

8:30 – 10:10: Session 1.1 (Aviary)**Object Recognition**

Identifying Semantically Equivalent Object Fragments
B. Epshtein and S. Ullman

Spatial Priors for Part-Based Recognition Using Statistical Models
D. Crandall, P. Felzenszwalb, and D. Huttenlocher

OBJ CUT
M. Kumar, P. Torr, and A. Zisserman

Shape Matching and Object Recognition Using Low Distortion
A. Berg, T. Berg, and J. Malik

Random Subwindows for Robust Image Classification
R. Marée, P. Geurts, J. Piater, and L. Wehenkel

8:30 – 10:10: Session 1.2 (Kontiki)**Video Analysis and Reconstruction**

Video Epitomes
V. Cheung, B. Frey, and N. Jojic

Full-Frame Video Stabilization
Y. Matsushita, E. Ofek, X. Tang, and H.-Y. Shum

Dynamosaics: Video Mosaics with Non-Chronological Time
A. Rav-Acha, Y. Pritch, D. Lischinski, and S. Peleg

Modeling Dynamic Scenes with Active Appearance
G. Doretto

Bayesian Object Detection in Dynamic Scenes
Y. Sheikh and M. Shah

10:10 – 12:00: Poster Session 1 (w/ Coffee)

Shock Filters Based on Implicit Cluster Separation
V. Namboodiri and S. Chaudhuri

Pixels that Sound
E. Kidron, M. Elad, and Y. Schechner

A Band-Weighted Landuse Classification Method for Multispectral Images
C. Pan, G. Wu, V. Prinet, Q. Yang, and S. Ma

Why I Want a Gradient Camera
J. Tumblin, A. Agrawal, and R. Raskar

Using the KL-Center for Efficient and Accurate Retrieval of Distributions Arising from Texture Images
E. Spellman, B. Vemuri, and M. Rao

Modelling Reflections via Multiperspective Imaging
J. Yu and L. McMillan

Reflection Components Decomposition of Textured Surfaces Using Linear Basis Functions
R. Tan and K. Ikeuchi

Dense Photometric Stereo Using Tensorial Belief Propagation
K.-L. Tang, C.-K. Tang, and T.-T. Wong

Dense Photometric Stereo Using a Mirror Sphere and Graph Cut
T.-P. Wu and C.-K. Tang

A Combined Physical and Statistical Approach to Colour Constancy
G. Schaefer, S. Hordley, and G. Finlayson

Segmentation of a Piece-Wise Planar Scene from Perspective Images
A. Yang, S. Rao, A. Wagner, and Y. Ma

Segmentation of Edge Preserving Gradient Vector Flow: An Approach Toward Automatically Initializing and Splitting of Snakes
C. Li, J. Liu, and M. Fox

Coupled PDEs for Non-Rigid Registration and Segmentation
G. Unal and G. Slabaugh

Efficient Mean-Shift Tracking via a New Similarity Measure
C. Yang, R. Duraiswami, and L. Davis

A SIFT Descriptor with Global Context
E. Mortensen, H. Deng, and L. Shapiro

An Axiomatic Approach to Corner Detection
C. Kenney, M. Zuliani, and B. Manjunath

3D Reconstruction by Fitting Low-Rank Matrices with Missing Data
D. Martinec and T. Pajdla

Multi-View Geometry for General Camera Models
P. Sturm

A Rational Polynomial Lens Distortion Model for General Cameras
D. Claus and A. Fitzgibbon

Matching with PROSAC — Progressive Sample Consensus
O. Chum and J. Matas

Kernel-Based Bayesian Filtering for Object Tracking
B. Han, Y. Zhu, L. Davis, and D. Comaniciu

Appearance-Guided Particle Filtering for Articulated Hand Tracking
W.-Y. Chang, C.-S. Chen, and Y.-P. Hung

Dynamic Environment Exploration Using a Virtual White Cane
D. Yuan and R. Manduchi

Background Recognition in Dynamic Scenes with Motion Constraints
K. Ozden and L. Van Gool

Multiscale Segmentation by Combining Motion and Intensity Cues
M. Galun, A. Apartsin, and R. Basri

A Dynamic Conditional Random Field Model for Object Segmentation in Image Sequences
Y. Wang and Q. Ji

Strike a Pose: Tracking People by Finding Stylized Poses
D. Ramanan, D. Forsyth, and A. Zisserman

Ordinal Palmprint Representation for Personal Identification
Z. Sun, T. Tan, Y. Wang, and S. Li

Active Contours Using a Constraint-Based Implicit Representation

B. Morse, W. Liu, T. Yoo, and K. Subramanian

Affine Object Tracking with Kernel-Based Spatial-Color Representation

H. Zhang, W. Huang, Z. Huang, and L. Li

A Caratheodory-Fejer Approach to Dynamic Appearance Modeling

H. Lim, O. Camps, and M. Sznajder

3D Articulated Motion Estimation from Images

X. Zhang and Y. Liu

Motion Segmentation of Multiple Translating Objects Using Line Correspondences

F. Shi, J. Wang, J. Zhang, and Y. Liu

The Radial Trifocal Tensor: A Tool for Calibrating the Radial Distortion of Wide-Angle Cameras

S. Thirithala and M. Pollefeys

Wide-Baseline Stereo Matching with Line Segments

H. Bay, V. Ferrari, and L. Van Gool

3D Geometric and Optical Modeling of Warped Document Images from Scanners

L. Zhang, Z. Zhang, C. Tan, and T. Xia

Interactive Shape from Shading

G. Zeng, Y. Matsushita, L. Quan, and H.-Y. Shum

Geo-Consistency for Wide Multi-Camera Stereo

M.-A. Drouin, M. Trudeau, and S. Roy

Robust Boosting for Learning from few Examples

L. Wolf and I. Martin

Boosting Saliency in Color Image Features

J. van de Weijer and T. Gevers

Learn Discriminant Features for Multi-View Face and Eye Detection

P. Wang and Q. Ji

A Sparse Object Category Model for Efficient Learning and Exhaustive Recognition

R. Fergus, P. Perona, and A. Zisserman

1:45 – 3:25: Session 2.1 (Aviary)

Tracking Humans

Discriminative Density Propagation for 3D Human Motion Estimation

C. Sminchisescu, A. Kanaujia, Z. Li, and D. Metaxas

A Measure of "Deformability" of Shapes, with Applications to Human Motion Analysis

A. Roy-Chowdhury

Space-Time Behavior Based Correlation

E. Shechtman and M. Irani

Hybrid Joint-Separable Multibody Tracking

O. Lanz and R. Manduchi

Modeling and Learning Contact Dynamics in Human Motion

A. Bissacco

1:45 – 3:25: Session 2.2 (Kontiki) Image Analysis and Segmentation

Level Set Evolution Without Re-initialization: A New Variational Formulation

C. Li, C. Xu, C. Gui, and M. Fox

Bayesian Image Segmentation Using Wavelet-Based Priors

M. Figueiredo

Segmentation Induced by Scale Invariance

S. Yu

A New Active Contour Method Based on Elastic Interaction

Y. Xiang, A. Chung, and J. Ye

Robust Centerline Extraction Framework Using Level Sets

M. Hassouna and Aly Farag

3:25 – 5:10: Poster Session 2 (w/ Coffee)

Feature-Level Fusion in Personal Identification

Y. Gao and M. Maggs

A Two-Stage Level Set Evolution Scheme for Man-Made Objects Detection from Aerial Images

G. Cao, X. Yang, and Z. Mao

Optimization Design of Cascaded Classifiers

H. Luo

Efficient Nearest Neighbor Classification Using a Cascade of Approximate Similarity Measures

V. Athitsos, J. Alon, and S. Sclaroff

Pruning Training Sets for Learning of Object Categories

A. Angelova, Y. Abu-Mostafa, and P. Perona

Pose-Robust Face Recognition Using Geometry Assisted Probabilistic Modeling

X. Liu and T. Chen

Multi-Image Matching Using Multi-Scale Oriented Patches

M. Brown, R. Szeliski, and S. Winder

Tangent-Corrected Embedding

A. Ghodsi, J. Huang, F. Southey, and D. Schuurmans

Discriminant Analysis with Tensor Representation

S. Yan, D. Xu, Q. Yang, L. Zhang, X. Tang, and H.-J. Zhang

Infomax Boosting

S. Lyu

Learning a Similarity Metric Discriminatively, with Application to Face Verification

S. Chopra, R. Hadsell, and Y. LeCun

Independent Tensor Components: Multilinear ICA

M. Alex O. Vasilescu, Demetri Terzopoulos

Nonlinear Face Recognition Based on Maximum Average Margin Criterion

B. Zhang, X. Chen, S. Shan, and W. Gao

Selection and Fusion of Color Models for Feature Detection

H. Stokman and T. Gevers

Multiple Object Tracking with Kernel Particle Filter

C. Chang, R. Ansari, and A. Khokhar

Subspace Analysis Using Random Mixture Model

X. Wang and X. Tang

Face Recognition with Image Sets Using Manifold Density Divergence
O. Arandjelović, G. Shakhnarovich, J. Fisher, R. Cipolla, and T. Darrell

Digital Tapestry
C. Rother, S. Kumar, A. Blake, and V. Kolmogorov

Computer Vision for Music Identification
Y. Ke, D. Hoiem, and R. Sukthankar

Multitarget Tracking with Split and Merged Measurements
Z. Khan, T. Balch, and F. Dellaert

Semi-Supervised Adapted HMMs for Unusual Event Detection
D. Zhang, D. Gatica-Perez, S. Bengio, and I. McCowan

Mixture Trees for Modeling and Fast Conditional Sampling with Applications in Vision and Graphics
F. Dellaert, V. Kwatra, and S. Oh

A Cross-Validatory Statistical Approach to Scale Selection for Image Denoising by Nonlinear Diffusion
G. Papandreou and P. Maragos

A Principled Approach to Detecting Surprising Events in Video
L. Itti and P. Baldi

Restoration and Recognition in a Loop
M. Das Gupta, S. Rajaram, N. Petrovic, and T. Huang

Coupled Kernel-Based Subspace Learning
S. Yan, D. Xu, L. Zhang, B. Zhang, and H. Zhang

An On-Line Learning Mechanism for Unsupervised Classification and Topology Representation
S. Furao and O. Hasegawa

Semi-Supervised Cross Feature Learning for Semantic Concept Detection in Videos
R. Yan and M. Naphade

A Discriminative Framework for Modelling Object Classes
A. Holub and P. Perona

Cross-Generalization: Learning Novel Classes from a Single Example by Feature Replacement
E. Bart and S. Ullman

Robust Face Detection with Multi-Class Boosting
Y.-Y. Lin and T.-L. Liu

A Two Level Approach for Scene Recognition
L. Lu, K. Toyama, and G. Hager

Online Detection and Classification of Moving Objects Using Progressively Improving Detectors
O. Javed, S. Ali, and M. Shah

Object Class Recognition by Boosting a Part Based Model
A. Bar-Hillel, T. Hertz, and D. Weinshall

Hierarchical Part-Based Visual Object Categorization
G. Bouchard and B. Triggs

Efficient Multiclass Object Detection by a Hierarchy of Classifiers
X. Fan

Learning to Track: Conceptual Manifold Map for Closed-Form Tracking
A. Elgammal

Learning with Constrained and Unlabelled Data
T. Lange, M. Law, A. Jain, and J. Buhmann

Robust L_1 Norm Factorization in the Presence of Outliers and Missing Data by Alternative Convex Programming
Q. Ke and T. Kanade

Local Color Transfer via Probabilistic Segmentation by Expectation-Maximization
Y.-W. Tai, J. Jia, and C.-K. Tang

Interactive Graph Cut Based Segmentation with Shape Priors
D. Freedman and T. Zhang

Multilabel Random Walker Image Segmentation Using Prior Models
L. Grady

5:10 – 6:30: Session 3.1 (Aviary) Structure from Motion

Two-View Geometry Estimation Unaffected by a Dominant Plane
O. Chum, T. Werner, and J. Matas

On the Absolute Quadratic Complex and Its Application to Autocalibration
J. Ponce, K. McHenry, T. Papadopoulos, M. Teillaud, and B. Triggs

Reflections on the Generalized Bas-Relief Ambiguity
M. Chandraker, F. Kahl, and D. Kriegman

Radon-Based Structure from Motion without Correspondences
A. Makadia, C. Geyer, S. Sastry, and K. Daniilidis

5:10 – 6:30: Session 3.2 (Kontiki) Applications and Real Time Vision

MER-DIMES: A Planetary Landing Application of Computer Vision
Y. Cheng, L. Matthies, and A. Johnson

A Projector-Camera System with Real-Time Photometric Adaptation for Dynamic Environments
K. Fujii, M. Grossberg, and S. Nayar

Real-Time Non-Rigid Surface Detection
J. Pilet, V. Lepetit, and P. Fua

Integral Histogram: A Fast Way To Extract Histograms in Cartesian Spaces
F. Porikli

8:30 – 10:10: Session 4.1 (Aviary) Video Recognition and Analysis

Activity Recognition and Abnormality Detection with the Switching Hidden Semi-Markov Model
T. Duong, H. Bui, D. Phung, and S. Venkatesh

Probabilistic Kernels for the Classification of Auto-Regressive Visual Processes
A. Chan and N. Vasconcelos

Online Learning of Probabilistic Appearance Manifolds for Video-Based Recognition and Tracking
K.-C. Lee and D. Kriegman

Automatic Face Recognition for Film Character Retrieval in Feature-Length Films
O. Arandjelović and A. Zisserman

Learning Appearance Manifolds from Video
A. Rahimi, B. Recht, and T. Darrell

8:30 – 10:10: Session 4.2 (Kontiki) Object Recognition

Pedestrian Detection in Crowded Scenes
B. Leibe, E. Seemann, and B. Schiele

Histograms of Oriented Gradients for Human Detection
N. Dalal and B. Triggs

Unsupervised Learning of Discriminative Edge Measures for Vehicle Matching between Non-Overlapping Cameras
Y. Shan, H. Sawhney, and R. Kumar

MosaicShape: Stochastic Region Grouping with Shape Prior
J. Wang, E. Gu, and M. Betke

Indexing with Unknown Illumination and Pose
I. Kemelmacher and R. Basri

10:10 – 12:00: Poster Session 3 (w/ Coffee)

Eye Gaze Tracking Under Natural Head Movements
Z. Zhu and Q. Ji

Near Real-Time Reliable Stereo Matching Using Programmable Graphics Hardware
M. Gong and Y.-H. Yang

Real-Time Tracking with Multiple Cues by Set Theoretic Random Search
C. Chang and R. Ansari

Decentralized Multiple Target Tracking Using Netted Collaborative Autonomous Trackers
T. Yu and Y. Wu

Overview of the Face Recognition Grand Challenge
P. Phillips, P. Flynn, T. Scruggs, K. Bowyer, J. Chang, K. Hoffman, J. Marques, J. Min, and W. Worek

Evaluating Image Retrieval
N. Shirahatti and K. Barnard

Using Particles to Track Varying Numbers of Interacting People
K. Smith, D. Gatica-Perez, and J.-M. Odobez

Real-Time Multiple Object Tracking with Occlusion Handling in Dynamic Scenes
T. Yang, S. Li, Q. Pan, and J. Li

Real-Time Wide Area Multi-Camera Stereo Tracking
T. Zhao, M. Aggarwal, R. Kumar, and H. Sawhney

Actions Sketch: A Novel Action Representation
A. Yilmaz and M. Shah

A Unified Framework for Tracking through Occlusions and across Sensor Gaps
R. Kaucic, A. Perera, G. Brooksby, J. Kaufhold, and A. Hoogs

Conformal Deskewing of Non-Planar Documents
M. Brown and C. Pisula

A Nonlinear Approach for Face Sketch Synthesis and Recognition
Q. Liu, X. Tang, H. Jin, H. Lu, and S. Ma

Semi-Supervised Learning Based Object Detection in Aerial Imagery
J. Yao and Z. Zhang

Image Denoising Using on Non-Negative Sparse Coding Shrinkage Algorithm
L. Shang and D. Huang

A Statistical Field Model for Pedestrian Detection
Y. Wu, T. Yu, and G. Hua

Detection and Explanation of Anomalous Activities: Representing Activities as Bags of Event n -Grams
R. Hamid, A. Johnson, S. Batta, A. Bobick, C. Isbell, and G. Coleman

Tracking Multiple Mouse Contours (without too Many Samples)
K. Branson and S. Belongie

A Slit Scanning Depth of Route Panorama from Stationary Blur
M. Shi and J. Zheng

Correspondence Expansion for Wide Baseline Stereo
K. Steele and P. Egbert

Feature Uncertainty Estimation Arising from Covariant Image Noise
R. Steele and C. Jaynes

Fast Illumination-Invariant Background Subtraction Using Two Views: Error Analysis, Sensor Placement and Applications
S.-N. Lim, A. Mittal, L. Davis, and N. Paragios

Colour Constancy using the Chromagenic Constraint
G. Finlayson, S. Hordley, and P. Morovic

Detecting Doctored Images Using Camera Response Normality and Consistency
Z. Lin, R. Wang, X. Tang, and H.-Y. Shum

Towards Complete Generic Camera Calibration
S. Ramalingam, P. Sturm, and S. Lodha

Real-Time Connectivity Constrained Depth Map Computation Using Programmable Graphics Hardware
N. Cornelis and L. Van Gool

Guided Sampling via Weak Motion Models and Outlier Sample Generation for Epipolar Geometry Estimation
L. Goshen and I. Shimshoni

The Modified pbM-Estimator Method and a Runtime Analysis Technique for the RANSAC Family
S. Rozenfeld and I. Shimshoni

A Sparse Support Vector Machine Approach to Region-Based Image Categorization

J. Bi, Y. Chen, and J. Wang

On the Localization of Straight Lines in 3D Space from Single 2D Images

V. Caglioti and S. Gasparini

Implicit Surfaces Make for Better Silhouettes

S. Ilic, M. Salzmann, and P. Fua

Unsupervised Learning of Object Features from Video Sequences

M. Leordeanu and R. Collins

A Tensor Decomposition for Geometric Grouping and Segmentation

V. Govindu

A Hybrid Graphical Model for Robust Feature Extraction from Video

A. Cemgil, W. Zaidel, and B. Krose

Hybrid Models for Human Motion Recognition

C. Fanti, L. Zelnik-Manor, and P. Perona

Visual Concepts for News Story Tracking: Analyzing and Exploiting the NIST TRECVID Video Annotation Experiment

J. Kender and M. Naphade

Robust and Efficient Foreground Analysis for Real-Time Video Surveillance

Y.-L. Tian, M. Lu, and A. Hampapur

Bayesian Super-Resolution of Text in Video with a Text-Specific Bimodal Prior

K. Donaldson and G. Myers

A Direct Method for Modeling Non-Rigid Motion with Thin Plate Spline

J. Lim and M.-H. Yang

Cloth Representation by Shape from Shading with Shading Primitives

F. Han and S.-C. Zhu

Machine Learning for Clinical Diagnosis from Functional Magnetic Resonance Imaging

L. Zhang, D. Samaras, D. Tomasi, N. Volkow, and R. Goldstein

1:45 – 3:25: Session 5.1 (Aviary) Tracking

Particle Filtering for Geometric Active Contours with Application to Tracking Moving and Deforming Objects

Y. Rath, N. Vaswani, A. Tannenbaum, and A. Yezzi

Illumination-Invariant Tracking via Graph Cuts

D. Freedman and M. Turek

Visual Tracking in the Presence of Motion Blur

H. Jin, P. Favaro, and R. Cipolla

Appearance Modeling for Tracking in Multiple Non-Overlapping Cameras

O. Javed, K. Shafiq, and M. Shah

Real-Time Tracking Using Level Sets

Y. Shi and W. Karl

1:45 – 3:25: Session 5.2 (Kontiki) Image Processing and Modeling

Higher-Order Image Statistics for Unsupervised, Information-Theoretic, Adaptive, Image Filtering

S. Awate and R. Whitaker

Addressing Radiometric Nonidealities: A Unified Framework

A. Litvinov and Y. Schechner

A Non-Local Algorithm for Image Denoising

A. Buades, B. Coll, and J.-M. Morel

Determining the Radiometric Response Function from a Single Grayscale Image

S. Lin and L. Zhang

A Generative Model of Human Hair for Hair Sketching

H. Chen and S. Zhu

3:25 – 5:10: Poster Session 4 (w/ Coffee)

Energy Minimization via Graph Cuts: Settling what is Possible

D. Freedman and P. Drineas

Active Polyhedron: Surface Evolution Theory Applied to Deformable Meshes

G. Slabaugh and G. Unal

Corrected Laplacians: Closer Cuts and Segmentation with Shape Priors

D. Tolliver, G. Miller, and R. Collins

Simultaneous Modeling and Tracking (SMAT) of Feature Sets

N. Dowson and R. Bowden

Combining Object and Feature Dynamics in Probabilistic Tracking

L. Taycher, J. Fisher, and T. Darrell

Localization in Urban Environments: Monocular Vision Compared to a Differential GPS Sensor

E. Royer, M. Lhuillier, M. Dhome, and T. Chateau

A Direct Method for 3D Factorization of Nonrigid Motion Observed in 2D

M. Brand

Full Body Tracking from Multiple Views Using Stochastic Sampling

R. Kehl, M. Bray, and L. Van Gool

Automatic 3D to 2D Registration for the Photorealistic Rendering of Urban Scenes

L. Liu and I. Stamos

Jensen-Shannon Boosting Learning for Object Recognition

X. Huang, S. Li, and Y. Wang

WaldBoost — Learning for Time Constrained Sequential Detection

J. Šochman and J. Matas

Discriminative Training for Object Recognition Using Image Patches

T. Deselaers, D. Keysers, and H. Ney

Formulating Semantics Image Annotation as a Supervised Learning Problem

G. Carneiro and N. Vasconcelos

Discriminative Learning of Markov Random Fields for Segmentation of 3D Scan Data

D. Anguelov, B. Taskar, V. Chatalbashev, D. Koller, D. Gupta, G. Heitz, and A. Ng

Feature Kernel Functions: Improving SVMs Using High-Level Knowledge

Q. Sun and G. DeJong

Coherent Regions for Concise and Stable Image Description

J. Corso and G. Hager

Diagram Structure Recognition by Bayesian Conditional Random Fields

Y. Qi, M. Szummer, and T. Minka

Fisher+Kernel Criterion for Discriminant Analysis

S. Yang, S. Yan, D. Xu, X. Tang, and C. Zhang

Concurrent Subspaces Analysis

D. Xu, S. Yan, L. Zhang, H.-J. Zhang, Z. Liu, and H.-Y. Shum

Face Synthesis and Recognition from a Single Image under Arbitrary Unknown Lighting Using a Spherical Harmonic Basis Morphable Model

L. Zhang, S. Wang, and D. Samaras

2D Statistical Models of Facial Expressions for Realistic 3D Avatar Animation

L. Zalewski and S. Gong

Mercer Kernels for Object Recognition with Local Features

S. Lyu

A Unified Optimization Based Learning Method for Image Retrieval

H. Tong, J. He, M. Li, W.-Y. Ma, C. Zhang, and H.-J. Zhang

Robust Object Detection via Soft Cascade

L. Bourdev and J. Brandt

Mapping Low-Level Features to High-Level Semantic Concepts in Region-Based Image Retrieval

W. Jiang, K. Chan, M. Li, and H. Zhang

Estimating Disparity and Occlusions in Stereo Video Sequences

O. Williams, M. Isard, and J. MacCormick

Generative versus Discriminative Methods for Object Recognition

I. Ulusoy and C. Bishop

Representational Oriented Component Analysis (ROCA) for Face Recognition with One Sample Image per Training Class

F. De la Torre, R. Gross, S. Baker, and B. Kumar

Linear Combination Representation for Outlier Detection in Motion Tracking

G. Guo, C. Dyer, and Z. Zhang

Integrated Learning of Saliency, Complex Features, and Object Detectors from Cluttered Scenes

D. Gao and N. Vasconcelos

Parameter Estimation for MRF Stereo

L. Zhang and S. Seitz

The Distinctiveness, Detectability, and Robustness of Local Image Features

G. Carneiro and A. Jepson

A Semi-Supervised Active Learning Framework for Image Retrieval

S. Hoi and M. Lyu

Thursday, June 23, 2005

Optimal Sub-Shape Models by Minimum Description Length

G. Langs, P. Peloschek, and H. Bischof

Damped Newton Algorithms for Matrix Factorization with Missing Data

A. Buchanan and A. Fitzgibbon

Object Class Recognition using Multiple Layer Boosting with Heterogeneous Features

W. Zhang, B. Yu, D. Samaras, and G. Zelinsky

Cerebral Vascular Atlas Generation for Anatomical Knowledge Modeling and Segmentation Purpose

N. Passat, C. Ronse, J. Baruthio, C. Maillot, and J.-P. Armspach

Flattening Curved Documents in Images

J. Liang, D. DeMenthon, and D. Doermann

Rank-R Approximation of Tensors: Using Image-as-Matrix Representation

H. Wang and N. Ahuja

Higher Order Whitening of Natural Images

J. Gluckman

Region Competition via Local Watershed Operators

H. Tek, F. Akova, and A. Ayvaci

Tone Reproduction: A Perspective from Luminance-Driven Perceptual Grouping

H.-T. Chen, T.-L. Liu, and T.-L. Chang

Contrast Enhancement of Multi-Displays Using Human Contrast Sensitivity

A. Majumder

5:10 – 6:30: Session 6.1 (Aviary)

Stereo

Stereo Correspondence by Dynamic Programming on a Tree

O. Veksler

Multi-View Stereo via Volumetric Graph-Cuts

G. Vogiatzis, P. Torr, and R. Cipolla

Symmetric Stereo Matching for Occlusion Handling

J. Sun, Y. Li, S. Kang, and H.-Y. Shum

Bi-Layer Segmentation of Binocular Stereo Video

V. Kolmogorov, A. Criminisi, A. Blake, C. Rother, and G. Cross

5:10 – 6:30: Session 6.2 (Kontiki)

Medical Imaging

Imaging the Cardiovascular Pulse

N. Sun, M. Garbey, A. Merla, and I. Pavlidis

Top-Down and Bottom-Up Strategies in Lesion Detection of Background Diabetic Retinopathy

X. Zhang and O. Chutatape

Database-Guided Segmentation of Anatomical Structures with Complex Appearance

B. Georgescu, X. Zhou, D. Comaniciu, and A. Gupta

Blob Segmentation Using Joint Space-Intensity Likelihood Ratio Test: Application to 3D Tumor Segmentation

K. Okada, U. Akdemir, and A. Krishnan

8:30 – 10:10: Session 7.1 (Aviary)**Faces**

Creating Invariance to “Nuisance Parameters” in Face Recognition

S. Prince and J. Elder

Face Recognition Based on Frontal Views Generated from Non-Frontal Images

V. Blanz, P. Grother, P. Phillips, and T. Vetter

Face Verification across Age Progression

N. Ramanathan and R. Chellappa

A High Resolution Grammatical Model for Face Representation and Sketching

Z. Xu, H. Chen, and S.-C. Zhu

Hallucinating Faces: TensorPatch Super-Resolution and Coupled Residue Compensation

W. Liu, D. Lin, and X. Tang

8:30 – 10:10: Session 7.2 (Kontiki)**Motion Segmentation and Tracking**

Simultaneous Estimation of Segmentation and Shape

J. Rittscher, P. Tu, and N. Krahnstoeber

Ensemble Tracking

S. Avidan

Multiple Collaborative Kernel Tracking

Z. Fan, Y. Wu, and M. Yang

A Closed Form Solution to Direct Motion Segmentation

R. Vidal and S. Dheeraj

Optical Flow Estimation and Segmentation of Multiple Moving Dynamic Textures

R. Vidal and A. Ravichandran

10:10 – 12:00: Poster Session 5 (w/ Coffee)

A Bayesian Hierarchical Model for Learning Natural Scene Categories

L. Fei-Fei and P. Perona

Illumination Normalization for Face Recognition and Uneven Background Correction Using Total Variation Based Image Models

T. Chen, W. Yin, X. Zhou, D. Comaniciu, and T. Huang

Single Image Phase-Based MRI Fat Suppression Expectation Maximization Algorithm

D. Blezek, W. Dixon, and P. Dhawale

Speckle-Constrained Filtering of Ultrasound Images

K. Krissian, R. Kikinis, C.-F. Westin, and K. Vosburgh

Learning Spatiotemporal T-Junctions for Occlusion Detection

N. Apostoloff and A. Fitzgibbon

Learning Feature Distance Measures for Image Correspondences

X. Chen and T.-J. Cham

Recognizing Facial Expression: Machine Learning and Application to Spontaneous Behavior

M. Bartlett, G. Littlewort, M. Frank, C. Lainscsek, I. Fasel, and J. Movellan

On the Small Sample Performance of Boosted Classifiers

W. Li, X. Gao, Y. Zhu, T. Boult, and V. Ramesh

Random Subspaces and Subsampling for 2-D Face Recognition

N. Chawla and K. Bowyer

ARTag, a Fiducial Marker System Using Digital Techniques

M. Fiala

Multi-Output Regularized Projection

K. Yu, S. Yu, and V. Tresp

Statistical Cue Integration for Foveated Wide-Field Surveillance

S. Prince, J. Elder, Y. Hou, M. Sizintsev, and Y. Olevskiy

Scene-Adapted Structured Light

T. Koninckx, P. Peers, P. Dutre, and L. Van Gool

Beyond Lambert: Reconstructing Specular Surfaces Using Color

S. Mallick, T. Zickler, D. Kriegman, and P. Belhumeur

Efficient Image Matching with Distributions of Local Invariant Features

K. Grauman and T. Darrell

Detecting, Localizing and Recovering Kinematics of Textured Animals

D. Ramanan, D. Forsyth, and K. Barnard

Moving Cast Shadow Detection from a Gaussian Mixture Shadow Model

N. Martel-Brisson and A. Zaccarin

Isophote Properties as Features for Object Detection

J. Lichtenauer, E. Hendriks, and M. Reinders

Shape Regularized Active Contour Using Iterative Global Search and Local Optimization

T. Yu, J. Luo, and N. Ahuja

Integration of Motion Fields through Shape

H. Ji and C. Fermüller

Learning a Multi-Size Patch-Based Hybrid Kernel Machine Ensemble for Abnormal Region Detection in Colonoscopic Images

P. Li, K. Chan, and S. Krishnan

Two-View Multibody Structure-and-Motion with Outliers

K. Schindler and D. Suter

Probabilistic Modeling-Based Vessel Enhancement in Thoracic CT Scans

G. Agam and C. Wu

Level Set Active Contours on Unstructured Point Cloud

H. Ho, Y. Chen, H. Liu, and P. Shi

Accurate Motion Layer Segmentation and Matting

J. Xiao and M. Shah

Learning the Semantics of Images by Using Unlabeled Samples

J. Fan, H. Luo, and Y. Gao

Object Detection Using 2D Spatial Ordering Constraints
Y. Li, Y. Tsin, Y. Genc, and T. Kanade

Using the Inner-Distance for Classification of Articulated Shapes
H. Ling and D. Jacobs

Classification of Contour Shapes Using Class Segment Sets
K. Sun and B. Super

Part-Based Statistical Models for Object Classification and Detection
E. Bernstein and Y. Amit

A Bayesian Mixture Model for Multi-View Face Alignment
Y. Zhou, W. Zhang, X. Tang, and H. Shum

Learning to Estimate Human Pose with Data Driven Belief Propagation
G. Hua, M.-H. Yang, and Y. Wu

Joint Nonparametric Alignment for Analyzing Spatial Gene Expression Patterns in Drosophila Imaginal Discs
P. Ahammad, C. Harmon, A. Hammonds, S. Sastry, and G. Rubin

Vehicle Fingerprinting for Reacquisition and Tracking in Videos
Y. Guo, S. Hsu, Y. Shan, H. Sawhney, and R. Kumar

Fast Spatial Pattern Discovery Integrating Boosting with Constellations of Contextual Descriptors
J. Amores, N. Sebe, and P. Radeva

Randomized Trees for Real-Time Keypoint Recognition
V. Lepetit, P. Lagger, and P. Fua

Skeletal Parameter Estimation from Optical Motion Capture Data
A. Kirk, J. O'Brien, and D. Forsyth

A Minimal Solution for Relative Pose with Unknown Focal Length
H. Stewénius, D. Nistér, F. Kahl, and F. Schaffalitzky

Algebraically Accurate Volume Registration Using Euler's Theorem and the 3-D Pseudo-Polar FFT
Y. Keller, A. Averbuch, and Y. Shkolnisky

Combining Variable Selection with Dimensionality Reduction
L. Wolf and S. Bileschi

Accurate and Efficient Stereo Processing by Semi-Global Matching and Mutual Information
Heiko Hirschmüller

A Factorization-Based Approach to Articulated Motion Recovery
J. Yan and M. Pollefeys

Modelling Dynamic Scenes by Registering Multi-View Image Sequences
J.-P. Pons, R. Keriven, and O. Faugeras

1:45 – 3:25: Session 8.1 (Aviary) Learning

Graph Embedding: A General Framework for Dimensionality Reduction
S. Yan, D. Xu, B. Zhang, and H.-J. Zhang

Beyond Pairwise Clustering
S. Agarwal, J. Lim, L. Zelnik-Manor, P. Perona, D. Kriegman, and S. Belongie

Local Discriminant Embedding and Its Variants
H.-T. Chen, H.-W. Chang, and T.-L. Liu

Unsupervised Learning in Radiology Using Novel Latent Variable Models
L. Carrivick, S. Prabhu, P. Goddard, and J. Rossiter

Fields of Experts: A Framework for Learning Image Priors
S. Roth and M. Black

1:45 – 3:25: Session 8.2 (Kontiki) 3D Reconstruction

Shape from Shading: A Well-Posed Problem?
E. Prados and O. Faugeras

Complex 3D Shape Recovery Using a Dual-Space Approach
C. Liang and K.-Y. Wong

Bayesian 3D Modeling from Images Using Multiple Depth Maps
P. Gargallo and P. Sturm

Visibility Constrained Surface Evolution
J. Solem, F. Kahl, and A. Heyden

3:25 – 5:15: Poster Session 6 (w/ Coffee)

Asymmetrical Occlusion Handling Using Graph Cut for Multi-View Stereo
Y. Wei and L. Quan

Inverse Polarization Ray Tracing: Estimating Surface Shapes of Transparent Objects
D. Miyazaki and K. Ikeuchi

Camera Calibration and Light Source Estimation from Images with Shadows
X. Cao and M. Shah

Locally Adaptive Support-Weight Approach for Visual Correspondence Search
K.-J. Yoon and I.-S. Kweon

Monocular 3-D Tracking of the Golf Swing
R. Urtasun, D. Fleet, and P. Fua

Theoretical Analysis on Reconstruction-Based Super-Resolution for an Arbitrary PSF
M. Tanaka and M. Okutomi

Learning and Detecting Activities from Movement Trajectories Using the Hierarchical Hidden Markov Models
N. Nguyen, D. Phung, S. Venkatesh, and H. Bui

Nonparametric Subspace Analysis for Face Recognition
Z. Li, W. Liu, D. Lin, and X. Tang

Audio-Visual Affect Recognition through Multi-Stream Fused HMM for HCI
Z. Zeng, J. Tu, B. Pianfetti, M. Liu, T. Zhang, Z. Zhang, T. Huang, and S. Levinson

Finding Glass
K. McHenry, J. Ponce, and D. Forsyth

Robust Instantaneous Rigid Motion Estimation

K. Pauwels and M. Van Hulle

Estimating 3D Shape and Texture Using Pixel Intensity, Edges, Specular Highlights, Texture Constraints and a Prior

S. Romdhani and T. Vetter

Object Recognition with Features Inspired by Visual Cortex

T. Serre, L. Wolf, and T. Poggio

Applying Neighborhood Consistency for Fast Clustering and Kernel Density Estimation

K. Zhang, M. Tang, and J. Kwok

Unstructured Point Cloud Matching within Graph-Theoretic and Thermodynamic Frameworks

A. Jagannathan and E. Miller

Optimal Point Correspondence through the Use of Rank Constraints

R. Oliveira, J. Costeira, and J. Xavier

Multimodal Face Recognition: Combination of Geometry with Physiological Information

I. Kakadiaris, G. Passalis, T. Theoharis, G. Toderici, I. Konstantinidis, and N. Murtuza

Personal Identification Utilizing Finger Surface Features

D. Woodard and P. Flynn

Online Selecting Discriminative Tracking Features Using Particle Filter

J. Wang, X. Chen, and W. Gao

A Bayesian Approach to Unsupervised Feature Selection and Density Estimation Using Expectation Propagation

S. Chang, N. Dasgupta, and L. Carin

Tracking Multiple Objects Through Occlusions

Y. Huang and I. Essa

Tracking Non-Stationary Appearances and Dynamic Feature Selection

M. Yang and Y. Wu

On Modelling Nonlinear Shape-and-Texture Appearance Manifolds

C. Christoudias and T. Darrell

A Dense Stereo Matching Using Two-Pass Dynamic Programming with Generalized Ground Control Points

J. Kim, K. Lee, B. Choi, and S. Lee

A Framework of 2D Fisher Discriminant Analysis: Application to Face Recognition with Small Number of Training Samples

H. Kong, L. Wang, E. Teoh, J. Wang, and R. Venkateswarlu

Theory for Variational Area-Based Segmentation Using Non-Quadratic Penalty Functions

A. Karlsson and N. Overgaard

MRF Augmented Particle Filter Tracker

H. Wang and L.-F. Cheong

Analytically Solving Radial Distortion Parameters

S. Graf and T. Hanning

Articulated Structure from Motion by Factorization

P. Tresadern and I. Reid

Polarization Multiplexing for Bidirectional Imaging

O. Cula, K. Dana, D. Pai, and D. Wang

Spectral Segmentation with Multiscale Graph Decomposition

T. Cour, F. Bénézit, and J. Shi

Quantitative Evaluation of a Novel Image Segmentation Algorithm

F. Estrada and A. Jepson

Range Data Registration Using Photometric Features

J. Seo, G. Sharp, and S. Lee

Using Coupled Subspace Models for Recovery of Reflectance Spectra from Airborne Images

K. Chandra and G. Healey

Vehicle Segmentation and Tracking from a Low-Angle Off-Axis Camera

N. Kanhere, S. Pundlik, and S. Birchfield

Spatiograms Versus Histograms for Region-Based Tracking

S. Birchfield and S. Rangarajan

Level Set Based Shape Prior Segmentation

T. Chan and W. Zhu

A Weighted Nearest Mean Classifier for Sparse Subspaces

C. Veenman and D. Tax