TABLE OF CONTENTS

Tuesday, May 21, 2013

Sessi	on 1; Recognition and Identification
1-1	Mean polynomial kernel for face membership authentication
1-2	Solving Nonlinear SVM in Linear Time? A Nyström Approximated SVM with Applications to
	Image Classification
1-3	Riemannian Set-level Common-Near-Neighbor Analysis for Multiple-shot Person Re-identification
	Wei Li, Yang Wu, Yasutomo Kawanishi, Masayuki Mukunoki, Michihiko Minoh, Japan
Sessio	on 2:IAPR Invited Talks 1
2-1	Towards Open-Universe Image Parsing with Broad Coverage
Sessio	on 3: Health and Life
3-1	Automatic Polyp Detection in Endoscope Images Using a Hessian Filter
3-2	A new image centrality descriptor for wrinkle frame detection in WCE videos
3-3	Perspective click-and-drag area selections in pictures
3-4	A Keyframe Selection of Lifelog Image Sequences
Sessio	on 4: Poster Session 1
4-1	SwATrack: A Swarm Intelligence-based Abrupt Motion Tracker
4-2	Action Recognition using Temporal Bag-of-Words from Depth Maps
4-3	Font Descriptor Construction for Printed Thai Character Recognition
4-4	Application of bandelet transform to surface defect recognition of hot rolled steel plates 49

	Yonghao Ai, Ke Xu, China
4-5	Detecting Structured Image Region Using Local Features and Clustering Analysis · · · · · 53 Huei-Yung Lin, Chin-Yu Hsu, Yung-Yang Chiang, Taiwan
4-6	Scene Change Detection and Topological Map Construction Using Omnidirectional Image Sequences
4-7	Vision-based Raising Hand Detection in Classroom
4-8	Gradient Histogram Background Modeling for People Detection in Stationary Camera Environments
4-9	Construction of General HMMs from a Few Hand Motions for Sign Language Word Recognition
4-10	Finding discriminant axes from multiple viewpoints · · · · · · · 73 Jun Fujiki, Japan
4-11	Segmentation of Human Instances Using Grab-cut and Active Shape Model Feedback · · · · · · 77 Esmaeil Pourjam, Ichiro Ide, Daisuke Deguchi, Hiroshi Murase, Japan
4-12	Skew Detection Using Contour Analysis for a Scanned Journal Page
4-13	A Neighbourhood Search Feedback for Coronary Artery Centerline Tracking
4-14	An Efficient Feature-Level Fusion Scheme in Multimodal Biometrics
4-15	Improved Color Barycenter Model for Road-Sign Detection
4-16	Automated Multi-Camera System for Long Term Behavioral Monitoring in Intensive Care Units
	Manuel Martinez, Rainer Stiefelhagen, Germany
4-17	Measurement of Torsional Eye Movement Using Terminal Points of Conjunctival Blood Vessels
4-18	Displayed Object Recognition for Smartphone Interaction
4-19	Stable Pose Estimation Using Ransac with Triple Point Feature Hash Maps and Symmetry Exploration
4-20	Thermal-Visual Facial Feature Extraction Based on Nostril Mask ················113 Mohd Norzali Haji Mohd, Masayuki Kashima, Kiminori Sato, Mutsumi Watanabe, Japan
4-21	Fingernail Detection Method from Hand Images including Palm · · · · · 117 Noriaki Fujishima, Kiyoshi Hoshino, Japan

4-22	3D Trajectory Reconstruction of the Soccer Ball for Single Static Camera Systems ······ 121 Jüergen Metzler, Frank Pagel, Germany
4-23	High Density Shapes Using Photometric Stereo and Laser Range Sensor under Unknown Light-Source Direction
4-24	A Biologically Inspired Approach for Fast Image Processing · · · · · 129 Sonya Coleman, Bryan Scotney, Bryan Gardiner, United Kingdom
4-25	Body pose based pedestrian tracking in a particle filtering framework · · · · · · 133 Md. Junaedur Rahman, Jesus Martinez-del-Rincon, Jean-Christophe Nebel, Dimitrios Makris, United Kingdom
4-26	Photometric Based 3D Registration 137 Narut Soontranon, Marc Pierrot-Deseilligny, El Mustapha Mouaddib, France
Sessio	n 5: Facial Modeling
5-1	Efficient Measuring of Facial Action Unit Activation Intensities using Active Appearance Models
	Daniel Haase, Michael Kemmler, Orlando Guntinas-Lichius, Joachim Denzler, Germany
5-2	Lip Tracking for 3D Face Registration
5-3	A Two-dimensional Direct Combined Model for Facial Hallucination
5-4	Converting Near Infrared Facial Images to Visible Light Images using Skin Pigment Model · 153 Kimshing Goh, Tetsu Matsukawa, Takahiro Okabe, Yoichi Sato, Japan
	Wednesday, May 22, 2013
Sessio	n 6: Basic Techniques
6-1	Edge Detection with Automatic Scale Selection Approach to Improve Coherent Visual Attention Model
6-2	Utilizing Overlapping Windows in Spatial Pyramid Matching
6-3	Automatic Sharp Feature Extraction from Point Clouds with Optimal Neighborhood Size ···· 165 Trung-Thien Tran, Sarah Ali, Denis Laurendeau, Canada
6-4	Global Binary Patterns: A Novel Shape Descriptor

Session 7: IAPR Invited Talks 2

7-1	Development of Ultrahigh-Sensitivity HARP Pickup Tube and its Applications ···········173 Prof. Kenkichi Tanioka, Ex-Director General, NHK Science and Technology Research Laboratories, Japan
Sessio	n 8: Outdoor Scene
8-1	Vehicle Localization along a Previously Driven Route Using Image Database · · · · · · 177 Hideyuki Kume, Arne Suppé, Takeo Kanade, Japan
8-2	Robust and Fast Motion Estimation for Video Completion
8-3	Semantic 3D Octree Maps based on Conditional Random Fields······185 Dagmar Lang, Susanne Friedmann, Dietrich Paulus, Germany
8-4	Information Fusion on Oversegmented Images: An Application for Urban Scene Understanding
	Philippe Xu, Franck Davoine, Jean-Baptiste Bordes, Huijing Zhao, Thierry Denoeux, France
Sessio	on 9: Poster Session 2
9-1	Common Class Information based Efficient Training Data Selection for Photo Categorization
	Ryo Shirasu, Jien Kato, Yu Wang, Kenji Mase, Japan
9-2	Vision-Based Cooperative Manipulation of Mobile Robots · · · · · 198 Wen-Chung Chang, Jing-Yan Ju-Ge, Taiwan
9-3	Experimental Evaluation of Stereo-Based Person Tracking in Real Environment
9-4	Image Contrast Enhancement Using Discrete Dual Hahn Moments · · · · · · · · · 206 *Perugu Ananth Raj, India*
9-5	A Geometric Approach to Multiple-View Triangulation for Fisheye Cameras · · · · · · · · 210 <i>Graziano Chesi, China</i>
9-6	Multi-modal query expansion for video object instances retrieval · · · · · · · · · · · · · · · · · · ·
9-7	Handwritten and Printed Text Separation in Real Document ··········218 Abdel Belaïd, K.C. Santosh, Vincent Poulain d'Andecy, France
9-8	Calibration of Projector with Fixed Pattern and Large Distortion Lens in a Structured Light System
	Xingdou Fu, Zuofu Wang, Hiroshi Kawasaki, Ryusuke Sagawa, Ryo Furukawa, Japan
9-9	Hierarchical Eigen Template Matching for Target Detection ····································
9-10	Automatic Pupil Detection in Ophthalmology Diagnose
9-11	Monocular Vision Based Relative Depth Estimation for Hand Gesture Recognition234 Wei Fan Li Chen Wei Liu Yuan He Jun sun Shutao Li China

9-12	Color Barycenter Model based Multiple-Histogram Mapping and Merging for Image Enhancement
9-13	Underdetermined Approach to Real-time Face Tracking and Recognition · · · · · · · · · · · · · · · · · · ·
9-14	Kinect Unleashed: Getting Control over High Resolution Depth Maps······247 Manuel Martinez, Rainer Stiefelhagen, Germany
9-15	Scattering Tomography by Monte Carlo Voting
9-16	A Single Finger Geometry Recognition Based On Widths And Fingertip Angles (WFTA) ···· 256 Mohd Shahrimie Mohd Asaari, Bakhtiar Affendi Rosdi, Malaysia
9-17	Optimization of 3D Shape Sharpening Filter Based on Geometric Statistical Values ·······260 Masanari Yokomizo, Daisuke Miyazaki, Masashi Baba, Ryo Furukawa, Masahito Aoyama, Shinsaku Hiura, Naoki Asada, Japan
9-18	Differential-Formed Shape from Multiple Images Based on One-Directional Random Small Camera Rotations
9-19	3D Keypoint Tracking Based on Hybrid Flow Computation for Human Motion Analysis ····· 268 Sujung Bae, Sungeun Hong, Hyun Seung Yang, South Korea
9-20	Common Landmark Discovery in Urban Scenes ···································
9-21	Client-Driven Content Extraction Associated with Table
9-22	Three-dimensional Block World Reconstruction from Monocular Images by Use of an Object-based Markov Random Field Model · · · · · · · · · · · · · · · · · · ·
9-23	Intelligent Human Detection Based on Depth Information · · · · · · 286 *Tzu-Wei Chen, Ku Ying Lin, Yon-Ping Chen, Taiwan*
9-24	Video-Based Head Tracking for High-Performance Games ·······290 Andrei Sherstyuk, Anton Treskunov, Vladimir Savchenko, United States of America
9-25	A Binarization Method for Degraded Document Images with Morphological Operations ·····294 Akihiro Okamoto, Hiromi Yoshida, Naoki Tanaka, Japan
9-26	Automated Intrusion Detection for Video Surveillance Using Conditional Random Fields ···· 298 Dierck Matern, Alexandru Paul Condurache, Alfred Mertins, Germany
9-27	Rotated Kanji Character Recognition 302 Yuta Baba, Hiroyuki Hase, Shogo Tokai, Japan
9-28	Scan-matching Based 6DOF SLAM Using Omnidirectional Stereo
9-29	Vehicles detection and tracking in videos for very crowded scenes ·······311 Sara Atito Aly, Ahmed Mamdouh, Moatz Abdelwahab, Egypt

Sessio	n 10: Behavior Analysis
10-1	Collaborated Directional Chamfer Matching for 3D Hand Pose Estimation
10-2	Multi Spatio-Temporal Co-occurrence Measures for Human Action Classification
10-3	Continuous Action Recognition by Action-specific Motion Models
10-4	Local polynomial space-time descriptors for actions classification
	Thursday, May 23, 2013
Sessio	on 11: 3D Measurement and Recovery
11-1	Exemplar based texture recovery technique for active one shot scan ························331 <i>Yohan Thibault, Hiroshi Kawasaki, Ryo Furukawa, Ryusuke Sagawa, Japan</i>
11-2	Multimodal Stereo Vision Using Mutual Information with Adaptive Windowing · · · · · · · 335 Mustafa Yaman, Sinan Kalkan, Turkey
11-3	Fast Edge-Aware Cost Aggregation for Stereo Correspondence ·······················339 Bingrong Wang, Xianghui Bai, Zhiming Tan, Akihiro Higashi, China
11-4	Enhanced Photometric Stereo with Multispectral Images
Sessio	on 12: IAPR Invited Talks 3
12-1	3D Vision Sensing Technologies in Factory Automation and Robotics · · · · · · 347 Dr. Mattias Johannesson, SICK, Sweden
Sessio	n 13: Industry
13-1	Pharmaceutical Blister Pack Recognition using Local Features · · · · · · 355 Koki Saitoh, Japan
13-2	An Image-Based System for Change Detection on Tunnel Linings
Sessio	n 14: Poster Session 3
14-1	Abnormal Action Detection Using Temporal and Spatial Information · · · · · · · 363 Hisashi Mikado, Kazunori Onoguchi, Japan
14-2	The Measurement of Carried Cartons using Multiple Kinect Sensors

14-3	Instant Surface Reconstruction for Incremental SfM
14-4	Unknown Object Identification Using Category Visual Words with Rejection Function · · · · · · 375 <i>Yuto Tanaka, Yasuo Ariki, Tetsuya Takiguchi, Japan</i>
14-5	An Object-driven Online Segmentation System for Mobile Robots · · · · · · 379 Xin Wang, Pieter P. Jonker, Netherlands
14-6	Ray-Tracing Based Interactive Camera Simulation
14-7	Detecting Rotational Symmetry via Global/Local Image Analysis · · · · · · · 38° Yousuke Inagaki, Kanji Tanaka, Japan
14-8	Stereo Camera Tracking for Mixed Reality-Based PreViz of Stereoscopic 3D Cinema Using IC Algorithm
	Shohei Mori, Fumihisa Shibata, Asako Kimura, Hideyuki Tamura, Japan
14-9	A novel saliency measure using combined spatial redundancy and local appearance
14-10	Robust Left Object Detection and Verification in Video Surveillance
14-11	Choosing Multi-illumination training Images based on the degree of linear independency ···· 400 Cong Xia, Jiansheng Chen, Chang Yang, Jing Wang, Jing Liu, Guangda Su, Gang Zhan China
14-12	Visibility Enhancement Technology for Cameras ····································
14-13	People Groping by Spatio-Temporal Features of Trajectories
14-14	BOG: An extension of HOG by interpreting it as bag of features······41s Zhouxin Yang, Takio Kurita, Japan
14-15	A New Directional Filter Bank for 3D Texture Segmentation: Application to Lamella Microstructure in Titanium Alloys
14-16	Real-time in-plane rotation estimation of pharmaceutical tablets: a feature based approach ··· 423 Blaž Bratanič, Boštjan Likar, Franjo Pernuš, Dejan Tomaževič, Slovenia
14-17	Comparing Investigation of Images and 3D Mesh Model For Categorizing Electric Applianc Components
14-18	Character Relationship Analysis in Movies Using Face Tracks
14-19	Detection Method of Scallop and Asteroid from Seabed Video ·····················435 <i>Koichiro Enomoto, Masashi Toda, Yasuhiro Kuwahara, Japan</i>
14-20	Learning-based Human Fall Detection using RGB-D cameras

14-21	Pose-Invariant Face Recognition Using A Single 3D Reference Model
14-22	A Framework Unifying the Development of Image Analysis Algorithms and Associated Uses Interfaces
14-23	Big Trajectory Data Analysis for Clustering and Anomaly Detection · · · · · · · 451 Hirokatsu Kataoka, Kenji Iwata, Yutaka Satoh, Ikushi Yoda, Masaki Onishi, Yoshimitsu Aoki Japan
14-24	Local-threshold 2D-tophat Cell Segmentation for the Two-photon Confocal Microscope Image 455
	Xiaoyang Yuan, Lei Gu, Lei Sun, Takeshi Ikenaga, Japan
14-25	Detection and Decomposition of Foreground Target from Image Sequence
Session	n 15: Surveillance and Video Retrieval
15-1	Latent Spatio-temporal Models for Action Localization and Recognition in Nursing Home Surveillance Video · · · · · · · · · · · · · · · · · · ·
	Yuke Zhu, Tian Lan, Yijian Yang, Steve Robinovitch, Greg Mori, Canada
15-2	A real-time ICA-based activity recognition in video sequences
15-3	Small Target Detection combining Foreground and Background Manifolds