

Day 1: Tuesday 3rd Dec

8:50 - 9:00 Welcome & Opening remarks (Announce Marr Prize and student best paper)

9:00 - 10:00 Oral session 1A (4 papers, 60min) Recognition

Orals 1A:01 – 1A:03

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 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*, ; Kartek Alahari, ENS-Willow; Jean Ponce, "ENS, France"

10:00 - 10:45 Spotlights (45min, 52 spotlights at 50secs each)

10:45 - 12:15 Poster session 1A: Posters 1A:01 - 1A:52

1 Shape Anchors for Data-driven Multi-view Reconstruction. Andrew Owens, MIT; Jianxiong Xiao*, MIT;
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 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, China"; 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 Paulsen, 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, Lukas Neumann*, ; Jiri Matas, Czech
Technical University

- 10 Adapting Classification Cascades to New Domains, vidit Jain*, ; Sachin Farfade,
- 11 Learning Identity-Preserving Features, Zhenyao Zhu*, CUHK; Ping Luo, CUHK
- 12 A Cascaded Deep Learning Architecture 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, ; Hongbin Zha, "Peking University, China"
- 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; Hyeonwoo 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 Fisher, MIT
- 18 Tissue Classification via Unsupervised Feature Learning and Spatial Pyramid Matching, Hang Chang*, Lawrence Berkeley National Lab; Nandita Nayak, ; Paul Spellman, ; Bahram Parvin,
- 19 Higher Order Matching for Consistent Multiple Target Tracking, Chetan Arora*, ; Amir Globerson,
- 20 Image Matching: a General Framework Combining Direct and Feature-based Costs, Jim Braux-Zin*, CEA, LIST; Adrien Bartoli, Universit?d'Auvergne; Romain Dupont, CEA, LIST
- 21 Revisiting Example Dependent Cost-Sensitive Learning with Decision Trees, Oisín Mac Aodha*, UCL; Gabriel 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 ; 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 Patel*, UMIACS; Hien Nguyen , UMIACS; Rene Vidal, Johns Hopkins University
- 26 Tracking Revisited using RGBD Camera: Benchmark and Baselines, Shuran Song, HKUST; Jianxiong Xiao*, MIT
- 27 A Simple Model for Intrinsic Image Decomposition with Depth Cues, Qifeng Chen, ; Vladlen Koltun*, Stanford University
- 28 Quadruplet-wise Image Similarity Learning, Marc Law*, LIP6; Nicolas Thome, LIP6; Matthieu Cord,

- 29 Complementary Projection Hashing, Zhongming Jin*, Zhejiang University; Deng Cai, ; Yao Hu, Zhejiang university; Debing Zhang, Zhejiang university; Xuelong Li,
- 30 Find the Best Path: an Efficient and Accurate Classifier 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, Ral Daz, University of California, Irvine; Sam Hallman, University of California, Irvine; Charles 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, Jos 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
- 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 Semantic Labeling, Liang-Chieh Chen*, UCLA; George Papandreou, UCLA; Alan Yuille, UCLA
- 40 Pyramid Coding for Functional Scene Element Recognition in Video Scenes , Eran Szwed*, Kitware Inc.; Anthony Hoogs, Kitware, USA; Kim Boyer, RPI
- 41 Box In the Box: Joint 3D Layout and Object Reasoning from Single Images, Alexander Schwing*, ETH Zurich; Sanja Fidler, TTIC; Marc Pollefeys, ETH; Raquel Urtasun, Toyota Technological Institute at Chicago
- 42 Weakly Supervised Semantic Inference for Relating Visual Attributes, Sukrit Shankar*, Cambridge University; Joan Lasenby, University of Cambridge; Roberto Cipolla, Cambridge University
- 43 From Subcategories to Visual Composites: A Multi-Level Framework for Object Detection, Tian Lan*, Simon Fraser University; Leonid Sigal, ; Michalis Raptis, Disney Research Pittsburgh; Greg Mori, Simon Fraser University
- 44 Online Video Superpixels 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; Joern Jachalsky, Technicolor; Joern Ostermann, Institut für Informationsverarbeitung / Universität Hannover; Bodo Rosenhahn,

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; Bill Freeman, "MIT, USA"

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

50 Dynamic Label Propagation for Semi-supervised Multi-class Multi-label Classification, Bo Wang*, York University; John Tsotsos, "York University, Canada"

51 Translating video into 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 Person Re-Identification Post-Rank Optimisation, Chunxiao Liu, Tsinghua University; Chen Change Loy, CUHK; Shaogang Gong*, EECS, QMUL; Guijin Wang, Tsinghua University

Lunch 12:15 - 14:15

14:15 - 15:00 Oral session 1B (3 papers, 45mins) Computational Photography

Orals 1B:01 – 1B:03

1 Scene Intensity and Depth Acquisition from One Detected Photon per Pixel

Ahmed Kirmani*, MIT; Donggeek Shin, MIT; Dheera Venkatraman, MIT; Franco Wong, MIT; Vivek 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 (45mins)

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

16:15 - 17:15 Oral session 1C (4 papers 60 mins) 3D Vision

Orals 1C:01 – 1C:04

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

1 Dynamic Probabilistic Volumetric Models, Ali Ulusoy*, Brown University; Joseph Mundy, Brown University

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

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 Astrom, Lund University

5 Unsupervised intrinsic calibration from a single frame using a "plumb-line" approach, Rui Melo*, ISR-Coimbra; Michel Antunes, ; Joao Barreto, ; Gabriel Falco, ; Nuno Goncalves,

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

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

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, Queensland U of Tech; Jason Saragih, Queensland U of Tech; Simon Lucey,

11 Face Recognition via Ranking over An Archetype Hull, Yuanjun Xiong*, The Chinese University of Hong Kong; Wei Liu, Columbia University; Deli Zhao, 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 University; 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 Institute of Technology; 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, Karthikeyan Shanmuga 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, Surgical Planning Laboratory, Harvard Medical School; Stphane Chemouny, Intrinsense 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 Tao*, ; Sunil Hadap, Adobe Inc.; Jitendra Malik, UC Berkeley; Ravi Ramamoorthi, U.C. Berkeley

23 Affine Constraint Group Sparse Coding, 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 Zurich; 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, El chakik Abdallah*, 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 Zurich; Kevin Koeser, ; 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; 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 Harandi, NICTA; Brian 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, Mark Cummins*, Google; Alessandro Bissacco, Google Inc.; 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 Multi-Label Image Annotations Using New Graph Structured Sparsity Model, xiao Cai, University of Texas at Arlington; Feiping Nie, University of Texas at Arlington; 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 Transfer Privileged Information, Viktoriia Sharmanska*, IST Austria; Novi Quadrianto, University of Cambridge; Christoph 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; JoonHee Han, POSTECH
- 43 Characterizing Layouts of Outdoor Scenes Using Spatial Topic Processes, Dahua Lin*, TTIC; Jianxiong Xiao, MIT
- 44 Image Co-Segmentation via Consistent Functional Maps, Fan Wang*, Stanford University; Qixing Huang, Stanford University; Leonidas 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, Ohio 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
- 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 NBN Domain Adaptation, Tatiana Tommasi*, IDIAP Martigny ; Barbara Caputo,
- 51 Video Event Understanding using Natural Language Descriptions, Vignesh Ramanathan*, Stanford University; Percy Liang, Stanford University; Fei-Fei Li, Stanford University
- 52 ACTIVE: Activity Concept Transitions in Video Event Classification, Chen Sun*, University of Southern Califor; Ram Nevatia,

19:00 PAMI TC

Day 2: Wed 4th Dec

9:00 -10:00 Oral session 2A (4 papers 60 min) Low level vision

Orals 2A:01 – 2A:03

1 Benchmarking Computational Model of Visual Saliency

Ali Borji*, ; Dicky Sihite, University of Southern California (USC); Hamed Rezazadegan Tavakoli, University of Oulu; Laurent Itti, University of Southern California (USC)

2 A Color Constancy Model with Double-Opponency Mechanisms

Shaobing Gao, UESTC; Kaifu Yang, UESTC; 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 (45min, 52 spotlights at 50secs each)

10:45 - 12:15 Poster session 2A: Posters 2A:01 – 2A:52

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

2 A Robust Analytical Solution to Isometric Non-Rigid Pose with Focal Length Calibration, Adrien Bartoli*,
Universit 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 Basha Dekel*, TAU; Shai Avidan, Tel-Aviv University; Yael Moses,

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, IRT

6 Image Guided Depth Upsampling using Anisotropic Total Generalized Variation, David Ferstl*, Graz University of Technology; Christian Reinbacher, ; 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; Inso 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 Forns, 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 University; 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, Germany"; 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; Luc Van Gool, ETH; gerhard Schmitt, ETH Zurich
- 16 Single-patch low-rank prior for non-pointwise impulse noise removal, Ruixuan Wang*, University of Dundee; Emanuele Trucco, University of Dundee
- 17 SGT-D: 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 Kvon, IMP; Alexander Stark, IMP; Christoph 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 Miller, 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 Miller*, Leibniz Universitt Hannover; Michael Ying Yang, tnt.uni-hannover.de; Bodo Rosenhahn,
- 24 Multi-Attributed Dictionary Learning for Sparse Coding, Chen-Kuo Chiang*, National Tsing Hua University; Te-Feng Su, ; Yen Chih, ; Shang-Hong Lai, NTHU
- 25 Semi-Supervised Robust Dictionary Learning via Efficient L2,0+-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 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, Technical University 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 Lenz, 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 A Data Set and a Stopwatch Hidden Markov Model for Event Recognition in Photo Collections, Lukas Bossard*, ETH Zurich; Matthieu Guillaumin, ETH Zurich; Luc Van Gool, ETH

32 Nested Shape Descriptors, Jeffrey Byrne*, University of Pennsylvania

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 Look Into Sparse Representation-based Classification: A Margin-based Perspective, 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*, Virginia Tech

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, ; Kan Chen, ; 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 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 for Category Modeling from Large Scenes, Quanshi Zhang*, University of Tokyo; Xuan Song, University of Tokyo; Xiaowei Shao, University of Tokyo; Ryosuke Shibasaki, University of Tokyo; Huijing Zhao, Peking University

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 Singapore; 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 (3 papers 45 mins) Motion and Tracking

Orals 2B:01 - 2B:03

1 Perspective Motion Segmentation via Collaborative Clustering

Zhuwen Li*, NUS; Jiaming Guo, NUS; Loong-Fah Cheong, NUS; Zhiying Zhou, NUS

2 Piecewise Rigid Scene Flow

Christoph Vogel*, ETH Zurich; Konrad Schindler, ETH Zurich; Stefan Roth, "TU Darmstadt, Germany"

3 Large displacement optical flow with deep matching

Philippe Weinzaepfel*, INRIA; Jerome Revaud, ; Zaid Harchaoui, INRIA; Cordelia Schmid, "INRIA, France"

15:00 - 15:45 Spotlights (45mins)

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

16:15 – 17:15 Oral session 2C (4 papers 60 mins) Recognition

Orals 2C:01 – 2C:04

1 Shufflets: shiftable shared parts for 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; Herv Jgou*, 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

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*, ; Vincent Couture, Sebastien Roy,

4 Real-Time Semi-Dense Monocular SLAM: A Statistical Approach, Jakob Engel*, Technical University Munich;

Juergen Sturm, TU Munich; Daniel Cremers, Technische Universitt Mnchen

5 Globally-Optimal 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 Nayar, Columbia University

8 Compensating for Motion During Direct-Global Separation, Supreeth Achar*, Carnegie Mellon University; Stephen Nuske, Carnegie Mellon University; Srinivas Narasimhan, Carnegie Mellon University

9 Hybrid Deep Learning for Computing Face Similarities, 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 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; Shuai Zheng, Oxford Brookes University; Jonathan Warrell, Oxford Brookes University; Vibhav Vineet, Oxford Brookes University; Wenyan Lin, Oxford Brookes University

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 Universitt Mnchen; Simon Hawe, Technische Universitt Mnchen; Martin Kleinsteuber, Technische Universitt Mnchen

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, Yuheng(Carl) 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; Weiming Hu, Institute of Automation Chinese Academy of Sciences; Junliang Xing, Institute of Automation, Chinese Academy of Sciences

20 Coherent motion segmentation in moving camera videos using optical flow orientations, Manjunath Narayana*, ; Erik Learned-Miller, University of Massachusetts at Amherst; Allen Hanson, University of Massachusetts 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; Inso Kweon, "KAIST, Korea"
- 26 Semantic RGB-D Bundle Adjustment with Human in the Loop, Jianxiong Xiao*, MIT; Andrew Owens, MIT; Antonio Torralba, MIT
- 27 The Interestingness of Images, Michael Gygli*, ETH Zurich; Helmut Grabner, ; Hayko Riemenschneider, CVL, ETH Zurich; 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
- 30 Unbiased Metric Learning: Utilize Biased Datasets and Web Images, Chen Fang*, Dartmouth College; Ye Xu, Dartmouth College; Daniel Rockmore, Dartmouth College
- 31 Saliency Detection via Absorbing Markov Chain, Bowen Jiang*, DUT; Lihe Zhang, DUT, China; huchuan Lu, DUT,China; Ming-Hsuan Yang, "UC Merced, USA"; Chuan Yang,
- 32 Semantic-aware Co-indexing for Near-duplicate 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, Larry 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; Rene Vidal, Johns Hopkins University; Ivaro Soto, Universidad Catlica de Chile

- 36 Query-adaptive asymmetrical dissimilarities for visual object retrieval, Cai-Zhi Zhu*, National Institute of Informatics; Herv Jgou, INRIA; shin'ichi sato, 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 Rodriguez-Serrano*, ; Diane Larlus,
- 40 Heterogeneous Image Feature Integration via Multi-Modal Semi-Supervised Learning for Image Categorization, 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 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; Vitto 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; Zhouchen Lin, Peking University ; Shuicheng Yan, "NUS, Singapore"
- 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; Jerome Revaud, ; Cordelia Schmid, "INRIA, France"; Herv Jgou*, 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

19:00 Reception

Day 3: Thurs 5th December

9:00 - 10:00 Oral session 3A (4 papers, 60min) Recognition + Segmentation

Orals 3A:01 - 3A:04

1 Structured Forests for Fast Edge Detection

Piotr Dollar*, ; Larry 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 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 (Alyosha) Efros, CMU; Martial Hebert, "CMU, USA"

4 Coarse-to-fine Semantic Video Segmentation using Supervoxel Trees

Rene Vidal*, Johns Hopkins University; Aastha Jain, LinkedIn

10:00 - 10:45 Spotlights (45min, 52 spotlights at 50secs each)

10:45 - 12:15 Poster session 3A: Posters 3A:01 - 3A:52

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

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*, ANU; Yuchao Dai, Australian National University; Du Xin, ; Hongdong Li, Australia National University; Jonghyuk Kim, ANU

5 Corrected-Moment Illuminant Estimation, Graham 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 Supervised and Unsupervised Within Class Covariance Normalization for Efficient Face Recognition, Oren Barkan*, Tel Aviv University; Jonathan Weill, Tel Aviv University; Lior Wolf, "Tel Aviv University, Israel"; Hagai Aronowitz, IBM Research; Amir Averbuch, Tel Aviv University
- 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; Jingliang Peng, cs.sdu.edu.cn; Haibin Ling,
- 15 Estimating the Material Properties of Fabric Through Observation of Motion, Katherine Bouman*, Massachusetts Institute of Tec; Bill Freeman, "MIT, USA"; Bei Xiao, ; Peter Battaglia, ; Wojciech Matusik, ; John Fisher, MIT
- 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, Amit K.C.*, 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; Andrew Comport, CNRS-I3S/UNS; Tom Drummond, Monash University
- 20 Shortest Paths with Curvature and Torsion, Petter Strandmark*, Lund Univeristy; Johannes Uln, Lund University; Fredrik Kahl, Lund University
- 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 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, unknown; Tieniu Tan, "NLPR, China"
- 29 CoDeL: An Efficient 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; Shipeng Li,
- 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 Take Your Favorite Cloud with You, 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 Yu, ICSI; Pietro Perona, "Caltech, USA"

41 Video Segmentation by Tracking Many Figure-Ground Segments, Fuxin Li*, Georgia Inst. of Tech.; Taeyoung Kim, Georgia Institute of Technology; Ahmad Humayun, ; Wei Cai, Georgia Institute of Technology; James 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 Yu, University of Illinois at Chicago

43 Manifold based Image 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; Sinisa Todorovic*, "Oregon State University, USA"; Song Chun Zhu, UCLA

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 Corso, "SUNY Buffalo, USA"

48 From Actemes to Action: A Strongly-supervised Representation for Detailed Action Understanding, Weiyu Zhang*, University of Pennsylvania; Konstantinos Derpanis, University of Pennsylvania; Menglong Zhu, 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; 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 (3 papers, 45mins) Motion and Tracking

Orals 3B:01 – 3B:03

1 Hierarchical Data-driven Descent for Efficient Optimal Deformation Estimation
Yuandong Tian*, Carnegie Mellon University; Srinivas 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 Sznai, Northeastern University

15:00 – 15:45 Spotlights (45mins)

15:45 – 16:15 Break (30mins)

16:15 – 17:15 Oral session 3C (4 papers, 60mins) Optimization

Orals 3C:01 – 3C:04

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 Mnchen

4 Tree Shape Priors with Connectivity Constraints using Convex Relaxation on General Graphs

Jan Sthmer*, TU Munich; Peter Schrder, Caltech; Daniel Cremers, Technische Universitt Mnchen

17:15 – 18:45 Poster session 3B: Posters 3B:01 – 3B:52

1 Revisiting the $P(n)P$ Problem: A Fast, General and Optimal Solution, Yinqiang Zheng*, Tokyo Institute of Technology; Yubin Kuang, Lund University; shigeki Sugimoto, Tokyo Institute of Technology; Kalle Astrom, 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 Correspondence Fitting, Wen-Yan Lin*, Oxford Brookes; Ming Ming Chen, ; Kyle Zheng, ; Jiangbo Lu, Advanced Digital Sciences Cent; Crook Nigel,

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

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*, Carnegie Mellon University; Wen-Sheng Chu, Carnegie Mellon University; Fernando de la Torre, Carnegie Mellon University; Jeffrey Cohn, ; 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 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 Brown, National University of Singapore

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

14 Robust Tucker Tensor Decomposition for Efficient Image Storage, Miao Zhang*, University of Texas at Arlington; Chris Ding,

15 Interactive Markerless Articulated Hand Motion Tracking Using RGB and Depth Data, Srinath Sridhar*, Max-Planck-Institut Informatik; Antti Oulasvirta, Max-Planck-Institut Informatik; Christian Theobalt, MPI fuer Informatik

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, "UC Santa Barbara, USA"

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 ; Joao 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, ; Fei-Fei Li, Stanford University

23 Bird Part Localization Using Exemplar-Based Models with Enforced Pose and Subcategory Consistency, Jiongxin Liu*, COLUMBIA UNIVERSITY; Peter Belhumeur, "Columbia University, USA"

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

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

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; Anton Van den Hengel, University of Adelaide ; David Suter,

28 Modeling Occlusion by Discriminative AND-OR Structures, Bo Li*, Beijing Institute of Tech.; Wenze Hu, ; 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,
- 31 Write a Classifier: Zero Shot Learning Using Purely Textual Descriptions, Mohamed Elhoseiny*, Rutgers University; Ahmed Elgammal, ; Babak Saleh, Rutgers University
- 32 Random Forests of Local Experts for Pedestrian Detection, Javier Marin*, Computer Vision Center; David Vazquez, Computer Vision Center, UAB; Jaume Amores, Computer Vision Center, UAB; Antonio Lopez, 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, Columbia University; Wei Liu, Columbia University; Dacheng Tao, ""University of Technology, Sydney""; xinbo Gao,
- 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 Ego-Centric 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; Edmond Boyer, ; Jean-Sebastien Franco, Grenoble Universities; Patrick Perez, "Technicolor, France"; Franois Le Clerc,
- 39 Pedestrian Parsing via Deep Compositional Network, Ping Luo*, 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,

46 Space-Time Robust Video Representation for Action Recognition, Nicolas Ballas*, CEA/Mines-ParisTech; Yi Yang, cmu.edu; 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 Very Fast Abnormal Event Detection, Cewu Lu*, The Chinese University of Hong; Jianping Shi, CUHK ; Jiaya Jia, Chinese University of Hong Kong

49 Dynamic Pooling for Complex Event Recognition, Weixin Li*, UC San Diego; Qian Yu, Sarnoff; 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; Stan Sclaroff, Boston University; Jianming Zhang, Boston University; nazli Ikizler-cinbis, Department of Computer Engineering, Hacettepe 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

19:00 reception

Day 4: Friday 6th Dec

9:00 – 10:00 Oral session 4A (4 papers, 60mins) Recognition

Orals 4A:01 – 4A:04

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

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 Berg, Stony Brook University; Tamara Berg, "Stony Brook University, USA"
Carl Vondrick*, MIT; Aditya Khosla, ; Tomasz Malisiewicz, ; Antonio Torralba, MIT

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,

10:00 – 10:45 Spotlights (45min, 52 spotlights at 50secs each)

10:45 – 12:15 Poster session 4A: Posters 4A:01 – 4A:52

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

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

3 Image Aided Automatic Registration of Laser Scans via Salient Directions, Bernhard Zeisl*, ETH; Kevin Koeser, ; Marc Pollefeys, ETH

4 Real-time solution to the absolute pose problem with unknown radial distortion and focal length, Zuzana Kukelova*, ; Martin Bujnak, Bzovicka 24, 85107, Bratislava, Slovakia; Tomas Pajdla, Czech Technical University

5 Rectangling Stereographic Projection for Wide-Angle Image Visualization, Che-Han Chang*, National Taiwan University; Yung-Yu Chuang, National Taiwan University

6 Accurate Blur Models vs. Image Priors in Super-Resolution, Netalee Efrat*, Weizmann institute; Daniel Glasner, Weizmann Institute; sasha 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 Nicolaou, Imperial College London; Stefanos Zafeiriou*, Imperial; Symeon Nikitidis, Imperial College London; Maja Pantic, Imperial College

8 Fast Face Detector Training Using Tailored Views, Kristina Scherbaum*, MMCI; Rogerio Feris, ; James Petterson, ; 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,

10 A Deep Sum-Product Architecture for Robust Facial Attributes Analysis, Ping Luo*, CUHK

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

12 A Learning-Based Approach to Reduce JPEG Artifacts in Image Matting, Inchang Choi, ; Sunyeong Kim, KAIST; Michael 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; Ming-Hsuan Yang, "UC Merced, USA"; Liu Wenyin, Shanghai University of Electronic Power

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

15 Latent Data Association: Bayesian Model Selection for Multitarget Tracking, Aleksandr Segal*, Oxford University Robotics Lab; Ian Reid, University of Adelaide

16 Initialization-Insensitive Visual Tracking Through Voting with Salient Local Features, Kwang 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*, University; Patrick Horain,

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

19 Curvature Regularization using Partial Enumeration, Carl Olsson*, ; Johannes Uln, 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, TU Munich; Sabrina Koetter, TU Munich; Daniel Cremers, Technische Universitt Mnchen

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; Ming-Hsuan Yang, "UC Merced, USA"; Lihe Zhang, DUT, China; Xiang Ruan,

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

26 Parsing IKEA Objects: Fine Pose Estimation, Joseph 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 nearest neighbor search, clustering, and image retrieval, Yannis Avrithis*, NTUA

31 Learning Hash Codes with Listwise Supervision for Web-Scale Image Search, Jun Wang*, IBM T. J. Watson Research; Wei Liu, Columbia University; Andy Sun, IBM ; Yugang 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 Khler*, University of Oxford; Ian Reid, University of Adelaide

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

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

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, China"

40 Structured learning of sum-of-submodular higher order energy functions, Alex Fix, Cornell; Thorsten Joachims, Cornell; Sam Park, Cornell; Ramin Zabih*, Cornell University

41 Discriminative Metric and Prototype Learning, Martin Kstinger*, Graz University of Technology; Peter Roth, ; Horst Bischof, Graz University of Technology

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

43 View-Invariant Action Recognition via Finding Canonical Views and Parts, Behrooz Mahasseni*, Oregon State University; Sinisa Todorovic, "Oregon State University, USA"

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 Understanding 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; Weishi Zheng, ; Xiaobai Liu, Ucla.edu

47 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

48 Directed Acyclic 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, University of Maryland

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

51 Towards understanding action recognition, Hueihan Jhuang*, ; Juergen Gall, Max Planck Institute for Intelligent Systems; Michael Black, "Max Planck Institute for Intelligent Systems, Germany"; Cordelia Schmid, INRIA

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

12:15 – 13:45 Lunch

13:45 – 14:45 Keynote

14:45 – 15:45 Oral session 4B (4 papers, 60mins)

Orals 4B:01 – 4B:04

1 A Practical Transfer Learning Algorithm for Face Verification

Xudong Cao*, Microsoft Research Asia; David Wipf,

2 Learning to predict gaze in egocentric video, Yin Li*, Georgia Institute of Technology; Alireza Fathi, Georgia Institute of Technology; James 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 Estimating Human Scanpath Using Hidden Markov Model

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

15:45 – 16:30 Spotlights (45mins)

16:30 – 18:00 Poster session 4B: Posters 4B:01 – 4B:50

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

2 Global Fusion of Relative Motions for Robust, Accurate and Scalable Structure from Motion., Pierre Moulon*, Imagine; Pascal Monasse, ; Renaud Marlet,

3 Internet-based morphable model, Ira Kemelmacher*, University of Washington

4 Large-Scale Multi-Resolution Surface Reconstruction from RGB-D Sequences, Frank Steinbrcker*, Technical University of Munich; Christian Kerl, in.tum.de; Juergen Sturm, TU Munich; Daniel Cremers, in.tum.de

5 Dynamic Scene Deblurring, Tae Hyun Kim, Seoul National Univ.; Byeongjoo Ahn, Seoul National University; Kyoung Mu Lee*, Seoul National University

6 Modeling the calibration pipeline of the Lytro camera and its application in high quality light-field image reconstruction, donghyeon Cho*, KAIST; Minhaeng Lee, KAIST; Sunyeong Kim, KAIST; Yu-Wing Tai, "KAIST, Korea"

7 Face Recognition via Random Path Measure Over Face Patch Network, Chaochao Lu*, CUHK; Deli Zhao, The Chinese University of Hong Kong

- 8 Coupling Alignments with Recognition for Still-to-Video Face Recognition, Zhiwu Huang*, ICT, CAS; Xiaowei Zhao, ICT,CAS; Shiguang Shan, "Chinese Academy of Sciences, China"; Ruiping Wang, Institute of Computing Technology, Chinese Academy of Sciences; Xilin Chen,
- 9 Capturing Global Semantic Relationships for Facial Action Unit Recognition, Ziheng Wang*, RPI; Yongqiang Li, Harbin Institute of Technology; SHANGFEI WANG, USTC; Qiang Ji,
- 10 Estimating Human Pose with Flowing Puppets, Silvia Zuffi*, ; Javier Romero, MPI PS; Cordelia Schmid, "INRIA, France"; Michael 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, The 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
- 14 Optical Flow via Locally Adaptive Fusion of Complementary Data Costs, Tae Hyun Kim, Seoul National Univ.; Heeseok Lee, Seoul National University; Kyoung Mu Lee*, Seoul National University
- 15 Optimal Orthogonal Basis and Image Assimilation: Motion Modeling, Isabelle Herlin*, ; Etienne Huot, Inria; Giuseppe Papari, Lithicon
- 16 A Generic Deformation Model for Dense Non-Rigid Surface Registration: a Higher-Order MRF-based Approach, Yun Zeng*, Harvard; Chaohui Wang, MPI ; David Gu, ; Dimitris Samaras, Stony Brook Univ.; Nikos Paragios, Ecole Centrale de Paris
- 17 Bayesian 3D tracking from monocular video, Ernesto Brau*, ; Kobus Barnard, "University of Arizona, USA"; Jinyan Guan, University of Arizona; Kyle Simek, University of Arizona; Luca del Pero, ; Colin Dawson, University of Arizona
- 18 GOSUS: Grassmannian Online Subspace Updates with Structured-sparsity, Jia Xu*, UW-Madison; Vamsi Ithapu, ; Lopamudra Mukherjee, University of Wisc Whitewater; James Rehg, Georgia Institute of Technology ; Vikas Singh,
- 19 Fast online orthogonal dictionary learning and image restoration, Chenglong Bao, nus.edu.sg; Jianfeng Cai, uiowa.edu; Hui Ji*, "NUS, Singapore"
- 20 Data-Driven 3D Primitives for Single Image Understanding, David Fouhey*, Carnegie Mellon University; Abhinav Gupta, ; Martial Hebert, "CMU, USA"
- 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, Microsoft Research Asia; Fang Wen, ; Jian Sun, "Microsoft Research, China"

24 Improving Graph Matching via Density Maximization, Chao Wang*, University of Wollongong ; Lei Wang, University of Wollongong

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, cmu.edu; Ivor Tsang, ; Nicu Sebe, University of Trento; Alexander Hauptmann, Carnegie Mellon University

27 Volumetric Semantic Segmentation using Pyramid Context Features, Jonathan Barron*, UC Berkeley; Pablo Arbelaez, ; Soile Keranen, LBL; David Knowles, LBL; Mark Biggin, 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 Steinberg*, ACFR; Oscar Pizarro, ACFR; Stefan Williams, ACFR

30 Random Grids: Fast Approximate Nearest Neighbors and Range Searching for Image Search, Dror Aiger*, Google; Efrosyni 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 ; Bernt Schiele, "MPI Informatics, Germany"

33 3D Sub-Query Expansion for Improving Sketch-based Multi-View Image Retrieval, Yenliang 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*, ; M. Hadi Kiapour, Stony Brook University; Tamara Berg, "Stony Brook University, USA"

37 A Unified Video Segmentation Benchmark: Annotation, Metrics and Analysis, Fabio Galasso*, MPI Informatics; Naveen Nagaraja, University of Freiburg; Tatiana Jimenez Cardenas, 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 Jordan, Berkeley

40 Action recognition with improved trajectories, Heng Wang*, ; Cordelia Schmid, "INRIA, France"

41 Action Recognition with Actionton, Jun Zhu*, Shanghai Jiao Tong University; baoyuan Wang, ; Zhuowen Tu, UCLA; Xiaokang Yang, ; Wenjun Zhang,

42 Domain Transfer Support Vector Ranking for Person Re-Identification without Target Camera Label Information, Andy Jinhua Ma, Hong Kong Baptist University; Pong Chi Yuen*, Hong Kong Baptist University; Jiawei Li,

43 Finding Causal Interactions in Video Sequences, Mustafa Ayazoglu, Northeastern 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 Performance Capture using Single RGBD Images, Yen-Lin Chen, Texas A&M University; Muscle Wu, Microsoft Research Asia; Fuhao SHi, Texas A&M University; Xin Tong, Microsoft Asia; Jinxiang Chai*, TAMU

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

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