



The 10th Joint Workshop on Machine Perception and Robotics

MPR2014

October 16 - 17

Peking University, Beijing, China

General Chair

Xiaoru Yuan (Peking University)

Program Chairs

Bingfeng Zhou (Peking University)

Nobutaka Shimada (Ritsumeikan University)

Kunihiko Kaneko (Kyushu University)

Organization

Peking University (Beijing, China)

Kyushu University (Fukuoka, Japan)

Ritsumeikan University (Shiga, Japan)

Main Topics

Pattern Recognition and Machine Learning

Image Processing and Analysis

Machine Vision and Application

Speech Processing

Robotics and Application

Internet Technology and Visualization



北京大学
PEKING UNIVERSITY



立命館大学
Ritsumeikan University



九州大学
KYUSHU UNIVERSITY

<http://www.cis.pku.edu.cn/mpr2014>

Venue: Moonlight Hall, Ying Jie Exchange Center, Peking University

October 16 (Thu.), 2014

8:30-8:45 Welcome Speech (Prof. Huisheng Chi, Peking University)

8:45-9:45 Keynote I: Prof. Fang Fang (Chair: Prof. Zhouchen Lin, Peking University)

"Neural Representation of Visual Saliency Map in Human Primary Visual Cortex"

9:45-10:45 Session 1: Medical and Healthcare Technology (Chair: Prof. Yen-Wei Chen, Ritsumeikan University)

Construction of Patient Specific Brain Atlas by Deforming Template Brain Atlas

Kaoru Kobayashi (Kyushu Univ.), Yasushi Miyagi (Kaizuka Hospital.)

Temporal-Spatial Validation of Knot-tying Motion Using RGB-D Sensor for Training of Surgical Operation

Yoko Ogawa (Ritsumeikan Univ.), Kurumi Yoshimasa (Shiga Univ.)

Automatic Localization of Deformable Organs in MRI Volume Data by Exhaustive Search

Shota Niga, Kei Ito, Masahiro Isobe, Gang Xu, Xian-Hua Han (Ritsumeikan Univ.)

A Finite Element Model of Flatfoot for Improving Surgical Planning

Zhongkui Wang, Shinichi Hirai (Ritsumeikan Univ.)

10:45-11:00 Coffee Break (Room 2111, #2 Science Building)

11:00-11:30 Poster Teaser I (Chair: Prof. Tomokazu Urakawa, Kyushu University)

Text Detection in Natural Scene

Renwu Gao, Faisal Shafait, Seiichi Uchida (Kyushu Univ.)

Automatic Localization of Deformable Organs in MRI Volume Data by Exhaustive Search

Shota Niga, Kei Ito, Masahiro Isobe, Gang Xu, Xian-Hua Han (Ritsumeikan Univ.)

Statistical Shape Models for Computer-aided Diagnosis of Liver Cirrhosis

Mei Uetani (Ritsumeikan Univ.), Xian-hua Han (Tokyo Metropolitan Univ.)

An Adaptive and Online Underwater Image Processing Algorithm Implemented on Miniature Biomimetic Robotic Fish

Wei Wang, Ruifeng Fan, Guangming Xie (Peking Univ.)

Image labeling in weakly labeled dataset by modeling image-label associations

Xing Xu, Atsushi Shimada, Rin-ichiro Taniguchi (Kyushu Univ.)

Automatic Detection of Lacunar Infarcts Using Probabilistic Atlas

Hidetoshi Tanaka (Ritsumeikan Univ.), Akihiko Shiino (Shiga Univ.)

The Detection of Multiple Salient Objects in Image

Mengqian Lu (Peking Univ.)

Elastic Matching with Non-Markovian Constraint

Ryosuke Kakisako, Volkmar Frinken, Yaokai Feng, Seiichi Uchida (Kyushu Univ.)

Tablet System for Sensing and Visualizing Statistical Profiles of Multi-Party Conversation

Hirofumi Adachi, Seiko Myojin, Nobutaka Shimada (Ritsumeikan Univ.)

Efficient Generalized Fused Lasso with Application to the Diagnosis of Alzheimer's Disease

Bo Xin, Yoshinubo Kawahara, Yizhou Wang, Wen Gao (Peking Univ.)

Gait Recognition Robust in Appearance Changes

Makoto Shinzaki, Yumi Iwashita, Ryo Kurazume (Kyushu Univ.)

Expert's Gaze Points Estimation in Assessing Laparoscopic Surgical Skill

Akifumi Nakamura (Ritsumeikan Univ.), Yoshimasa Kurumi (Shiga Univ.)

Joint Estimation of Head Pose and Visual Focus of Attention

Yingning Huang, Dingrui Duan, Jinshi Cui (Peking Univ., CNRS, LIAMA Sino-European Lab.)

Tissue Shape Reconstruction by Stereo Endoscopic Images

Ken'ichi Morooka, Yousuke Nakasuka, Tokuo Tsuji, Kaoru Kobayashi (Kyushu Univ.)

Paper SIFT Tracking with Updated Template Using Color Filter and Voting Algorithm

Ye Chen Han, Shinichi Hirai (Ritsumeikan Univ.)

The Deadlock Free Path Planning Algorithm for Mobile Module in R+iSpace

Toshitake Nunogaki, JongSeung Park, Joo-Ho Lee (Ritsumeikan Univ.)

11:30-12:30 Poster Session I

12:30-14:00 Lunch / Faculty Meeting (Room 1126, #1 Science Building)

14:00-15:00 Session 2: Vision and Visualization (Chair: Prof. Gang Zeng, Peking University)

Using Random Dots as An Alternative To Artoolkit

Hideaki Uchiyama (Kyushu Univ.)

Bases Sorting: Generalizing the Concept of Frequency for Over-complete Dictionaries

Chunguang Li, Zhouchen Lin, Jun Guo (Peking Univ., Beijing Univ of Posts and Telecommunications.)

Comparative Evaluation of Unsupervised Anomaly Detection Algorithms for Behavior Analysis

Markus Goldstein, Seiichi Uchida (Kyushu Univ.)

Image-based Anisotropic Material Modeling on 3D Surfaces

Yu Chen, Jie Feng, Bingfeng Zhou (Peking Univ.)

15:00-16:00 Session 3: Modeling and VR (Chair: Prof. Joo-ho Lee, Ritsumeikan University)

Jigsaw: Indoor Floor Plan Reconstruction via Mobile Crowdsensing

Ruipeng Gao, Mingmin Zhao, Tao Ye, Fan Ye, Yizhou Wang, Kaigui Bian (Peking Univ.)

A Database System for Human Face and Facial Expression

Kunihiko Kaneko (Kyushu Univ.)

Particle System Based Adaptive Sampling on Spherical Parameter Space to Improve the MDL Method for Construction of Statistical Shape Models

Rui Xu, Xiangrong Zhou, Yasushi Hirano, Rie Tachibana (Ritsumeikan Univ.)

Hierarchical Approach in Detecting Multiple Collision Points in Laparoscopic Simulator

Mary-Clare Dy (Ritsumeikan Univ.), Masaru Komori (Shiga Univ.)

16:00-17:30 Lab Visit

17:30-18:30 Departure for the Banquet (Assemble around entrance hall of #2 Science Building)

18:30-20:30 Banquet (F4 Linglong Tower, No.6 Beijing National Stadium North Road, Chaoyang District)

October 17 (Fri.), 2014

8:30-9:30 Keynote II: Prof. Yuan Yao (Chair: Prof. Xiaoru Yuan, Peking University)

"Applied Hodge Theory"

9:30-10:15 Session 4: Image Processing I (Chair: Prof. Hideaki Uchiyama, Kyushu University)

Reverse-Bias Effect of Bistable Image Perception and Its Reduction by Abrupt Change in Visual Scene

Tomokazu, Urakawa, Shuji Mori (Kyushu Univ.)

High-order Statistics of Weber Local Descriptors for Image Representation

Xian-Hua Han, Yen-Wei Chen, Gang Xu (Ritsumeikan Univ.)

Orientation-Compensative Signal Registration Using an Accelerometer

Trung Thanh Ngo (Kyushu Univ.), Yasushi Makihara (Osaka Univ.)

10:15-10:30 Coffee Break (Room 2111, #2 Science Building)

10:30-11:00 Session 5: Image processing II (Chair: Prof. Tokuo Tsuji, Kyushu University)

FLDA: Latent Dirichlet Allocation Based Unsteady Flow Analysis

Fan Hong (Peking Univ.), Enya Shen (National University of Defense Technology.)

A Joint Optimization Model for Image Summarization Based on Image Content and Tags

Hongliang Yu, Zhi-HongDeng, Yunlun Yang, Tao Xiong (Peking Univ.)

11:00-12:00 Session 6: Robotics (Chair: Prof. Bingfeng Zhou, Peking University)

Lane Change Behavior Learning From Ones History Driving Data,

Wen Yao, Yubin Lin, Chao Wang, Huijing Zhao, Hongbin Zha (Peking Univ.)

Modified Snowdrift Games for Multi-Robot Water Polo Matches

Chen Wang, Ruifeng Fan, Guangming Xie (Peking Univ.)

Motor Skills Modelling and Generalizing Based on TRBMs for Humanoid Robot

Dingsheng Luo, Xiaoqiang Han, Yi Wang, Xihong Wu (Peking Univ.)

Digital Implementation of CPG Controller for Bioinspired Robotic Fish

Liang Li, Ruifeng Fan, Guangming Xie (Peking Univ.)

12:00-13:00 Lunch (Room 1126, #1 Science Building)

13:00-13:35 Poster Teaser II (Chair: Prof. Nobutaka Shimada, Ritsumeikan University)

Cultural Information Sensing and Visualization for Farmer-Consumer Communication

Daisaku Arita (Inst Sys, Info Technologies and Nanotechnologies.), Takashi Okayasu (Kyushu Univ.)

Globally Optimal Point Cloud Fusion

Fumiya Yano, Gang Xu (Ritsumeikan Univ.)

On-road Vehicle Detection through Part Model Learning and Probabilistic Inference

Chao Wang, Huijing Zhao, Chunzhao Guo, Seiichi Mita, Hongbin Zha (Peking Univ.)

First-person activity recognition from DogCentric Videos

Asamichi Takanime(Kyushu Univ.), M. S. Ryoo(Jet Propulsion Laboratory.)

Automatic Logging System of Person-Object Communication Based on Hierarchical Visual Event Detection

Shogo Kawamoto, Takayuki Ikegami, Nobutaka Shimada (Ritsumeikan Univ.)

Visual Exploration of Sparse Traffic Trajectory Data

Zuchao Wang, Tangzhi Ye, Min Lu (Peking Univ., Hong Kong Univ of Science and Technology.)

Light Field Calibration and Rectification from Camera Array Images

Yichao Xu, Kazuki Maeno, Hajime Nagahara, Rinichiro Taniguchi (Kyushu Univ.)

Velocity Field Control with Energy Compensation toward Rehabilitation Exercise

Takaaki Shogaki, Takahiro Wada, Yoshiro Fukui (Ritsumeikan Univ.)

Deep Process Neural Network for Temporal Deep Learning

Wenhao Huang, Haikun Hong, Guojie Song, Kunqing Xie (Peking Univ.)

Towards Automatic Extraction of As-Built Information of Japanese Historical Buildings Based on Laser Scanned Point Cloud

Wang Sheng, Kyoko Hasegawa, Rui Xu, Satoshi Tanaka (Ritsumeikan Univ.)

Topic-focused Summarization of News Events Based on Biased Snippet Extraction and Selection

Pingping Lin, Shize Xu, Yan Zhang (Peking Univ.)

Optimization of Space and Time Adaptive Deformation Simulation on GPU

Ryo Kuriki, Kazuyoshi Tagawa, Hiromi T. Tanaka (Ritsumeikan Univ.)

Multi-GPU Accelerated Dynamic Visual Hull Reconstruction and Rendering

Xiaoliang Xiong, Jie Feng, Bin Feng Zhou (Peking Univ.)

Finding Vacant Taxis Using Large Scale GPS Traces

Zhen Qiu, Hongyan Li, Shenda Hong, Yiyong Lin (Peking Univ.)

A Novel Graph Summarization: Selecting a Comprehensive Set of Patterns for Visual Subgraph Query Interface

Jinbo Zhang, Hongyan Li (Peking Univ.)

Treating Texture Regions by LBP Operator for Foreground Segmentation

Li Meng, Yisong Chen (Peking Univ.)

13:35-14:30 Poster Session II

14:30-14:45 Closing Remarks

14:45-16:15 Group Communication and Outreach