dictionary and Feature Space Learning with Applications to Cross-Domain Image Synthesis and Recognition, De-An Huang,

Academia Sinica; Yu-Chiang Frank Wang, Academia Sinica

21 Multi-View Normal Field Integration for 3D Reconstruction of Mirroring Objects, Michael Weinmann, University of Bonn; Aljosa Osep, University of Bonn; Roland Ruiters, University of Bonn; Reinhard Klein, University of Bonn

22 Discovering Object Functionality, Bangpeng Yao, Stanford University; Jiayuan Ma, Stanford University; Fei-Fei Li, Stanford University

23 Bird Part Localization Using Exemplar-Based Models with Enforced Pose and Subcategory Consistency, Jiongxin Liu, Columbia University; Peter N. Belhumeur, Columbia University

24 Person Re-identification by Salience Matching, Rui Zhao, CUHK; Wanli Ouyang, The Chinese University of HK; Xiaogang Wang, The Chinese University of Hong Kong

25 Prime Object Proposals with Randomized Prim's Algorithm, Santiago Manen, BIWI ETH Zurich; Matthieu Guillaumin, ETH Zurich; Luc Van Gool, ETH Zurich

26 Mining Multiple Queries for Image Retrieval: On-the-fly Learning of an Object-specific Mid-level Representation, Basura Fernando, KU Leuven; Tinne Tuytelaars, KU Leuven

27 A General Two-step Approach to Learning-Based Hashing, Guosheng Lin, The University of Adelaide; Chunhua Shen, The University of Adelaide; David Suter, University of Adelaide; Anton Van den Hengel, University of Adelaide

28 Modeling Occlusion by Discriminative AND-OR Structures, Bo Li, Beijing Institute of Tech.; Wenze Hu, UCLA; Tianfu Wu, UCLA; Song-Chun Zhu, UCLA

29 An Adaptive Descriptor Design for Object Recognition in the Wild, Zhenyu Guo, University of British Columbia; Z.Jane Wang, University of British Columbia

30 Coherent Object Detection with 3D Geometric Context from a Single Image, Jiyan Pan, Carnegie Mellon University; Takeo Kanade, Carnegie Mellon University

31 Write a Classifier: Zero-Shot Learning Using Purely Textual Descriptions, Mohamed Elhoseiny, Rutgers Universeity; Babak Saleh, Rutgers University; Ahmed Elgammal, Rutgers University

32 Random Forests of Local Experts for Pedestrian Detection, Javier Marín, Computer Vision Center; David Vázquez, Computer Vision Center; Antonio M. López, Computer Vision Center; Jaume Amores, Computer Vision Center, UAB; Bastian Leibe, RWTH Aachen University, Germany

33 Visual Reranking through Weakly Supervised Multi-graph Learning, Cheng Deng, Xidian University; Rongrong Ji, Xiamen University; Wei Liu, IBM T. J. Watson Research; Dacheng Tao, University of Technology, Sydney; xinbo Gao, Xidian University

34 Domain Adaptive Classification, Fatemeh Mirrashed, University of Maryland; Mohammad Rastegari, University of Maryland

35 Supervise Binary Hash Code Learning With Jensen Shannon Divergence, Lixin Fan, Nokia Research Center

36 Model Recommendation with Virtual Probes for Egocentric Hand Detection, Cheng Li, Tsinghua University; Kris Kitani, Carnegie Mellon University

37 Geometric Registration Based on Distortion Estimation, Wei Zeng, Florida International Univ.; Mayank Goswami, Stony Brook University; Feng Luo, Rutgers University; Xianfeng Gu, Stony Brook University

38 Multi-View Object Segmentation in Space and Time, Abdelaziz Djelouah, Technicolor; Jean-Sébastien Franco, Grenoble Universities; Edmond Boyer; Franois Le Clerc, Technicolor, France; Patrick Pérez, Technicolor, France;

39 Pedestrian Parsing via Deep Decompositional Network, Ping Luo, CUHK; Xiaogang Wang, CUHK; Xiaoou Tang, CUHK

40 Dynamic Structured Model Selection, David Weiss, University of Pennsylvania; Benjamin Sapp, Google; Ben Taskar, University of Washington

41 From Point to Set: Extend the Learning of Distance Metrics, Pengfei Zhu, The Hong Kong Polytechnic University; Lei Zhang, The Hong Kong Polytechnic University; Wangmeng Zuo, Harbin Institute of Technology; David Zhang, The Hong Kong Polytechnic University

42 Class-Specific Simplex-Latent Dirichlet Allocation for Image Classification, Mandar Dixit, UC San Diego; Nikhil Rasiwasia, Yahoo Research; Nuno Vasconcelos, UC San Diego, USA

43 Mining Motion Atoms and Phrases for Complex Action Recognition, LiMin Wang, CUHK; Yu Qiao, SIAT

44 Learning Maximum Margin Temporal Warping for Action Recognition, Jiang Wang, Northwestern University; Ying Wu, Northwestern University

45 Combining the Right Features for Complex Event Recognition, Kevin Tang, Stanford U.; Bangpeng Yao, Stanford University; Fei-Fei Li, Stanford University; Daphne Koller, Stanford University

46 Space-Time Robust Representation for Action Recognition, Nicolas Ballas, CEA/Mines-ParisTech; Yi Yang, CMU; Lan Zshzsh, CMU; Betrand Delezoide, CEA; Franoise Preteux, Mines ParisTech; Alexander Hauptmann, Carnegie Mellon University

47 YouTube2Text: Recognizing and Describing Arbitrary Activities Using Semantic Hierarchies and Zero-Shoot Recognition, Sergio Guadarrama, University of California, Berk; Niveda Krishnamoorthy, UT Austin; Girish Malkarnenkar, UT Austin; Raymond Mooney; Trevor Darrell; Kate Saenko, UMass Lowell

48 Abnormal Event Detection at 150 FPS in MATLAB, Cewu Lu, The Chinese University of Hong; Jianping Shi, CUHK ; Jiaya Jia, CUHK

49 Dynamic Pooling for Complex Event Recognition, Weixin Li, UC San Diego; Qian Yu, Sarnoff; Ajay Divakaran, Nuno Vasconcelos, UC San Diego

50 Relative Attributes For Large-scale Abandoned Object Detection, Quanfu Fan, IBM; Prasad Gabbur; Sharath Pankanti

51 Action Recognition and Localization by Hierarchical Space-Time Segments, Shugao Ma, Boston University; Jianming Zhang, Boston University; Nazli Ikizler-Cinbis, Department of Computer Engineering, Hacettepe University; Stan Sclaroff, Boston University

52 The Moving Pose: An Efficient 3D Kinematics Descriptor for Low-Latency Action Recognition and Detection, Mihai Zanfir; Marius Leordeanu, Institute of Mathematics of the Romanian Academy; Cristian Sminchisescu, Lund University

Main Conference
Friday December 6

9:00 – 10:00 Oral session 4A Recognition
Orals 4A:01 – 4A:04
Chair: Kristen Graumann
Location: Bayside Auditorium

1 Beyond Hard Negative Mining: Efficient Detector Learning via Block-Circulant Decomposition, João F. Henriques, Institute of Systems and Robotics - University of Coimbra; João Carreira, Institute of Systems and Robotics - University of Coimbra; Rui Caseiro, Institute of Systems and Robotics - University of Coimbra; Jorge Batista, Institute of Systems and Robotics - University of Coimbra

2 From Large Scale Image Categorization to Entry-Level Categories, Vicente Ordonez, Stony Brook University; Jia Deng, Stanford University; Yejin Choi, Stony Brook University; Alexander C. Berg, Stony Brook University; Tamara L. Berg, Stony Brook University

3 Fast Subspace Search via Grassmannian Based Hashing, Xu Wang, University of Minnesota; Stefan Atev; John Wright; Gilad Lerman, University of Minnesota

4 Finding the Best from the Second Bests -- Inhibiting Subjective Bias in Evaluation of Visual Tracking Algorithms, YU PANG, Temple univeristy; Haibin Ling, Temple university

10:00 – 10:45 Spotlights (45 mins)
Chair: Josef Sivic
Location: Bayside Auditorium

10:45 – 12:15 Poster session 4A:
Posters 4A:01 – 4A:52
Location: Bayside Grand Hall

1 Line Assisted Light Field Triangulation and Stereo Matching, Zhan Yu, University of Delaware; Xinqing Guo, University of Delaware;Haibin Lin; Jingyi Yu, University of Delaware

2 A Flexible Scene Representation for 3D Reconstruction Using an RGB-D Camera, Diego Thomas, National Institute of Informatics; Akihiro Sugimoto

3 Automatic Registration of RGB-D Scans via Salient Directions, Bernhard Zeisl, ETH; Kevin Köser; Marc Pollefeys, ETH

4 Real-time Solution to the Absolute Pose Problem with Unknown Radial Distortion and Focal Length, Zuzana Kukelova; Martin Bujnak, Bzovicka, Bratislava, Slovakia; Tomas Pajdla, Czech Technical University

5 Rectangling Stereographic Projection for Wide-Angle Image Visualization, Che-Han Chang, National Taiwan University; Min-Chun Hu, Wen-Huang Cheng, Yung-Yu Chuang, National Taiwan University

6 Accurate Blur Models vs. Image Priors in Single Image Super-resolution, Netalee Efrat, Weizmann institute; Daniel Glasner, Weizmann Institute; Alexander Apartsin, Weizmann institute; Boaz Nadler, Weizmann institute; Anat Levin, Weizmann Institute, Israel

7 Learning Slow Features for Behavior Analysis, Lazaros Zafeiriou, Imperial College London; Mihalis A. Nicolaou, Imperial College London; Stefanos Zafeiriou, Imperial College London; Symeon Nikitidis, Imperial College London; Maja Pantic, Imperial College London

8 Fast Face Detector Training Using Tailored Views, Kristina Scherbaum, MMCI; James Petterson, Rogerio S. Feris, Volker Blanz , University of Siegen; Hans-Peter Seidel, MPI Saarland

9 Simultaneous Clustering and Tracklet Linking for Multi-Face Tracking in Videos, Baoyuan Wu, CASIA & RPI; Siwei Lyu, SUNY Albany; Baogang Hu, CASIA; Qiang Ji, RPI

10 A Deep Sum-Product Architecture for Robust Facial Attributes Analysis, Ping Luo, CUHK, Xiaogang Wang, CUHK; Xiaoou Tang, CUHK

11 Hidden Factor Analysis for Age Invariant Face Recognition, Dihong GONG, SIAT; Zhifeng LI, SIAT; Dahua Lin, TTIC; Jianzhuang Liu, CUHK; Xiaoou Tang, Chinese University of Hong Kong

12 A Learning-Based Approach to Reduce JPEG Artifacts in Image Matting, Inchang Choi, KAIST; Sunyeong Kim, KAIST; Michael S. Brown, National University of Singapore; Yu-Wing Tai, KAIST, Korea

13 A New Image Quality Metric for Image Auto-Denoising, Xiangfei Kong, City University of Hong Kong; Kuan Li, NUDT; Qingxiong Yang, City University of Hong Kong; Liu Wenyin, Shanghai University of Electronic Power; Ming-Hsuan Yang, UC Merced, USA

14 Joint Noise Level Estimation from Personal Photo Collections, YiChang Shih, M.I.T.; Vivek Kwatra; Troy Chinen; Hui Fang; Sergey Ioffe

15 Latent Data Association: Bayesian Model Selection for Multi-target Tracking, Aleksandr V. Segal, Oxford University Robotics Lab; Ian Reid, University of Adelaide

16 Initialization-Insensitive Visual Tracking Through Voting with Salient Local Features, Kwang Moo Yi, Seoul National University; Hawook Jeong, Seoul National University; Byeongho Heo, Seoul National University; Hyung Jin Chang, Imperial College London; Jin Young Choi, Seoul National University

17 Pose-Configurable Generic Tracking of Elongated Objects, Daniel Wesierski; Patrick Horain

18 Conservation Tracking, Martin Schiegg, University of Heidelberg, HCI; Philipp Hanslovsky, Universitt Heidelberg, HCI; Bernhard X. Kausler, University of Heidelberg, HCI; Lars Hufnagel, EMBL, Heidelberg; Fred A. Hamprecht, HCI, University of Heidelberg

19 Partial Enumeration and Curvature Regularization, Carl Olsson; Johannes Ulén, Lund University; Yuri Boykov, University of Western Ontario, Canada; Vladimir Kolmogorov, IST, Austria

20 Total Variation Regularization for Functions with Values in a Manifold, Jan Lellmann, University of Cambridge; Evgeny Strekalovskiy, Sabrina Koetter, Daniel Cremers, TU Munich

21 Matching Dry to Wet Materials, Yaser Yacoob, Univ of Maryland

22 Unsupervised Visual Domain Adaptation Using Subspace Alignment, Basura Fernando, KU Leuven; Amaury Habrard, University Jean Monnet of Saint-Etienne; Marc Sebban, University of Jean Monnet in Saint-Etienne, Hubert Curien Laboratory; Tinne Tuytelaars, KU Leuven

23 Segmentation Driven Object Detection with Fisher Vectors, Ramazan Gokberk Cinbis, INRIA Grenoble; Jakob Verbeek, INRIA, France; Cordelia Schmid, INRIA, France

24 Saliency Detection via Dense and Sparse Reconstruction, Xiaohui Li, DUT, China; huchuan Lu, DUT, China; Lihe Zhang, DUT, China; Xiang Ruan; Ming-Hsuan Yang, UC Merced, USA

25 Bayesian Joint Topic Modelling for Weakly Supervised Object Localisation, Zhiyuan Shi, Queen Mary Univ.of London; Timothy M. Hospedales, EECS, QMUL; Tao Xiang, EECS, QMUL

26 Parsing IKEA Objects: Fine Pose Estimation, Joseph J. Lim, MIT; Hamed Pirsiavash, MIT; Antonio Torralba, MIT

27 Active Visual Recognition with Expertise Estimation in Crowdsourcing, Chengjiang Long, Stevens Institute of Technology; Gang Hua, Stevens Institute of Technology; Ashish Kapoor, Microsoft Research

28 A Scalable Unsupervised Feature Merging Approach to Efficient Dimensionality Reduction of High-Dimensional Visual Data, Lingqiao Liu, Australian National University; Lei Wang, University of Wollongong

29 Training Deformable Part Models with Decorrelated Features, Ross Girshick, UC Berkeley; Jitendra Malik, UC Berkeley

30 Quantize and Conquer: A Dimensionality-Recursive Solution to Clustering, Vector Quantization and Image Retrieval, Yannis Avrithis, NTUA

31 Learning Hash Codes with Listwise Supervision, Jun Wang, IBM T. J.Watson Research; Wei Liu, IBM T. J. Watson Research; Andy X. Sun, IBM; Yu-Gang Jiang, Fudan University

32 Image Retrieval using Textual Cues, Anand Mishra, IIIT Hyderabad; Karteek Alahari, ENS-Willow; C. V. Jawahar, IIIT Hyderabad

33 Scene Collaging: Analysis and Synthesis of Natural Images with Semantic Layers, Phillip Isola, MIT; Ce Liu, Microsoft Research New England

34 Understanding High-Level Semantics by Modeling Traffic Patterns, Hongyi Zhang, Peking University; Andreas Geiger, KIT; Raquel Urtasun, Toyota Technological Institute at Chicago

35 Efficient 3D Scene Labeling Using Fields of Trees, Olaf Kähler, University of Oxford; Ian Reid, University of Adelaide

36 Multi-Channel Correlation Filters, Hamed Kiani galoogahi, NUS; Terence Sim, NUS; Simon Lucey, NUS

37 Learning CRFs for Image Parsing with Adaptive Subgradient Descent, Honghui Zhang, HKUST; Jingdong Wang, Microsoft Research Asia; Ping Tan; Jinglu Wang; Long Quan, The Hong Kong University of Science and Technology, China

38 Robust Trajectory Clustering for Motion Segmentation, Feng Shi, Beihang University; Zhong Zhou; Jiangjian Xiao; Wei Wu

39 Robust Subspace Clustering via Half-Quadratic Minimization, Yingya Zhang, NLPR, CASIA; Zhenan Sun, NLPR, CASIA; Ran He, NLPR, CASIA; Tieniu Tan, NLPR, CASIA

40 Structured Learning of Sum-of-Submodular Higher Order Energy Functions, Alexander Fix, Cornell; Thorsten Joachims, Cornell; Sam Park, Cornell; Ramin Zabih, Cornell University

41 Joint Learning of Discriminative Prototypes and Large Margin Nearest Neighbor Classifiers, Martin Köstinger, Graz University of Technology; Paul Wohlhart, Graz University of Technology; Peter Roth, Graz University of Technology; Horst Bischof, Graz University of Technology

42 Dictionary Learning and Sparse Coding on Grassmann Manifolds: An Extrinsic Solution, Mehrtash Harandi,NICTA and CECS, ANU; Conrad Sanderson,CECS, ANU; Chunhua Shen,University of Adelaide; Brian Lovell, University of Queensland

43 Latent Multitask Learning for View-Invariant Action Recognition, Behrooz Mahasseni, Oregon State Univeristy; Sinisa Todorovic, Oregon State University

44 Concurrent Action Detection with Structural Prediction, Ping Wei, Xi'an Jiaotong University,UCLA; Nanning Zheng, Xi'an Jiaotong University ; Yibiao Zhao, UCLA; Song-Chun Zhu, UCLA

45 Recognising Human-Object Interaction via Exemplar Based Modelling, Jian-Fang Hu, Sun Yat-sen university; Wei-Shi Zheng; Jian-Huang Lai, Sun Yat-sen University; Shaogang Gong, EECS, QMUL; Tao Xiang, EECS,QMUL

46 Human Re-identification by Matching Compositional Template with Cluster Sampling, Yuanlu Xu, Sun Yat-Sen University; Liang Lin, Sun Yat-Sen University; Wei-Shi Zheng ; Xiaobai Liu, UCLA

47 Dynamic Scene Deblurring, Tae Hyun Kim, Seoul National University; Byeongjoo Ahn, Seoul National University; Kyoung Mu Lee, Seoul National University

48 Directed Acylic Graph Kernels for Action Recognition, Ling Wang, Telecom ParisTech; Hichem Sahbi, LTCI, CNRS, (TELECOM ParisTech)

49 Learning View-Invariant Sparse Representations for Cross-view Action Recognition, Jingjing Zheng, University of Maryland; Zhuolin Jiang, Huawei Noah's Ark Lab

50 Event Detection in Complex Scene Using Interval Temporal Constraints, Yifan Zhang, CASIA; Qiang Ji, RPI; Hanqing Lu

51 Towards Understanding Action Recognition, Hueihan Jhuang, Max Planck Institute for Intelligent Systems; Juergen Gall, University of Bonn, Germany; Silvia Zuffi; Cordelia Schmid, INRIA; Michael Black, Max Planck Institute for Intelligent Systems, Germany

52 Modifying the Memorability of Face Photographs, Aditya Khosla, MIT; Wilma A. Bainbridge, MIT; Antonio Torralba, MIT; Aude Oliva, MIT

12:15 – 13:45 Lunch

13:45 – 14:45 Keynote Speech
Prof. Brian Schmidt
Location: Bayside Auditorium

14:45 – 15:15 Break

15:15 – 16:15 Oral Session: Orals 4B:01 – 4B:04
Chair: Serge Belongie
Location: Bayside Auditorium

1 A Practical Transfer Learning Algorithm for Face Verification, Xudong Cao, Microsoft Research Asia; David Wipf; Fang Wen, Microsoft Research Asia; Genquan Duan, Microsoft Research Asia; Jian Sun, Microsoft Research Asia

2 Learning to Predict Gaze in Egocentric Video, Yin Li, Georgia Institute of Technolog; Alireza Fathi, Georgia Institute of Technology; James M. Rehg, Georgia Institute of Technology

3 Real-time Articulated Hand Pose Estimation using Semi-supervised Transductive Regression Forests, Danhang Tang, Imperial College London; Tsz-Ho Yu, University of Cambridge; Tae-Kyun Kim, Imperial College London

4 Semantically-Based Human Scanpath Estimation with HMMs, Huiying Liu, Institute of Computing Technology; Dong Xu, NTU, Singapore; Qingming Huang, Graduate Univ of Chinese Academy of Sciences; Wen Li, NTU; Stephen Lin, Microsoft Research Asia

16:15 – 17:00 Spotlights (45 mins)
Chair: Hongdong Li
Location: Bayside Auditorium

17:00 – 18:30 Poster session 4B: Posters 4B:01 – 4B:50
Location: Bayside Grand Hall

1 Enhanced Continuous Tabu Search for Parameter Estimation in Multiview Geometry, Guoqing Zhou, Northwestern Polytechnical University; Qing Wang, Northwestern Polytechnical University

2 Global Fusion of Relative Motions for Robust, Accurate and Scalable Structure from Motion, Pierre Moulon, Université Paris-Est, LIGM (UMR CNRS), ENPC, Mikros Image; Pascal Monasse, Université Paris-Est, LIGM (UMR CNRS), ENPC ; Renaud Marlet, Université Paris-Est, LIGM (UMR CNRS), ENPC

3 Internet Based Morphable Model, Ira Kemelmacher, University of Washington

4 Large-scale Multi-resolution Surface Reconstruction from RGB-D Sequences, Frank Steinbrücker, Christian Kerl, Jürgen Sturm , Daniel Cremers, TU Munich.

5 Modeling 4D Human-Object Interactions for Event and Object Recognition, Ping Wei, Xi'an Jiaotong University,UCLA; Yibiao Zhao, UCLA; Nanning Zheng, Xi'an Jiaotong University ; Song-Chun Zhu, UCLA

6 Modeling the Calibration Pipeline of the Lytro Camera for High Quality Light-Field Image Reconstruction, Donghyeon Cho, KAIST; Minhaeng Lee, KAIST; Sunyeong Kim, KAIST; Yu-Wing Tai, KAIST, Korea

7 Face Recognition Using Face Patch Network, Chaochao Lu, CUHK; Deli Zhao, CUHK; Xiaoou Tang, CUHK

8 Coupling Alignments with Recognition for Still-to-Video Face Recognition, Zhiwu Huang, ICT, CAS; Xiaowei Zhao, ICT,CAS; Shiguang Shan, ICT,CAS; Ruiping Wang, ICT,CAS; Xilin Chen, ICT,CAS

9 Capturing Global Semantic Relationships for Facial Action Unit Recognition, Ziheng Wang, RPI; Yongqiang Li, Harbin Institute of Technology; Shangfei Wang, USTC; Qiang Ji, RPI

10 Estimating Human Pose with Flowing Puppets, Silvia Zuffi; Javier Romero, MPI PS; Cordelia Schmid, INRIA, France; Michael J. Black, Max Planck Institute for Intelligent Systems, Germany

11 Illuminant Chromaticity from Image Sequences, Veronique Prinet, Hebrew University of Jerusalem; Dani Lischinski; Michael Werman

12 Contextual Hypergraph Modeling for Salient Object Detection, Xi Li, University of Adelaide; Yao Li, University of Adelaide; Chunhua Shen, University of Adelaide; Anthony Dick, University of Adelaide ; Anton Van den Hengel, University of Adelaide

13 Super-resolution via Transform-invariant Group-sparse Regularization, Carlos Fernandez-Granda, Stanford University, Emmanuel J. Candès, Stanford University

14 Optical Flow via Locally Adaptive Fusion of Complementary Data Costs, Tae Hyun Kim, Seoul National University; Hee seok Lee, Seoul National University; Kyoung Mu Lee, Seoul National University

15 Optimal Orthogonal Basis and Image Assimilation: Motion Modeling, Etienne Huot, Inria; Giuseppe Papari, Lithicon; Isabelle Herlin

16 A Generic Deformation Model for Dense Non-Rigid Surface Registration: A Higher-Order MRF-based Approach, Yun Zeng, Harvard; Chaohui Wang, MPI ; Xianfeng Gu; Dimitris Samaras, Stony Brook Univ.; Nikos Paragios, Ecole Centrale de Paris

17 Bayesian 3D Tracking from Monocular Video, Ernesto Brau; Jinyan Guan, University of Arizona; Kyle Simek, University of Arizona; Luca del Pero; Colin Dawson, University of Arizona; Kobus Barnard, University of Arizona, USA

18 GOSUS: Grassmannian Online Subspace Updates with Structured-Sparsity, Jia Xu, UW-Madison; Vamsi K. Ithapu, ; Lopamudra Mukherjee, University of Wisc Whitewater; James M. Rehg, Georgia Institute of Technology ; Vikas Singh

19 Fast Sparsity-Based Orthogonal Dictionary Learning for Image Restoration, Chenglong Bao, nus.edu.sg; Jian-Feng Cai, uiowa.edu; Hui Ji, NUS, Singapore

20 Data-Driven 3D Primitives for Single Image Understanding, David F. Fouhey, Carnegie Mellon University; Abhinav Gupta, Carnegie Mellon University; Martial Hebert, Carnegie Mellon University

21 Learning Discriminative Part Detectors for Image Classification and Cosegmentation, Jian Sun, Xi'an Jiaotong University; Jean Ponce, ENS, France

22 A Deformable Mixture Parsing Model with Parselets, Jian Dong, NUS; Qiang Chen; Wei Xia, NUS; Zhongyang Huang; Shuicheng Yan, NUS, Singapore

23 Joint Inverted Indexing, Yan Xia, USTC; Kaiming He, Mirosoft Research Asia; Fang Wen, Mirosoft Research Asia; Jian Sun, Mirosoft Research Asia

24 Improving Graph Matching via Density Maximization, Chao Wang, University of Wollongong; Lei Wang, University of Wollongong; Lingqiao Liu, Australian National University

25 Attribute Adaptation for Personalized Image Search, Adriana Kovashka; Kristen Grauman, University of Texas at Austin

26 Feature Weighting via Optimal Thresholding for Video Analysis, Zhongwen Xu, Zhejiang University; Yi Yang, Carnegie Mellon University; Ivor Tsang ; Nicu Sebe, University of Trento; Alexander Hauptmann, Carnegie Mellon University

27 Volumetric Semantic Segmentation using Pyramid Context Features, Jonathan T. Barron, UC Berkeley; Mark D. Biggin, LBL; Pablo Arbeláez; David W. Knowles, LBL; Soile V.E. Keranen, LBL; Jitendra Malik, UC Berkeley

28 Efficient Hand Pose Estimation from a Single Depth Image, Chi Xu, Bioinformatics Institute; Li Cheng, Bioinformatics Institute

29 Synergistic Clustering of Image and Segment Descriptors for Unsupervised Scene Understanding, Daniel M. Steinberg, ACFR; Oscar Pizarro, ACFR; Stefan B. Williams, ACFR

30 Random Grids: Fast Approximate Nearest Neighbors and Range Searching for Image Search, Dror Aiger, Google; Efi Kokiopoulou, Google; Ehud Rivlin, Google Research

31 Discovering Details and Scene Structure with Hierarchical Iconoid Shift, Tobias Weyand, RWTH Aachen; Bastian Leibe, RWTH Aachen

32 Strong Appearance and Expressive Spatial Models for Human Pose Estimation, Leonid Pishchulin, Max Planck Institute for Informatics; Mykhaylo Andriluka, Max Planck Institute for Informatics; Peter Gehler, Max Planck Institute for Informatics; Bernt Schiele, Max Planck Institute for Informatics

33 3D Sub-query Expansion for Improving Sketch-based Multi-view Image Retrieval, Yen-Liang Lin, National Taiwan University; Cheng-Yu Huang; Hao-Jeng Wang; Winston Hsu

34 Predicting Primary Gaze Behavior using Social Saliency Fields, Hyun Soo Park, CMU; Eakta Jain, TI; Yaser Sheikh

35 Efficient Higher-Order Clustering on the Grassmann Manifold, Suraj Jain, Indian Institute of Science; Venu Madhav Govindu, Indian Institute of Science

36 Paper Doll Parsing: Retrieving Similar Styles to Parse Clothing Items, Kota Yamaguchi, Stony Brook University; M. Hadi Kiapour, UNC at Chapel Hill; Tamara L. Berg, UNC at Chapel Hill

37 A Unified Video Segmentation Benchmark: Annotation, Metrics and Analysis, Fabio Galasso, MPI Informatics; Naveen Shankar Nagaraja, University of Freiburg; Tatiana Jiménez Cárdenas, University of Freiburg; Thomas Brox; Bernt Schiele, MPI Informatics, Germany

38 What Is the Most Efficient Way to Select Nearest Neighbor Candidates for Fast Approximate Nearest Neighbor Search?, Masakazu Iwamura, Osaka Prefecture University; Tomokazu Sato, Osaka Prefecture University; Koichi Kise, Osaka Prefecture University

39 Distributed Low-rank Subspace Segmentation, Ameet Talwalkar, UC Berkeley; Lester Mackey, Stanford University; Yadong Mu, Columbia University; Shih-Fu Chang, Columbia University; Michael I. Jordan, UC Berkeley

40 Action Recognition with Improved Trajectories, Heng Wang; Cordelia Schmid, INRIA, France

41 Action Recognition with Actons, Jun Zhu, Shanghai Jiao Tong University; Baoyuan Wang; Xiaokang Yang; Wenjun Zhang; Zhuowen Tu, UCSD

42 Domain Transfer Support Vector Ranking for Person Re-identification without Target Camera Label Information, Andy J. Ma, Hong Kong Baptist University; Pong C. Yuen, Hong Kong Baptist University; Jiawei Li

43 Finding Causal Interactions in Video Sequences, Mustafa Ayazoglu, Notheastern University; Burak Yilmaz, Northeastern University; Mario Sznaier, Northeastern University; Octavia Camps

44 A New Adaptive Segmental Matching Measure for Human Activity Recognition, Shahriar Shariat, Rutgers; Vladimir Pavlovic

45 Saliency Detection in Large Point Sets, Elizabeth Shtrom, Technion; George Leifman, Technion; Ayellet Tal, Technion

46 Motion-Aware KNN Laplacian for Video Matting, Dingzeyu Li, Columbia University; Qifeng Chen; Chi-Keung Tang, Hong Kong University of Science and Technology, Hongkong

47 Viewing Real-World Faces in 3D, Tal Hassner

48 Accurate and Robust 3D Facial Capture Using a Single RGBD Camera, Yen-Lin Chen, Texas A&M University; Hsiang-Tao Wu, Microsoft Research Asia; Fuhao Shi, Texas A&M University; Xin Tong, Microsoft Asia; Jinxiang Chai, Texas A&M University

49 Visual Semantic Complex Network for Web Images, Shi Qiu, Chinese University of Hong Kong; Xiaogang Wang, Chinese University of Hong Kong; Xiaoou Tang, Chinese University of Hong Kong

50 What Do You Do? Occupation Recognition in a Photo via Social Context, Ming Shao, Northeastern University; Liangyue Li, Northeastern University; Yun Fu, Northeastern University

Workshops at a Glance

December 2

08:30-10:00 **W1** Room 103	08:50-10:00 **W2** Room 102	09:15-10:15 **W3** Room 101	08:30-10:00 **W4** Room 104	08:45-10:00 **W5** Room 106	09:00-10:30 **W6** Room 201	09:10-10:00 **W7** Room 105
Coffee Break						
10:30-13:15 **W1** Room 103	10:30-12:40 **W2** Room 102	10:30-12:50 **W3** Room 101	10:30-12:40 **W4** Room 104	10:30-12:30 **W5** Room 106	11:00-12:30 **W6** Room 201	10:30-12:40 **W7** Room 105
Lunch						
14:00-15:40 **W8** Room 103	14:00-15:40 **W2** Room 102	14:40-15:40 **W3** Room 101	14:30-15:40 **W4** Room 104	14:30-15:40 **W5** Room 106	13:30-15:00 **W6** Room 201	14:30-15:40 **W7** Room 105
Afternoon Coffee						
16:20-17:35 **W8** Room 103	16:10-17:00 **W2** Room 102	16:00-17:40 **W3** Room 101	16:10-18:20 **W4** Room 104	16:10-17:40 **W5** Room 106	15:30-17:30 **W6** Room 201	16:10-17:15 **W7** Room 105

December 7

08:30-10:00 **W9** Room 101	09:00-10:00 **W10** Room 201	09:30-10:00 **W11** Room 102	08:30-10:00 **W12** Room 104		09:00-10:05 **W14** Room 103	08:30-10:00 **W15** Room 106	09:00-09:55 **W16** Room 202
Coffee Break							
10:30-12:30 **W9** Room 101	10:30-12:10 **W10** Room 201	10:30-12:30 **W11** Room 102	10:30-12:40 **W12** Room 104	10:30-12:15 **W13** Room 105	10:30-12:40 **W14** Room 103	10:30-12:30 **W15** Room 106	10:30-12:40 **W16** Room 202
Lunch							
14:00-16:30 **W9** Room 101	14:00-15:40 **W10** Room 201		14:00-15:40 **W12** Room 104	13:45-15:40 **W13** Room 105	14:00-15:40 **W14** Room 103	14:20-15:40 **W15** Room 106	14:05-15:30 **W16** Room 202
Afternoon Coffee							
	16:10-17:50 **W10** Room 201		16:10-17:30 **W12** Room 104	16:10-17:30 **W13** Room 105	16:10-17:00 **W14** Room 103	16:10-17:30 **W15** Room 106	16:00-17:30 **W16** Room 202

December 8

08:30-10:00 **W17** Room 101	08:45-10:00 **W18** Room 102	09:20-10:20 **W19** Room 104	08:30-10:00 **W20** Room 202	09:00-10:00 **W21** Room 201	09:00-10:00 **W22** Room 103	08:30-10:10 **W23** Room 105	08:30-10:40 **W24** Room 106
Coffee Break							
10:30-12:50 **W17** Room 101	10:30-12:30 **W18** Room 102	10:40-13:00 **W19** Room 104	10:30-12:40 **W20** Room 202	10:30-11:50 **W21** Room 201	10:30-12:20 **W22** Room 103	10:30-11:45 **W23** Room 105	11:00-12:40 **W24** Room 106
Lunch							
14:00-15:40 **W25** Room 101	13:20-15:40 **W18** Room 102	14:30-16:10 **W19** Room 104	14:30-15:40 **W20** Room 202	14:00-15:40 **W21** Room 201	14:30-15:40 **W22** Room 103		14:00-16:00 **W24** Room 106
Afternoon Coffee							
16:00-18:20 **W25** Room 101	16:10-16:30 **W18** Room 102	16:30-17:25 **W19** Room 104	16:10-17:20 **W20** Room 202	16:10-17:10 **W21** Room 201	16:10-18:10 **W22** Room 103		

Workshops: Monday Dec 2

W1: Graphical Models for Scene Understanding: Challenges and Perspectives

Date: December 2
Location: Room 103
Overview: The aim of this workshop is to bring together experts in the areas of graphical models and scene understanding to provide an overview of the next big challenges that need to be addressed (in terms of either modeling, inference or learning) for further advancing the state-of-the-art in natural scene understanding through the proper use of graphical models.
We acknowledge the support of the Computer Vision Foundation and the IEEE Computer Society, who have been sponsoring this workshop.

08:30 **Welcome**
08:35 **Invited Talk**: Beyond MAP: Hedging Against Uncertainty via Multiple Diverse Predictions, *Dhruv Batra (Virginia Tech)*
09:10 **Invited Talk**: Consistency Potentials: from Pairwise to Higher-order, *Stephen Gould (Australian National University)*
09:45 Multi-instance Object Segmentation with Exemplars, *Xuming He, Stephen Gould*
10:00 **Coffee break**
10:30 **Invited Talk**: Modeling Complex Dependencies through Sequential Prediction, *Derek Hoiem (University of Illinois at Urbana-Champaign)*
11:05 **Invited Talk**: Inference machines for scene understanding and recognition, *Martial Hebert (Carnegie Mellon University)*
11:40 **Invited Talk**: Graphical models for interpreting shape, *Bill Freeman (MIT, CSAIL)*
12:15 Discussion
12:30 Poster session (45 mins)
[1] Hierarchical Segment Support for Categorical Image Labeling, *Michael Donoser (Graz University of Technology, Austria), Hayko Riemenschneider (ETH Zurich, Switzerland)*
[2] Convex Optimization for Scene Understanding, *Mohamed Souiai, TU Munich, Claudia Nieuwenhuis (UC Berkeley, ICSI, USA), Evgeny Strekalovskiy and Daniel Cremers, TU Munich*
[3] Proximity Priors for Variational Semantic Segmentation and Recognition, *Julia Bergbauer, TU Munich, Claudia Nieuwenhuis (UC Berkeley, ICSI, USA), Mohamed Souiai, Daniel Cremers,TU Munich*

W2: 3rd Workshop on Consumer Depth Cameras for Computer Vision (CDC4CV)

Date: December 2
Location: Room 102
Overview: The aim of this workshop is to explore recent progress in computer vision with depth cameras. It is also time to take stock of the past five years of work in this field, by evaluating different algorithms. This workshop will help the community to understand the benefits and challenges of depth cameras, and to be prepared for the next generation of these devices.

08:50 Introduction
09:00 **Invited Talk** by *Derek Hoiem (University of Illinois at Urbana-Champaign)*
10:00 Coffee break
Oral session: Segmentation (10:30-11:30)
10:30 Saliency Cut in Stereo Images, *JianTeng Peng (Beijing Institute of Technology), Jianbing Shen (Beijing Institute of Technology), Yunde Jia, Xuelong Li*
10:50 Depth Interpolation via Smooth Surface Segmentation using Tangent Planes Based on the Superpixels of a Color Image, *Kiyoshi Matsuo (Keio University), Yoshimitsu Aoki (Keio University)*
11:10 External Mask Based Depth and Light Field Camera, *Dikpal Reddy (Nvidia Research), Jiamin Bai (UC Berkeley), Ravi Ramamoorthi (UC Berkeley)*
11:30 Short break
Oral Session: Tracking and Events (11:40-12:40)
11:40 Asynchronous Stereo Vision for Event-Driven Dynamic Stereo Sensor Using an Adaptive Cooperative Approach, *Ewa Piatkowska, Ahmed Nabil Belbachir (Austrian Institute of Technology), Margrit Gelautz*
12:00 Tracking an RGB-D Camera Using Points and Planes, *Esra Ataer-Cansizoglu (Northeastern University), Yuichi Taguchi (MERL), Srikumar Ramalingam (MERL), Tyler Garaas (MERL)*
12:20 Reliable Left Luggage Detection Using Stereo Depth and Intensity Cues, *Csaba Beleznai (Austrian Institute of Technology), Peter Gemeiner (Austrian Institute of Technology), Christian Zinner (Austrian Institute of Technology)*
12:40 Lunch
14:00 **Invited Talk** by *Daniel Cremers, TU Munich*
Oral session: Face Analysis (15:00-15:40)
15:00 Compact and Accurate 3-D Face Modeling Using a RGB-D Camera: Let's Open the Door to 3-D Video Conference, *Pavankumar Anasosalu (USC), Diego Thomas (National Institute of Informatics), Akihiro Sugimoto (National Institute of Informatics)*
15:20 Automatic Detection of Emotion Valence on Faces Using Consumer Depth Cameras, *Arman Savran (University of Pennsylvania), Ruben Gur (University of Pennsylvania), Ragini Verma (University of Pennsylvania)*
15:40 Coffee break
Oral session: Actions and Gestures (16:10-16:50)
16:10 Real-Time Sign Language Recognition Using a Consumer Depth Camera, *Alina Kuznetsova (Leibniz University Hannover), Laura Leal-Taixé (Leibniz University Hannover), Bodo Rosenhahn (Leibniz University Hannover)*
16:30 Fusion of Skeletal and Silhouette-Based Features for Human Action Recognition with RGB-D Devices, *Alexandros Chaaraoui (University of Alicante), José Padilla-López (University of Alicante), Francisco Flórez-Revuelta (Kingston University)*
16:50 Concluding Remarks (10 mins)

W3: IEEE Workshop on the VOT2013 Visual Object Tracking Challenge

Date: December 2
Location: Room 101
Organizers: Roman Pflugfelder, Matej Kristan, Ales Leonardis, Jiri Matas, Fatih Porikli
Overview: The large numbers of publications on tracking-related problems have made it impossible to follow all developments. Without standardised methodology it is very difficult to distinguish significant progress. This workshop will present, compare and rank the results of more than 20 short-term trackers on the VOT2013 challenge comprising 16 well-known image sequences and a standardised SW evaluation kit. The organizers invite interested researchers to participate in the VOT initiative (votchallenge.net) and to discuss methodologies for tracker comparison.

S1: VOT2013 challenge results (09:15 – 10:15)

09:15 The Visual Object Tracking VOT2013 challenge results, *Matej Kristan (University of Ljubljana), Roman Pflugfelder (Austrian Institute of Technology), Ales Leonardis (University of Birmingham), Jiri Matas (Czech Technical University in Prague), Fatih Porikli (Mitsubishi Electric Research Laboratories), Luka Cehovin (University of Ljubljana), Georg Nebehay (Austrian Institute of Technology), Gustavo Fernandez (Austrian Institute of Technology, Tomas Vojir (Czech Technical University in Prague) et al.*

10:15 Morning Break

S2: Tracker Presentations (10:30 – 11:45)

10:30 VOT2013 Winner: PLT - Single scale pixel based LUT tracker, *Cher Keng Heng (Panasonic R&D Center Singapore), Samantha Yue Ying Lim (Panasonic R&D Center Singapore), Zhi Heng Niu (Panasonic R&D Center Singapore), Bo Li (Panasonic R&D Center Singapore)*

10:55 Robust Real-Time Tracking with Diverse Ensembles and Random Projections, *Ahmed Salaheldin (Nile University), Sara Maher (Nile University) and Mohamed El Helw(Nile University)*

11:20 Enhanced Distribution Field Tracking using Channel Representations, *Michael Felsberg (Linköping University)*

11:45 Break

S3: Tracker Presentations (12:00 – 12:50)

12:00 An Adaptive Combination of Multiple Features for Robust Tracking in Real Scene, *Weihua Chen (Chinese Academy of Sciences), Lijun Cao (Chinese Academy of Sciences), Junge Zhang (Chinese Academy of Sciences), Kaiqi Huang (Chinese Academy of Sciences)*

12:25 An Enhanced Adaptive Coupled-Layer LGTracker++, *Jingjing Xiao (University of Birmingham), Rustam Stolkin (University of Birminghamn), Aleš Leonardis (University of Birmingham)*

12:50 Lunch

S4: Keynote Talk (14:40 – 15:40)

14:40 **Invited Talk** by *Mubarak Shah (University of Central Florida)*

15:40 Afternoon Break

S5: Tracker Presentations, Discussion (16:00 – 17:40)

16:00 Graph Embedding Based Semi-Supervised Discriminative Tracker, *Jin Gao (Chinese Academy of Sciences), Junliang Xing (Chinese Academy of Sciences), Weiming Hu (Chinese Academy of Sciences), Xiaoqin Zhang (Chinese Academy of Sciences)*

16:25 Long-Term Tracking Through Failure Cases, *Karel Lebeda (University of Surrey), Simon Hadfield, Jiri Matas (Czech Technical University), Richard Bowden (University of Surrey),*

16:50 Panel Discussion:
How to design a standardised evaluation kit?
Which criterias are important? speed vs. accuracy and reliability
What is the next VOT2014 challenge?

17:40 Closing Remarks

W4: Reconstruction meets Recognition Challenge

Date: December 2
Location: Room 104
Organizers: Raquel Urtasun (TTI Chicago), Rob Fergus (NYU), Derek Hoiem (UIUC), Antonio Torralba (MIT), Andreas Geiger (MPI Tubingen), Philip Lenz (KIT), Nathan Silberman (NYU), Jianxiong Xiao (Princeton)
Overview: Understanding the 3D world is one of the fundamental challenges in computer vision. A wide variety of approaches have been developed to either reconstruct the 3D world or recognize it. However, until very recently the interactions between these two tasks were mostly ignored.
In this workshop, we propose a set of challenges to study how reconstruction and recognition algorithms can jointly be exploited to push forward the state-of-the-art in visual perception tasks. Towards this goal, we propose a set of benchmarks that cover both outdoor scenarios in the context of autonomous driving, as well as indoor scenes for personal robotics.

8:30 Session 1: Reconstruction I
- Conclusions from stereo and optical flow
- Participant talks

10:00 Coffee break

10:30 Session 2: Reconstruction II
- Conclusions from reconstruction from RGB-D and visual odometry
- Participant talks

12:40 Lunch break

14:30 Session 3: Recognition I
- Conclusions from detection and tracking in outdoors
- Participant talks

15:40 Coffee break

16:10 Session 4: Recognition II
- Conclusions from 3D detection and semantic segmentation in indoor scenes
- Participant talks

18:00 Discussion (20 minutes)

W5: Vision-Based Sports Analytics

Date: December 2
Location: Room 106
Website: http://www.visionbasedsportsanalytics.net
Organizers: Patrick Lucey (Disney Research, Pittsburgh), Peter Carr (Disney Research, Pittsburgh), Stuart Morgan (Australian Institute of Sport), Iain Matthews (Disney Research, Pittsburgh)
Overview: Over the past 10 years, computer vision has played a central role in transforming how sports are watched, played, coached, officiated, broadcasted and organized. Even though tremendous progress has been made, there are still many problems to solve, such as automatic player and ball tracking in team sports, team tactic analysis and prediction; marker-less motion capture of athletes and bio-mechanical analysis; and automatic broadcast solutions. This workshop brings together top researchers in academia and industry together to talk about these problems and foster potential collaborations, as well as releasing a database to the research community to promote research into these areas.

08:45 **Opening Remarks**

S1: Game Analysis (09:00-10:00)

09:00 **Invited Talk**: Vision-Based Sports Analytics in the AFL - A Coaches View of Constraints, Questions and Opportunities, *David Rath (Hawthorn Football Club, Australia)*

09:30 **Invited Talk:** From Numbers to Insight: Makings Sense of Sports Tracking Data, *Rajiv Maheswaran (University of Southern California, USA)*

10:00 **Coffee Break**

S2: Individual Athlete Analysis (10:30-12:30)

10:30 **Invited Talk:** Busted Bowlers - Fact and Fiction
Peter Blanch (Cricket Australia, Australia)

11:00 **Invited Talk:** Capturing Olympic Divers and Swimmers Above and Below the Water for London 2012, *Chris Bregler (New York University, USA)*

11:30 **Invited Talk:** Advances in Sport Performance Analytics: Enriching the Decision Making Environment or Adding to Confusion? *David Martin (Australian Institute of Sport, Australia)*

12:00 **Invited Talk:** Capturing Intent in Sports, *Yaser Sheikh (Carnegie Mellon University, USA)*

12:30 **Lunch Break**

S3: Future Game-Day and Viewer Experiences (14:30-15:40)

14:30 **Invited Talk:** The Future of Connected Fan Experiences, *Stuart Taggart (Relevant Innovation, Australia)*

15:00 **Invited Talk:** Vision Methods for Sports Video Analysis: Tracking Players, Plays, and Cameras, *Irfan Essa (Georgia Tech., USA)*

15:40 **Coffee Break**

S4: Broadcasting (16:10-17:40)

16:10 **Invited Talk**: New Production and Distribution Options for Sport in the New Media Landscape, *Gus Seebeck (ESPN Australia, Australia)*

16:40 **Invited Talk:** Automated Sport Production, *Christophe De Vleeschouwer (UCL, Belgium)*

17:10 **Invited Talk:** Description of CMU Basketball Dataset, *Peter Carr (Disney Research Pittsburgh, USA)*

W6: Computer Vision for Accelerated Bioscience (CVAB)

Date: 02 December 2013
Location: Room 201
Website: http://australianbioinformatics.net/cvab-2013
Organizers: David Lovell, Matt Adcock, Shahram Izadi, Chuong Nguyen and Hongdong Li.
Overview: This workshop aims to combine biological and computer vision research to enhance the scientific understanding of life. This workshop will explore and showcase research efforts that apply novel Computer Vision techniques to better our understanding of natural organisms.

09:00 **Workshop Introduction**
09:10 **Invited Talk:** Advancing Biodiversity Discovery with Computer Vision, *John La Salle (Atlas of Living Australia and CSIRO)*
9:40 **Invited Talk:** What there is to see: Imaging Spectroscopy for Scene Analysis, *Antonio Robles-Kelly (National ICT Australia)*
10:10 Virtual 3D Models of Insects for Accelerated Quarantine Control, *Chuong Nguyen, David Lovell, Rolf Oberprieler, Debbie Jennings, Matt Adcock, Eleanor Gates-Stuart, John LaSalle (CSIRO)*
10:30 Coffee Break
11:00 **Invited Talk:** Computer Vision: Can it help us digest Insect Soup?, *Paul Flemons (Australian Museum)*
11:15 Insect Soup Challenge - Segmentation, Counting, and Simple Classification, *Katarina Mele (CSIRO)*
11:30 3D Plant Modelling via Hyperspectral Imaging, *Jie Liang, Ali Zia, Jun Zhou, Xavier Sirault (Australian National University, Griffith University and CSIRO)*
11:50 Super-Resolution 3D Reconstruction of Thick Biological Samples: a Computer Vision Perspective, *Alessio Del Bue, Francesca Cella Zanacchi, Alberto Diaspro (Italian Institute of Technology)*
12:10 Morning session discussion
12:30 Lunch
13:30 **Invited Talk:** Imaging Less than Meets the Eye, *Kyros Kutulakos (University of Toronto)*
14:00 Extended Gaussian-filtered Local Binary Patterns for Colonoscopy Image Classification, *Siyamalan Manivannan, Ruixuan Wang, Emanuele Trucco*
14:20 Learning to Detect Basal Tubules of Nematocysts in SEM Images, *Michael Lam, Janardhan Rao Doppa, Xu Hu, Sinisa Todorovic, Thomas Dietterich, Abigail Reft, Marymegan Daly (Oregon State University)*
14:40 Dirichlet Process Mixtures of Multinomials for Data Mining in Mice Behaviour Analysis, *Matteo Zanotto, Diego Sona, Vittorio Murino, Francesco Papaleo (Italian Institute of Technology)*
15:00 Coffee Break
15:30 **Invited Talk:** A Framework for Ultra-High Resolution 3D Imaging, *Michael S. Brown (National University of Singapore)*
16:00 Zero-Shot Learning and Detection of Teeth in Images of Bat Skulls, *Xu Hu, Michael Lam, Sinisa Todorovic, Thomas G. Dietterich, Maureen A. O'Leary, Andrea L. Cirranello, Nancy B. Simmons, Paul M. Velazco (Oregon State University and American Museum of Natural History)*
16:20 High Precision Localization of bacterium and Scientific Visualization, *Mohammadreza Hosseini, Arcot Sowmya, Pascal Vallotton, Tomasz Bednarz (University of New South Wales and CSIRO)*
16:40 **Invited Talk:** Automatic flower categorization, *Yuning Chai (University of Oxford)*
17:10 Afternoon session discussion and review
17:30 Workshop concludes

W7: Computer Vision for Autonomous Driving

Date: December 2
Location: Room 105
Organizers: Bart Nabbe, Yaser Sheikh
Overview: The goal of this workshop is to bring together leaders from both academia and industry to determine how well Computer Vision is aiding Autonomous Driving applications. We are going to identify the most relevant aspects of computer vision problems to solve, and to learn from others about proposed avenues and solutions. Within the scope of the workshop will be core computer vision tasks such as dynamic 3D reconstruction, pedestrian and vehicle detection, and predictive scene understanding.

09:10 **Opening Notes from Workshop Organizers**
09:20 **Invited Talk**: Making Bertha See*, Uwe Franke (Daimler AG*), *David Pfeiffer, Clemens Rabe, Carsten Knoeppel, Markus Enzweiler, Fridtjof Stein, Ralf G. Herrtwich*
10:00 Coffee Break
10:30 Visual Odometry by Multi-frame Feature Integration, *Hernán Badino, Akihiro Yamamoto, Takeo Kanade*
11:00 Integrated Pedestrian and Direction Classification using a Random Decision Forest, *Junli Tao, Reinhard Klette*
11:30 **Invited Talk:** Programmable Headlights: Smart and Safe Lighting Solutions for the Road Ahead, *Srinivasa Narasimhan (Carnegie Mellon University)*
12:10 Priors for Stereo Vision under Adverse Weather Conditions, *Stefan Gehrig, Maxim Reznitskii, Nicolai Schneider, Uwe Franke, Joachim Weickert*
12:40 Lunch
14:30 Spatio-Temporal Good Features to Track, *Christoph Feichtenhofer, Axel Pinz*
15:00 **Invited Talk:** Is the self-driving car around the corner? Mobileye's work on Computer Vision centric approach to self-driving at consumer level cost, *Amnon Shashua (Mobileye)*
15:40 Coffee Break
16:10 Panel Discussion: Are computer vision algorithms ready to take the wheel? Leaders of industry and academia will discuss avenues of research to pursue.
17:10 Best paper award (Sponsored by Tandent) and raffle (Sponsored by Texas Instruments) (5mins)

W8: Inference for Probabilistic Graphical Models (PGMs)

Date: December 2
Location: Room 103
Organizers: Qinfeng (Javen) Shi, Chunhua Shen, Stephen Gould, Jason L. Williams, Tiberio Caetano
Overview: With advances in inference techniques of Probabilistic graphical models (PGMs), new insights are emerging, as are new problems that are motivated by these applications. The purpose of this workshop is to bring together an examination of theoretical advances in inference techniques with emerging problem formulations motivated by applications. We will also discuss novel inference methods, new views or understandings, novel inference problems and/or methods for solving them.

14:00 **Welcome and Overview**
14:40 **Invited Talk:** Should we care about (MAP) Inference in Graphical Models? MAP Inference tools for more than MAP Inference by *Dhruv Batra*
15:20 Oral presentation 1: Supervised Hierarchical Dirichlet Process with Variational Inference, *Cheng Zhang, Carl Henrik Ek, Xavi Gratal, Florian T. Pokorny, and Hedvig Kjellström*
15:40 Coffee Break
16:20 **Invited Talk:** Likelihood, Inference, and other hassles: Who needs graphical models? *by Sebastian Nowozin*
17:00 Oral presentation 2: Infinite Latent Conditional Random Fields, *Yun Jiang and Ashutosh Saxena*
17:20 Spotlight 1: Getting Feasible Variable Estimates From Infeasible Ones: MRF Local Polytope Study*, Bogdan Savchynskyy and Stefan Schmidt*
17:25 Spotlight 2: Superpixel Coherency and Uncertainty Models for Semantic Segmentation*, SeungRyul Baek, Taegyu Lim, Yongseok Heo, Sungbum Park, Hantak Kwak, and Woosung Shim*
17:30 Spotlight 3: Video Object Segmentation by Salient Segment Chain Composition, *Dan Banica, Alexandru Agape, Adrian Ion, and Cristian Sminchisescu*
17:35 Poster session

Workshops, Saturday, December 7

W9: 2nd International Workshop on Dynamic Shape Capture and Analysis (4DMOD)

Date: December 7
Location: Room 101
Organizers: Slobodan Ilic (TUM), Edmond Boyer (INRIA), Adrian Hilton (University of Surrey)
Overview: 4DMOD is the workshop on the modeling of dynamic scenes. Modeling shapes that evolve over time, analyzing and interpreting their motion is a subject of increasing interest of many research communities including the computer vision, the computer graphics and the medical imaging community. Following the 1st edition in 2011, the purpose of this workshop is to provide a venue for researchers, from various communities, working in the field of dynamic scene modeling from various modalities to present their work, exchange ideas and identify challenging issues in this domain.

08:30 **Invited Talk** by *L. Sigal*
09:30 Paper 1 : A Convex Relaxation Approach to Space Time Multi-view 3D Reconstruction, *Martin R. Oswald, Daniel Cremers*
10:00 Break
10:30 **Invited Talk** by *M. Pollefeys*
11:30 Paper 2 : One-Shot Entire Shape Scanning by Utilizing Multiple Projector-Camera Constraints of Grid Patterns, *Kasuya Nozomu, Ryusuke Sagawa, Ryo Furukawa, Hiroshi Kawasaki*
12:00 Paper 3 : Single-view RGBD-based Reconstruction of Dynamic Human Geometry, *Charles Malleson, Martin Klaudiny, Adrian Hilton, Jean-Yves Guillemaut*
12:30 Lunch
14:00 **Invited Talk** by *D. Samaras*
15:00 paper 4 : Robust Model-based 3D Torso Pose Estimation in RGB-D sequences, *Markos Sigalas, Maria Pateraki, Iason Oikonomidis, Panos Trahanias*
15:30 **Invited Talk** by *M. Salzman*(1 hr)

W10: 2nd International Workshop on Large-Scale Video Search and Mining (LSVSM'13)

Date: December 7
Location: Room 201
Co-chairs: Junsong Yuan, John Smith, and Shih-Fu Chang

09:00 **Opening Speech** by *Junsong Yuan (Nanyang Tech., Singapore)*
09:10 **Invited Talk** by *Josef Sivic (École Normale Supérieure, France)*
10:00 **Tea / Coffee Break**
10:30 **Invited Talk** by *Qiang Ji (Rensselaer Polytechnic Institute, United States)*
11:20 **Invited Talk** by *Junsong Yuan (Nanyang Tech., Singapore)*
12:10 **Lunch Break**
14:00 **Invited Talk** by *Jason Corso (SUNY Buffalo, US)*
14:50 **Invited Talk:** TBD
15:40 **Tea / Coffee Break**
16:10 Learning Non-linear Calibration for Score Fusion with Applications to Image and Video Classification, *Tianyang Ma (Temple University), Sangmin Oh(Kitware), Amitha Perera(Kitware), Longin Jan Latecki (Temple University)*
16:30 Pedestrian Attribute Classification in Surveillance: Database and Evaluation, *Jianqing Zhu, Shengcai Liao, Zhen Lei, Dong Yi , Stan Z. Li (Chinese Academy of Science, China)*
17:10 An Adaptive Query Prototype Modeling Method for Image Search Reranking, *Hong Lu, Guobao Jiang, Bohong Yang, Xiangyang Xue (Fudan University, China)*
17:30 Thematic Saliency Detection using Spatial-Temporal Context**,** *Ye Luo, Gangqiang Zhao, Junsong Yuan (Nanyang Technological University, Singapore)*

W11: 300 Faces in-the-Wild Challenge (300-W)

Date: December 7
Location: Room 102
Overview: Automatic facial landmark detection is a longstanding problem in computer vision, and 300-W Challenge is the first event of its kind organized to benchmark the efforts in the field. The particular focus is on facial landmark detection in real-world data sets of facial images captured in-the-wild. The 300-W Faces in-the-Wild Workshop will present the results of the Challenge.

09:30 **Welcome** (5 min)
09:40 Oral Presentations: Constrained Local Neural Fields for Robust Facial Landmark Detection in the Wild, *Tadas Baltrusaitis, Peter Robinson and Louis-Philippe Morency*
10:00 Morning Beak
10:30 ***Oral Presentations: (10:30 - 12:30)***
1. Localizing Facial Keypoints with Global Descriptor Search, Neighbour Alignment and Locally Linear Models, *Md. Kamrul Hasan, Christopher Pal and Sharon Moalem*
2. Guided Unsupervised Learning of Mode Specific Models for Facial Point Detection in the Wild, *Shashank Jaiswal, Timur R. Almaev and Michel F. Valstar*
3. Multiview Active Shape Models with SIFT Descriptors for the 300-W Face Landmark Challenge, *Stephen Milborrow,Tom E. Bishop and Fred Nicolls*
4. Extensive Facial Landmark Localization with Coarse-to-fine Convolutional Network Cascade, *Erjin Zhou, Haoqiang Fan, Zhimin Cao, Yuning Jiang and Qi Yin*
5. Learn to Combine Multiple Hypotheses for Accurate Face Alignment, *Junjie Yan, Zhen Lei, Dong Yi and Stan Z. Li*
6. 300 Faces in-the-Wild Challenge: The First Facial Landmark Localization Challenge, *Christos Sagonas, Georgios Tzimiropoulos, Stefanos Zafeiriou and Maja Pantic*

W12: ImageNet Large Scale Visual Recognition Challenge 2013 (ILSVRC2013) Workshop

Date: December 7
Location: Room 104
Organizers: Olga Russakovsky (Stanford University), Jonathan Krause (Stanford University), Jia Deng (University of Michigan), Alexander C. Berg (UNC Chapel Hill), Fei-Fei Li (Stanford University)
Overview: The purpose of the workshop is to present the methods and results of the ImageNet Large Scale Visual Recognition Challenge (ILSVRC) 2013 and the new Fine-Grained Challenge 2013. Challenge participants with the most successful and innovative entries are invited to present. The ILSVRC is sponsored in part by Google.
Detailed schedule is available at http://imagenet.org/challenges/LSVRC/2013/iccv2013.php

08:30 ILSVRC classification competition: introduction, results and invited talks
10:00 Coffee break
10:30 ILSVRC detection competition: introduction, results and invited talks
12:40 Lunch
14:00 **Invited Talk** by *Vittorio Ferrari (University of Edinburgh)*
14:40 Fine-grained competition: introduction, results and invited talks
15:40 Coffee break
16:10 Fine-grained competition: invited talks
17:30 Close

W13: Large Scale Visual Commerce

Date: December 7
Location: Room 105
Organizers: Anurag Bhardwaj (eBay Research Labs), Robinson Piramuthu (eBay Research Labs), Serge Belongie (University of California, San Diego), Tsuhan Chen (Cornell University)
Overview: Past few years have seen a paradigm shift in commerce experiences moving closer to purely visual forms of interaction. These developments offer exciting opportunities for state-of-the-art vision research to enable the next generation of commerce experiences. This workshop aims to foster growth in this emerging area by bring together researchers working on the cutting-edge of computer vision for visual commerce.
Sponsors: IEEE computer society, CVF and eBay Research Labs

10:30 Introducing LSVisCom
10:45 **Invited Talk:** Real-time object class recognition and search in large databases, *Lorenzo Torresani (Dartmouth College)*
11:30 **Invited Talk:** Privacy and Security in Large Scale Visual Commerce, *Venu Govindaraju (SUNY, Buffalo)*
12:15 Lunch Break
13:45 **Invited Talk:** You are what you wear: Discovering Attributes, Parsing Clothing, and Recognizing Socio-Identity, *Tamara Berg (University of North Carolina, Chapel Hill)*
14:30 **Invited Talk:** Perceiving 3D objects and space from images, *Silvio Savarese (Stanford University)*
15:15 Discovering Pictorial Brand Associations from Large-Scale Online Image Data, *Gunhee Kim (CMU), Eric P. Xing (CMU)*
15:35 Distribution of Best Paper Award
15:40 Coffee Break
16:10 Panel Discussions moderated by Serge Belongie
Panelists: *Charless C. Fowlkes (UC Irvine), Fatih Porikli (MERL), Irfan Essa (Georgia Tech), Josef Sivic (INRIA), Luc Vincent (Google, Inc), Matthew Turk (UC Santa Barbara), Piotr Dollar (MSR Redmond)*
17:00 Social event (30 min)

W14: THUMOS Challenge: Action Recognition with a Large Number of Classes

Date: December 7
Location: Room 103
Organizers: Yu-Gang Jiang, Jingen Liu, Amir Roshan Zamir, Ivan Laptev, Massimo Piccardi, Mubarak Shah, Rahul Sukthankar
Overview: The goal of THUMOS challenge is to encourage researchers to develop methods for action recognition that scale to a large numbers of action categories captured in natural settings. The results of this competition, in both detection and classification tasks, will be presented and discussed in this workshop.
Detailed program available at:
http://crcv.ucf.edu/ICCV13-Action-Workshop/

Opening Session

09:00 **Opening Remarks**: Rahul Sukthankar (Google Research)

09:05 **Invited Talk and Challenge Top Performer Presentation:** Actions Recognition From Videos: Some Recent Results, *Cordelia Schmid (INRIA)*

09:35 **Invited Talk:** Analyzing the Role of Motion and Time in Large-scale Action Recognition, *Jason Corso (SUNY at Buffalo)*

10:05 Coffee Break

Action Classification Session

10:30 **Overview and the Results of the Classification Challenge:** *Jingen Liu (SRI International)*

10:50 **Challenge Top Performer:** L1-regularized Logistic Regression Stacking and CRF Smoothing for Action Recognition, *S. Karaman, L. Seidenari, A. Bagdanov, A. Del Bimbo*

11:10 **Challenge Top Performer:** Hybrid Super Vector with Improved Dense Trajectory Features, *X. Peng, L. Wang, Z. Cai, Y. Qiao*

11:30 **Invited Talk:** Recognizing Human Actions in Context, *Silvio Savarese (Stanford)*

12:00 **Challenge Top Performer:** Ordered Trajectories for Large Scale Human Action Recognition, *O.V. Ramana Murthy, Roland Goecke (University of Canberra)*

12:20 A Spatio-Temporal Feature Based on Triangulation of Dense SURF, *Do Nga, Keiji Yanai (UEC, Tokyo, Japan)*

12:40 Lunch

Action Localization Session

14:30 **Overview and the Results of the Localization Challenge:** *Yu-Gang Jiang (Fudan University)*

14:50 **Invited Talk and Challenge Top Performer Presentation:** From Image to Video Encoding for Action Recognition, Jianxin Wu (Nanjing University)

15:20 Coffee Break

Conclusion Session

16:10 **Invited Talk:** What do action recognition benchmarks tell us about action recognition capabilities? *Tal Hassner (Open University, Israel)*

16:40 **Summary of the Challenge Results and Closing Remarks:** *Massimo Piccardi (University of Technology, Sydney)*

17:00 **End**

W15: The First International Workshop on Visual Domain Adaptation and Dataset Bias

Date: December 7
Location: Room 106
Organizers: Brian Kulis, Ruonan Li, Kate Saenko, Fei Sha

08:30 **Welcome**
08:40 **Invited Talk:** Dataset bias and how to live with it, *Alyosha Efros (University of California, Berkeley)*
Spotlight Talks:
09:20 Datasets, Sample Selection, and Test Performance, *Omid Aghazadeh, Stefan Carlsson*
09:25 Heterogeneous Domain Adaptation: Learning Visual Classifiers from Textual Description, *Mohamed Elhoseiny, Babak Saleh, Ahmed Elgammal*
09:30 Sampling For Unsupervised Domain Adaptive Object Recognition, *Fatemeh Mirrashed, Vlad Morariu, Larry Davis*
09:35 Domain Adaptive Classification, *Fatemeh Mirrashed, Mohammad Rastegari*
09:40 Does Evolution cause a Domain Shift? *Konstantinos Rematas, Basura Fernando, Tatiana Tommasi, Tinne Tuytelaars*
09:45 Scalable Transform-based Domain Adaptation, *Erik Rodner, Judy Hoffman, Jeff Donahue, Trevor Darrell, Kate Saenko*
09:50 Adapting Pedestrian Detection from Synthetic to Far Infrared Images, *Yainuvis Socarras, Sebastian Ramos, David Vazquez, Antonio Lopez, Theo Gevers*
09:55 Sparse Embedding-based Domain Adaptation for Object Recognition, *Jingjing Zheng, Rama Chellappa, Jonathon Phillips*
10:00 Coffee Break and Poster Session
10:30 **Invited Talk**: Recent progress towards deep domain adaptation, *Trevor Darrell (University of California, Berkeley)*
11:10 **Invited Talk**: SVM based approaches for domain adaptation, *Dong Xu (Nanyang Technological University)*
11:50 **Invited Talk**: Domain Adaptation using Manifolds and Dictionary-based Methods for Object/Face/Event Recognition, *Rama Chellappa (University of Maryland)*
12:30 Lunch Break
14:20 **Invited Talk**: Adaptation for Objects and Attributes, *Kristen Grauman (University of Texas, Austin)*
15:00 **Invited Talk**: Virtual and Real World Adaptation for Pedestrian Detection, *Antonio Lopez (Universitat Autònoma de Barcelona)*
15:40 Coffee Break and Poster Session
16:10 **Invited Talk**: Towards life-long visual learning: from practice to theory and back, *Christoph Lampert (Institute of Science and Technology Austria)*
16:50 **Invited Talk**: Domain Adaptation for Large-Scale Visual Recognition, *Jia Deng (University of Michigan)*

W16: Wearable Computer Vision Systems (WCVS)

Date: December 7
Location: Room 202
Organizers: Ana C. Murillo, Javier Civera, Mohammad Moghimi, Serge Belongie
Overview: This workshop addresses the topic of wearable computer vision systems, understanding by that cameras that are worn by a person, somehow mounted or attached to a human body, but not necessarily with the same point of view than the user. Advances on vision technologies, miniaturization of the camera optics and electronics and growing computing capabilities, either locally or in the cloud, are pushing even further the potential for this technology. This workshop is generously sponsored by Facebook, thanks!

09:00 Introduction
09:15 **Invited Talk**: Predicting Gaze and Action in Egocentric Video, *James Regh (Georgia Institute of Technology)*
09:55 Coffee Break
10:30 **Invited Talk**: Going out in public: Humans using wearable computers, *Bruce Thomas (University of South Australia)*
11:15 **Invited Talk**: Summarizing egocentric video, *Kristen Grauman (University of Texas, USA)*
12:00 Live Metric 3D Reconstruction on Mobile Phones, *Marc Pollefeys (ETH Zurich)*
12:20 TBA, *Mohammad Moghimi (UCSD, USA)*
12:40 Lunch Break
14:05 A Multi-Sensor Wearable Computer Bision Dataset, *Ana C. Murillo, J. Civera. (Universidad de Zaragoza, Spain)*
14:25 A Real-time System for Child-Adult Eye Contact Detection using a single pair of glasses, *Yin Li (Georgia Institute of Technology. USA)*
14:45 Wearable Computer Vision Systems for a Cortical Visual Prosthesis, *Wai Ho Li (Monash University, Victoria, Australia)*
15:00 Wearable Smartphone Hybrid Framework for Hand and Foot Gesture Interaction, *Zhihan Lv (Umea University)*
15:15 A Smartphone-Based Obstacle Detection and Classification System for Assisting Visually Impaired People, *Ruxandra Tapu, Bogdan Mocanu, Andrei Bursuc, Titus Zaharia, (Telecom-SudParis, France)*
15:30 Coffee Break
16:00 **Invited Talk:** PhotoOCR: Reading Text in Uncontrolled Conditions, *Mark Cummins (Google Australia)*
16:45 DEMO Session and Conclusions (45 min)

Workshops, Sunday December 8

W17: The First IEEE International Workshop on Computer Vision for Converging Perspectives

Date: December 8
Location: Room 101
Overview: The First IEEE International Workshop on Computer Vision for Converging Perspectives brings together interested researchers from academia, government, and industry working in the field of computer vision, machine learning, pattern recognition, and remote sensing to address the challenges involved in developing vision systems capable of assimilating image and video data from heterogeneous, multi-scale and multi-perspective visual sensing platforms for actionable intelligence and scientific discoveries. The workshop is sponsored by Google and Oak Ridge National Laboratory.

08:30 **Opening Remarks**
08:40 **Keynote Talk** by *Prof. Robert Pless (Washington University)*
09:30 Paper Presentation: Observing the Natural World with Flickr, *Jingya Wang, Mohammed Korayem, David J. Crandall*
10:00 Morning Break
10:30 **Keynote Talk** by *Luc Vincent (Director, Google StreetView)*
11:20 **Keynote Talk** by *Prof. Anton van den Hengel (Australian Centre of Vision Technologies)*
12:10 Paper Presentation: Processing Geotagged Image Sets for Collaborative Compositing and View Construction, *Levente Kovacs (MTA SZTAKI)*
12:30 Paper Presentation: From Label Maps to Label Strokes: Semantic Segmentation for Street Scenes from Incomplete Training Data, *Shengqi Zhu, Yiqing Yang, Li Zhang (University of Wisconsin - Madison)*
12:50 Best Paper Award and Concluding Remarks

W18: 1st Workshop on Understanding Human Activities: Context and Interactions (HACI 2013)

Date: December 8
Location: Room 102
Overview: Motivated by the rich and complex temporal, spatial, and social structure of human activities, activity recognition today features several new challenges, including modeling group activities, complex temporal reasoning, activity hierarchies, human-object interactions and human-scene interactions. This workshop aims to bring together researchers in computer vision and machine learning to share ideas and propose solutions to address the many aspects of this field.

08:45 Opening Remarks
09:00 **Keynote Talk**: TBA, *Abhinav Gupta (Carnegie Mellon University)*
09:40 Oral 1: Iterative Action and Pose Recognition using Global-and-Pose Features and Action-specific Models, *Norimichi Ukita (NAIST)*
10:00 Morning Break
10:30 **Keynote Talk**: TBA, *Ivan Laptev (INRIA / Ecole Normale Superieure)*
11:10 **Keynote Talk**: TBA, *Amitha Perera (Kitware Inc)*
11:50 Oral 2: A Multi-scale Approach to Gesture Detection and Recognition, *Natalia Neverova, Christian Wolf (INSA-Lyon), Giulio Paci, Giacomo Sommavilla (ISTC-CNR), Graham W. Taylor (University of Guelph), Florian Nebout (Awabot)*
12:10 Oral 3: Context-Sensitive Conditional Ordinal Random Fields for Facial Action Intensity Estimation, *Ognjen Rudovic (Imperial College London), Vladimir Pavlovic (Rutgers University), Maja Pantic (Imperial College London)*
12:30 Lunch
13:20 **Keynote Talk**: TBA, *Michael S. Ryoo (NASA / Jet Propulsion Laboratory)*
14:00 **Keynote Talk**: TBA, *Ashutosh Saxena (Cornell University)*
14:40 Oral 4: Temporal Poselets for Collective Activity Detection and Recognition, *Moin Nabi, Alessio Del_Bue, Vittorio Murino (Istituto Italiano di Tecnologia)*
15:00 Oral 5: Spatio-Temporal Human-Object Interactions for Action Recognition in Videos, *Victor Escorcia (Universidad del Norte), Juan Carlos Niebles*
15:20 Oral 6: Less is More: Video Trimming for Action Recognition, *Borislav Antic (University of Heidelberg), Timo Milbich, Bjorn Ommer (University of Heidelberg)*
15:40 Afternoon Break
16:10 Panel Discussion: Sameh Khamis, Mohamed Amer, Wongun Choi, Tian Lan

W19: 3D Representation and Recognition (3dRR-13)

Date: December 8

Location: Room 104

Overview: Object categorization and scene understanding have long been a central goal of computer vision research. Changes in lighting, viewpoint, and pose, as well as intra-class differences, lead to enormous appearance variation, making the problem highly challenging. While advances in machine learning and image feature representations have led to great progress in 2D pattern recognition approaches, recent work suggests that large gains can be made by acknowledging that objects live in a physical, three-dimensional world. When modeling scenes, objects and their relations in 3D, we must answer several fundamental questions. How can we effectively learn 3D object representations from images or video? What level of supervision is required? How can we infer spatial knowledge of the scene and use it to aid in recognition? How can both depth sensors and RGB data be used to enable more descriptive representations for scenes and objects? Specific questions we aim to address include: Object Representation, Kinect: Combining Depth and RGB Sensors, Reconstruction and Recognition, Spatial Inference, Spatial constraints and contextual recognition, and Human vision.

We especially thank Microsoft Research for sponsoring the workshop.

09:20 **Opening** by *Min Sun (University of Washington)*

09:40 **Keynote Talk** by *Raquel Urtasun (TTI Chicago)*

10:20 Coffee break

10:40 ***Oral session I – Modeling Object Shape and Pose***
Chair: *Michael Stark (Stanford University and Max Planck Institute for Informatics)*
[1] Cubistic Representation for Realtime 3D Shape and Pose Estimation of Unknown Rigid Object, *Hiromasa Yoshimoto and Yuichi Nakamura*
[2] Object Detection by 3D Aspectlets and Occlusion Reasoning, *Yu Xiang and Silvio Savarese*
[3] Efficient Object Localization and Pose Estimation with 3D Wireframe Models, *Erdem Yörük, René Vidal*

11:40 **Keynote Talk** by *Marc Pollefeys (ETH Zurich)*

12:20 ***Oral session II – 3D Scenes and Fine-Grained 3D Object Categorization***
Chair: *Min Sun (University of Washington)*
[1] Behind the Scenes: What Moving Targets Reveal About Static Scene Geometry, *Geoffrey Taylor and Fei Mai*
[2] 3D Object Representations for Fine-Grained Categorization, *Jonathan Krause, Michael Stark, Jia Deng, and Fei-Fei Li*

13:00 Lunch Break

14:30 **Keynote Talk** by *Ashutosh Saxena (Cornell)*

15:10 ***Oral session III – Features and Cues for Recognition***
Chair: *Silvio Savarese (Stanford University)*
[1] The Mesh-LBP: Computing Local Binary Patterns on Discrete Manifolds, *Naoufel Werghi, Stefano Berretti, Alberto Del Bimbo and Pietro Pala*
[2] Multiscale TILT Feature Detection with Application to Geometric Image Segmentation, *Chi-Pang Lam, Allen Y. Yang, Ehsan Elhamifar and S. hankar Sastry*
[3] Which Edges Matter?, *Aayush Bansal, Adarsh Kowdle, Devi Parikh, Andrew Gallagher and Larry Zitnick*

16:10 Coffee break

16:30 **Keynote Talk** by *Jitendra Malik (UC Berkeley)*

17:10 **Prize presentation –Sponsored by Microsoft Research.**

17:20 Conclusions: Min Sun, Michael Stark, and Silvio Savarese (5 min)

W20: Computer Vision in Vehicle Technology: From Earth To Mars

Date: December 8
Location: Room 202
Organizers: David Geronimo, Atsushi Imiya, Antonio M. López, Tomas Pajdla, Dariu Gavrila, Urbano Nunes, Steven Beauchemin, Theo Gevers
Overview: CVVT: E2M aims to get together researchers to promote development and spreading of new ideas and results on the use of computer vision in vehicle technology. Some examples are advanced driver assistance systems, exploratory and service robotics, unmanned aerial vehicles and underwater robots.

08:30 **Welcome Message**
08:40 **Invited Talk**: RatSLAM: Using Models of Rodent Hippocampus for Vision-based Robot Navigation and Beyond, *Michael Milford (Queensland University of Technology, Australia)*
09:30 Oral 1: Enhanced Target Tracking in UAV Imagery with P-N Learning and Structural Constraints, *Mennatullah Siam (Nile University, Egypt), Mohammed Elhelw (Nile University, Egypt)*
10:00 Coffee Break
10:30 Oral 2: Evaluating Color Representations for Online Road Detection, *Jose M. Alvarez (NICTA, Australia), Theo Gevers (University of Amsterdam, The Netherlands), Antonio M. López (CVC, Universidad Autònoma de Barcelona, Spain)*
10:50 Oral 3: Direct Generation of Regular-Grid Ground Surface Map From In-Vehicle Stereo Image Sequences, *Shigeki Sugimoto (Tokyo Institute of Technology, Japan), Kouma Motooka (Tokyo Institute of Technology, Japan), Masatoshi Okutomi (Tokyo Institute of Technology, Japan)*
11:10 Oral 4: From Video Matching to Video Grounding, *Georgios Evangelidis (INRIA, France), Ferran Diego (HCI, Germany), Radu Horaud (INRIA, France)*
11:30 **Invited Talk**: Autonomous driving: when 3D mapping meets semantics, *Antonio M. López, Germán Ros, Sebastián Ramos, Jiaolong Xu (CVC, Spain)*
12:40 Lunch
14:30 **Invited Talk**: Autonomous systems for environmental monitoring: from the air and underwater, *Mitch Bryson (University of Sydney, Australia)*
15:20 Oral 5: Various Approaches for Driver and Driving Behavior Monitoring: A Review, *Hang-Bong Kang (The Catholic University of Korea, Republic of Korea)*
15:40 Coffee Break
16:10 Oral 6: Evaluation of the Capabilities of Confidence Measures for Assessing Optical Flow Quality, *Patricia Márquez-Valle (CVC, Spain), Debora Gil (CVC, Spain), Aura Hernàndez-Sabaté (CVC and Univ. Autònoma de Barcelona, Spain)*
16:30 Oral 7: Exploiting Sparsity for Real Time Video Labelling, *Lachlan Horne (NICTA, Australia), Jose M. Alvarez (NICTA, Australia), Nick Barnes (NICTA, Australia)*
16:50 **Invited Talk**: PRoViDE Planetary Robotics, *Tomas Pajdla (Czech Technical University in Prague, Czech Republic)*
17:20 Best Paper Announcement and Closing

W21: Big Data in 3D Computer Vision (BigData3DCV)

Date: December 8
Location: Room: 201
Organizers: Jian Zhang, Mohammed Bennamoun, Dan Schonfeld, Zhengyou Zhang, Fatih Porikli, Dong Xu, Hongdong Li, Lixin Fan, Qiang Wu.
Overview: The main goal of this workshop is to explore scientific research on Big Data in 3D computer vision. It will be the venue for papers to highlight the recent advanced research from academic and industry labs through the connection of big data in 3D computer vision. This workshop appreciates the generous supports from NOKIA Research Centre for the sponsor of the best paper award.

09:00 Workshop introduction
09:10 **Invited Talk:** Topics in 2D & 3D Computer Vision, *Mohammed Bennamoun (The University of Western Australia)*
10:00 Coffee Break
10:30 A Novel Local Surface Description for Automatic 3D Object Recognition in Low Resolution Cluttered Scenes, *Syed Afaq Ali Shah, Mohammed Bennamoun, Farid Boussaid, Amar El-Sallam (The University of Western Australia)*
10:50 *A Scalable Collaborative Online System for City Reconstruction, *Ole Untzelmann, Torsten Sattler, Sven Middelberg, Leif Kobbelt (RWTH Aachen University)*
****Note: Candidate for best paper***
11:10 Fury of the Swarm: Efficient and Very Accurate Triangulation for Multi-View Scene Reconstruction, *Shawn Recker, Mauricio Hess-Flores, Kenneth I. Joy, (University of California Davis)*
11:30 Sparse Approximations of 3D Mesh Geometry Using Frames as Overcomplete Dictionaries, *Maja Krivokuca, Waleed H. Abdulla, Burkhard C. Wünsche (The University of Auckland)*
11:50 Lunch
14:00 Targetless Calibration of a Lidar - Perspective Camera Pair, *Levente Tamas (Technical University of Cluj-Napoca), Zoltan Kato (University of Szeged)*
14:20 Optimal Reduction of Large Image Databases for Location Recognition, *Michal Havlena, Wilfried Hartmann, Konrad Schindler (ETH Zürich)*
14:40 * Three Dimensional Motion Trail Model for Gesture Recognition, *Bin Liang, Lihong Zheng (Charles Sturt University)*
****Note: Candidate for best paper***
15:00 3D Surface Extraction Using Incremental Tetrahedra Carving, *Takayuki Sugiura, Akihiko Torii, Masatoshi Okutomi (Tokyo Institute of Technology)*
15:20 Fast and Accurate Large-Scale Stereo Reconstruction Using Variational Methods, *Georg Kuschk (Martin-Luther University), Daniel Cremers (Technische Universität München)*
15:40 Coffee Break
16:10 Kinect Shadow Detection and Classification, *Teng Deng, Hui Li, Jianfei Cai, Tat-Jen Cham (Nanyang Technological University), Henry Fuchs*
16:30 Semantic Parsing of Street Scene Images Using 3D LiDAR Point Cloud, *Pouria Babahajiani, Lixin Fan and Moncef Gabbouj (Tampere University of Technology and Nokia Research Center)*
16:50 Memory Efficient 3D Integral Volumes, *Martin Urschler, Alexander Bornik (Graz University of Technology) , Michael Donoser*

W22: Decoding Subtle Cues from Social Interactions

Date: December 8
Location: Room 103
Organizers: David Forsyth, Yin Li, James M. Rehg
Overview: A great deal of meaning in social interactions is subtly encoded in the posture, movement, expressions, tone of voice, etc. of the participants. Interpreting these cues requires novel analysis methods that go beyond standard techniques for the classification of actions and activities. This workshop will define and explore new challenges and approaches for decoding human behavior in social interactions.

09:00 **Invited Talk:** Early Detection of Autism: The Promise and the Challenge, *Wendy Stone (University of Washington)*

10:00 Coffee Break

10:30 **Invited Talk:** Decoding Children's Social Behavior, *James M. Rehg (Georgia Institute of Technology)*

11:20 Home Alone: Social Robots for Digital Ethnography of Toddler Behavior, *Mohsen Malmir (University of California, San Diego), Deborah Forster (University of California, San Diego), Kendall Youngstrom (University of California, San Diego), Lydia Morrison, Javier R. Movellan (Emotient.com)*

11:40 Self-Stimulatory Behaviours in the Wild for Autism Diagnosis, *Shyam Sundar Rajagopalan (University of Canberra), Abhinav Dhall (Australian National University), Roland Goecke (University of Canberra)*

12:00 **Invited Talk:** TBD, *Ivan Laptev (INRIA Paris)*

12:20 Lunch and Posters

14:30 **Invited Talk:** TBD, *Jitendra Malik (University of California, Berkeley)*

15:20 **Invited Talk:** TBD, *Rahul Sukthankar (Google)*

15:40 Coffee Break

16:10 **Invited Talk:** Social Interactions: A First-Person Perspective, *Alireza Fathi (Stanford University)*

16:40 **Invited Talk:** TBD, *Yaser Sheikh (Carnegie Mellon University)*

17:10 Posters+discussion (1 hr)

Posters:

Joint Alignment and Modeling of Correlated Behavior Streams, *Liliana Lo Presti (Boston University), Stan Sclaroff (Boston University), Agata Rozga (Georgia Institute of Technology)*

Markov Random Field Structures for Facial Action Unit Intensity Estimation, *Georgia Sandbach (Imperial College London), Stefanos Zafieriou (Imperial College London), Maja Pantic (Imperial College London)*

Video Based Children's Social Behavior Classification in Peer-play Scenarios, *Lu Tian (Peking University), Dingrui Duan (Peking University), Jinshi Cui (Peking University), Li Wang (Peking University), Hongbin Zha (Peking University), Hamid Aghajan (Stanford University)*

Trusting Skype: Learning the Way People Chat for Fast User Recognition and Verification, *Giorgio Roffo (University of Verona)*
Marco Cristani (University of Verona), Loris Bazzani (Italian Institute of Technology), Hà Quang Minh, Vittorio Murino (Italian Institute of Technology)

Self-Stimulatory Behaviours in the Wild for Autism Diagnosis, *Shyam Sundar Rajagopalan (University of Canberra), Abhinav Dhall (Australian National University), Roland Goecke (University of Canberra)*

Home Alone: Social Robots for Digital Ethnography of Toddler Behavior, *Mohsen Malmir (University of California, San Diego), Deborah Forster (University of California, San Diego), Kendall Youngstrom (University of California, San Diego), Lydia Morrison, Javier R. Movellan (Emotient.com),*

Hand Gestures for Intelligent Tutoring Systems: Dataset, Techniques & Evaluation, *Suchitra Sathyanarayana (University of California, San Diego), Gwen Littlewort (University of California, San Diego), Marian Bartlett (University of California, San Diego)*

Human Body-parts Tracking for Fine-grained Behavior Classification, *Norimichi Ukita (Nara Institute of Science and Technology), Atsushi Nakazawa (Kyoto University)*

W23: The 5th International Workshop on Video Event Categorization, Tagging and Retrieval (VECTaR2013)

Date: December 8
Location: Room 105
Organizers: Tieniu Tan, Thomas S. Huang, Liang Wang, Ling Shao, Jianguo Zhang, Yun Fu

08:30 **Welcome**
08:35 **Keynote Talk** by Dr. Zhengyou Zhang, IEEE Fellow, Microsoft Corp., One Microsoft Way, Redmond WA 98052-6399, US.
S1: Oral Session 1 (09:20-10:10)
09:20 Spatio-Temporal Context Modeling for BoW-Based Video Classification, *Saehoon Yi (Rutgers University) , Vladimir Pavlovic (Rutgers University)*
09:45 Semantic Video-to-Video Search using Sub-Graph Grouping and Matching, *Tae Eun Choe (ObjectVideo Inc.), Hongli Deng (ObjectVideo Inc.), Feng Guo (Google Inc.), Mun Wai Lee (Intelligent Automation, Inc.), Niels Haering (ObjectVideo Inc.)*
10:10 Morning Coffee Break
S2: Oral Session 2 (10:30-12:10)
10:30 NSH: Normality Sensitive Hashing for Anomaly Detection, *Hirotaka Hachiya (Canon INC.), Masakazu Matsugu (Canon INC.)*
10:55 Dynamic Scene Classification using Spatial and Temporal Cues, *Arun Balajee Vasudevan (IIT Jodhpur), Srikanth Muralidharan (IIT Jodhpur), Pratheek Chintapalli (IIT Jodhpur), Shanmuganathan Raman (IIT Gandhinagar)*
11:20 VGRAPH: An Effective Approach for Generating Static Video Summaries, *Karim M. Mahmoud (IBM,Alexandria University), Nagia M. Ghanem, Mohamed A. Ismail*
11:45 Concluding Remarks

W24: Underwater Vision Workshop

Date: December 8
Location: Room 106

08:30 Arrival
08:30 Introduction to ACFR and the Marine Robotics Group
09:00 **Keynote** by Elizabeth Clarke
09:40 **Keynote** by David Kriegman
10:20 1x Oral presentation: Paper ID 5
An Analysis of Monochrome Conversions and Normalizations on the Local Binary Patterns Texture Descriptors, *Navid Nourani-Vatani, Mark De Deuge, Bertrand Douillard, Stefan B. Williams*
10:40 Morning Tea Break
11:00 2x Oral Presentations: Paper IDs 2, 4
A Pixel-wise Varifocal Camera Model for Efficient Forward Projection and Linear Extrinsic Calibration of Underwater Cameras with Flat Housings, *Ryo Kawahara, Shohei Nobuhara, Takashi Matsuyama*
Transmission Estimation in Underwater Single Images, *P. Drews Jr., E. do Nascimento, F. Moraes, S. Botelho, M. Campos*
11:40 **Keynote** by Yoav Schechner
12:20 1x Oral Presentations: Paper ID 8
Categorization of Underwater Habitats Using Dynamic Video Textures, *Jun Hu, Han Zhang, Anastasia Miliou, Thodoris Tsimpidis, Hazel Thornton, Vladimir Pavlovic*
12:40 Lunch Break and Travel to the ACFR (Sydney Univesity)
14:00 Lab tour @ the ACFR
14:30 Discussion @ The Rose Pub
16:00 End of workshop

W25: Color and Photometry in Computer Vision (CVPV)

Date: December 8
Location: Room 101
Organizers: Theo Gevers, Joost van de Weijer, Jose Alvarez, Todd Zickler
Overview: This workshop focuses on new insights for the understanding of color and photometry in computer vision. As color and photometry are shared among various research fields, this workshop places them at the junctions of different areas, including color science, applied optics, computational photography, computer vision, computer graphics, and machine learning.

S1: Keynote Session 1 (14:00-14:40)

14:00 **Keynote Talk**: Robust Photometric Stereo*, Yasuyuki Matsushita (Microsoft Research Asia)*

S2: Oral Session 1 (14:40-15:40)

14:40 Quick Approximation of Camera's Spectral Response From Casual Lighting, *Dilip K. Prasad, Rang Nguyen, and Michael S. Brown (National Univ. of Singapore)*

15:00 Polarization-Based Dehazing using Two Reference Objects, *Daisuke Miyazaki, Daisuke Akiyama, Masashi Baba, Ryo Furukawa, Shinsaku Hiura, Naoki Asada, (Hiroshima City University)*

15:20 Approximate Cross Channel Color Mapping from Sparse Color Correspondences, *Hasan Sheikh Faridul, Jurgen Stauder, Jonathan Kervec and Alain Trémeau (Technicolor R&D, Université Jean Monnet)*

15:40 Afternoon Break

S3: Oral session 2 (16:00–18:20)

16:00 Multiplex Image Projection using Multi-Band Projectors, *Makoto Nonoyama, Fumihiko Sakaue, and Jun Sato (Nagoya Institute of Technology)*

16:20 Mixing Paints for Generating Metamerism Art under 2 Lights and 3 Object Colors, *Daisuke Miyazaki, Kanami Takahashi, Masashi Baba, Hirooki Aoki, Ryo Furukawa, Masahito Aoyama, and Shinsaku Hiura (Hiroshima City University)*

16:40 Visual Material Traits: Recognizing Per-Pixel Material Context, *Gabriel Schwartz and Ko Nishino (Drexel University)*

17:00 Separating Specular and Diffuse Reflection Components in the HSI Color Space, *Jianwei Yang, Lixing Liu and Stan Z. Li (CBSR&NLPR, USC)*

17:20 Colour Constancy from Both Sides of the Shadow Edge, *Stuart E. Lynch, Mark S. Drew, and Graham D. Finlayson (University of East Anglia, Simon Fraser University)*

17:40 Verification of Sky Models for Image Calibration*, Rishi Ramakrishnan, Juan Nieto, and Steve Scheding (University of Sydney)*

18:00 BRDF Estimation of the Structural Color Object by Using Hyper Spectral Image, *Yoshie Kobayashi, Tetsuro Morimoto, Imari Sato, Yasuhiro Mukaigawa, Katsushi Ikeuchi (University of Tokyo, Toppan Printing Co., Ltd, National Institute of Informatics, Osaka University)*

Demo Program

For more details and abstracts, see online program or mobile app

Tuesday Dec. 3, Morning

Demo 1:

Efficient Hand Pose Estimation from a Single Depth Image

Chi Xu, and Li Cheng, Bioinformatics Institute, A*STAR, Singapore

Demo 2:

CopyMe3D: Scanning and Printing Persons in 3D

Jürgen Sturm, TU Munich, Erik Bylow, Fredrik Kahl, Lund University; Daniel Cremers, TU Munich

Demo 3:

Semi-Dense Visual Odometry for a Monocular Camera

Jakob Engel, Jürgen Sturm, Daniel Cremers, TU Munich

Tuesday Dec. 3, Afternoon

Demo 4:

Live Metric 3D Reconstruction on Mobile Phones

Petri Tanskanen, Kalin Kolev, Lorenz Meier, Federico Camposeco, Olivier Saurer and Marc Pollefeys, Computer Vision and Geometry Group, ETH Zurich, Switzerland

Demo 5:

Image Deblurring

Shicheng Zheng, The Chinese University of Hong Kong; Li Xu, The Chinese University of Hong Kong

Demo 6:

SLAM and Camera Tracking

Guofeng Zhang, Haomin Liu, Zilong Dong, Wei Tan, Hujun Bao, Zhejiang University; Jiaya Jia, Zhejiang University

Demo 7:

Real-time Articulated Hand Pose Estimation using Semi-supervised Transductive Regression Forests

Danhang Tang (Imperial College London, London, UK), Tsz-Ho Yu (University of Cambridge, Cambridge, UK), Tae-Kyun Kim (Imperial College London, London, UK)

Wednesday Dec. 4, Morning

Demo 8:

Image Guided Depth Upsampling using Anisotropic Total Generalized Variation

David Ferstl, Christian Reinbacher, Rene Ranftl, Matthias Rüther, Horst Bischof Institute for Computer Graphics and Vision, Graz University of Technology

Demo 9:

Real Time Motion Segmentation

Ralf Dragon, Luc Van Gool, ETH Zurich

Demo 10:

CLM-WILD: Real-Time Generic Face Tracker

Akshay Asthana, Stefanos Zafeiriou, Shiyang Cheng, Jie Shen (Imperial College London), Maja Pantic (Imperial College London and University of Twente)

Wednesday Dec. 4, Afternoon

Demo 11:

Upper body pose estimation and tracking

Markos Sigalas(1,2), Maria Pateraki(1), Panos Trahanias(1,2)

1 Institute of Computer Science (ICS) - Foundation for Research and Technology - Hellas (FORTH), Greece

2 Department of Computer Science, University of Crete, Greece

Demo 12:

Face Tracking and Eye Contact Detection Using A Single Pair of Glasses

Yin Li, Zhefan Ye, Alireza Fathi, James Mathew Rehg, Georgia Institute of Technology

Demo 13:

Back to Back Comparison of Long Term Tracking Systems

Federico Pernici and Alberto Del Bimbo

Thursday Dec. 5, Morning

Demo 14:

Roof Reconstruction from Point Clouds

Nguatem, William, Drauschke, Martin. and Mayer, Helmut (Bundeswehr University Munich, Institute of Applied Computer Science)

Demo 15:

Real-Time Large-scale Dense Localization and Mapping with Super-resoluton and High Dynamic Range.

M. Meilland and A.I. Comport, CNRS-I3S/University of Nice Sophia Antipolis, France.

Demo 16:

Dense 3D Reconstruction in Real-Time on a CPU

Frank Steinbrücker, Jürgen Sturm, Daniel Cremers TU Munich.

Thursday Dec. 5, Afternoon

Demo 17:

Multispectral Imaging

Johannes Jordan, Elli Angelopoulou, University of Erlangen-Nuremberg

Demo 18:

Smart HDR Camera for 3D 360° Imaging

Nabil Belbachir, Manfred Mayerhofer, AIT Austrian Institute of Technology

Demo 19:

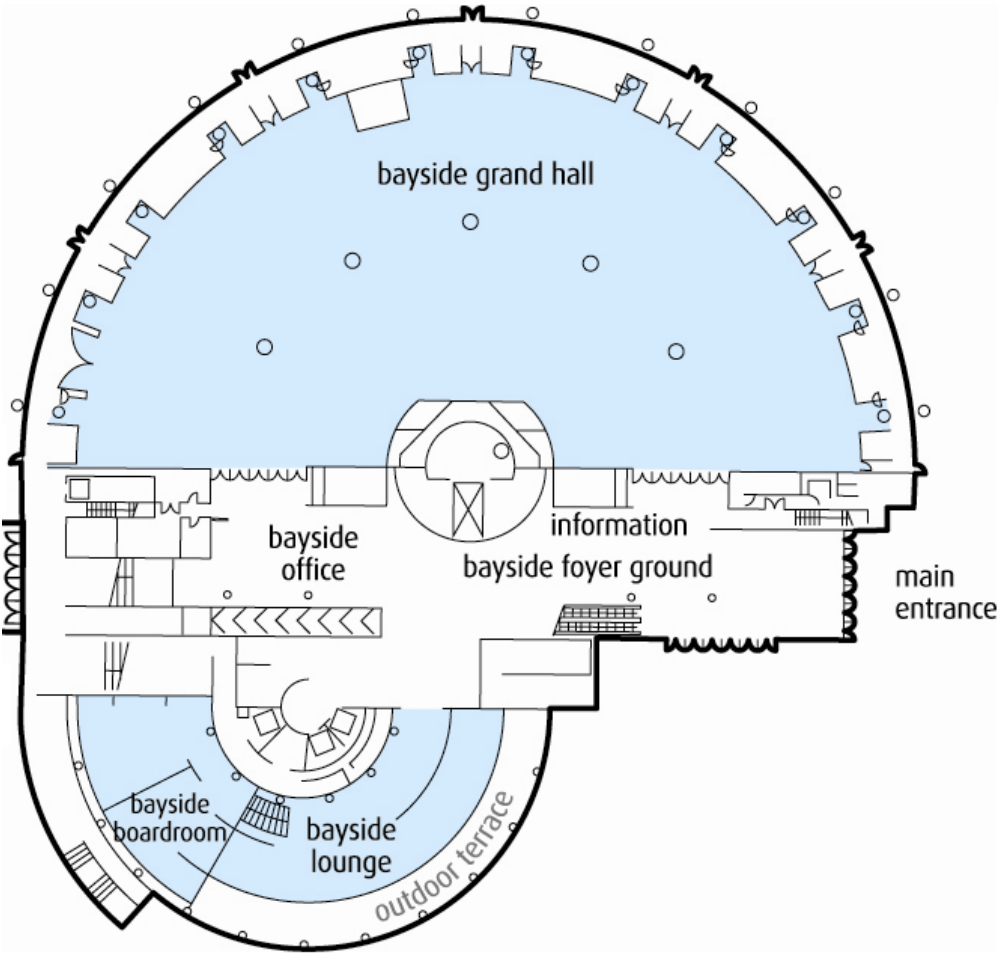
DejaVu: A 3D map augmented photo gallery application on mobile devices

Lixin Fan, Junsheng Fu, Yu You, Kimmo Roimela, Petri Piippo and Ville-Veikko Mattila, Nokia Research Center

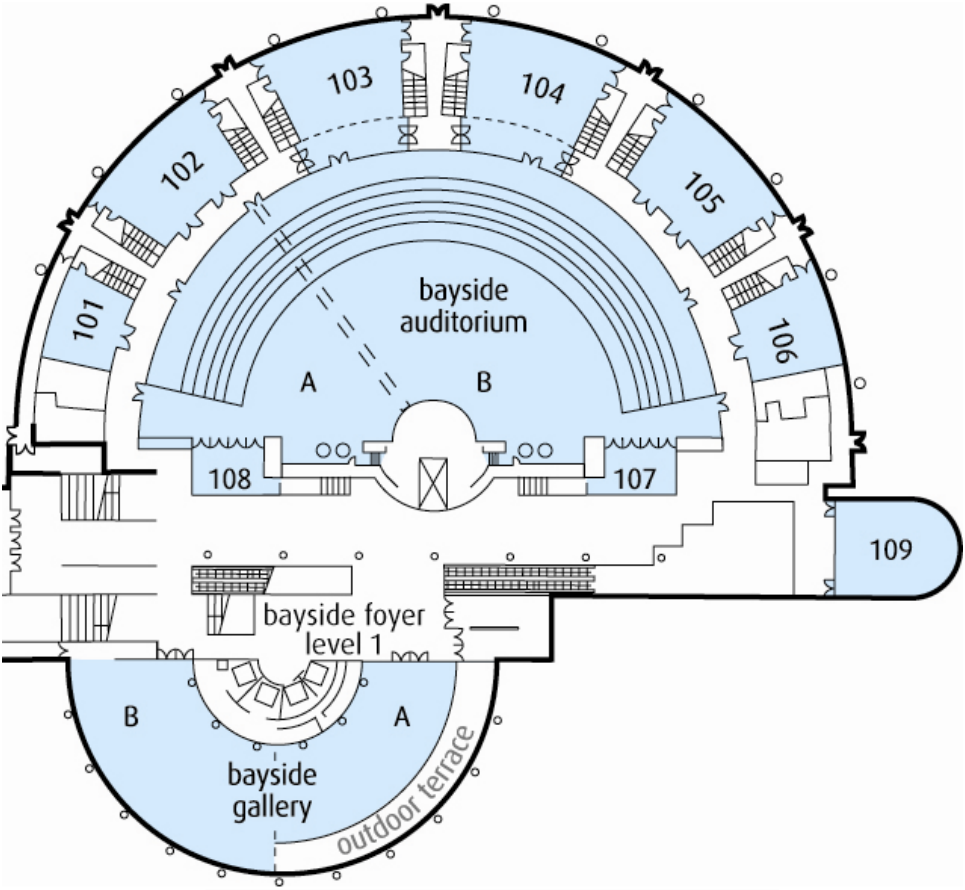
Demo 20:

Vision-based Mobile AR Applications with On Site Mash-ups of Web Media Contents.

Yu You, Lixin Fan, Alain Boyer, Tuomas Kantonen and Ville-Veikko Mattila, Nokia Research Center



convention centre | **ground**



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Venues for Main Conference and Poster Sessions:

Main Conference: Bayside Auditorium
Poster Sessions: Bayside Grand Hall