

SUNDAY 14 MAY

Opening

10:00 - 10:10

Session 1: Image Analysis

10:10 - 11:30

Chair: Yasushi Makihara (Osaka University, Japan)

Robust feature estimation by non-rigid hierarchical image registration and its application in disparity measurement

Author(s): Amir Badshah, International Islamic University (Pakistan); Aadil Jaleel Choudhry, Shan Ullah, National University of Sciences and Technology (Pakistan)

Detection and localization of underground networks by fusion of electromagnetic signal and GPR images

Author(s): Meriem Hafsi, Philippe Bolon, Richard Dapoigny, LISTIC Université Savoie Mont Blanc (France)

3D geometrical characterization and modelling of solid oxide cells electrodes microstructure by image analysis

Author(s): Hamza Moussaoui, CEA (France); Johan Debayle, Yann Gavet, Ecole Nationale Supérieure des Mines de Saint-Etienne (France); Gérard Delette, Maxime Hubert, CEA (France); Peter Cloetens, ESRF - The European Synchrotron (France); Jérôme Laurencin, CEA (France)

A belief-propagation-based decoding method for two-dimensional barcodes with monochrome auxiliary lines robust against non-uniform geometric distortion

Author(s): Kohei Kamizuru, Kazuya Nakamura, Hiroshi Kawasaki, Satoshi Ono, Kagoshima University (Japan)

Lunch Break

11:30 - 13:00

Plenary Talk 1:

13:00 - 14:00

Chair: Hajime Nagahara (Osaka University, Japan)

Towards Next Generation 3D Cameras

Author(s): Mohit Gupta, University of Wisconsin-Madison (United States)

Break

14:00 - 14:10

Session 2: Camera and Sensing

14:10 - 16:10

Chair: Chikahito Nakajima (Central Research Institute of Electric Power Industry, Japan)

Interests of refocused images calibrated in depth with a multi-view camera for control by vision

Author(s): Cécile Riou, Bruno Colicchio, Jean-Philippe Lauffenburger, Christophe Cudel, University de Haute Alsace (France)

Ultrasonic imaging for non-destructive evaluation of standing trees: effect of anisotropy on image reconstruction

Author(s): Luis Fernando Espinosa Moreno, Flavio Prieto, University Nacional de Colombia (Colombia); Loïc Brancheriau, CIRAD (France)

An omni-RGB+D camera rig calibration and fusion using unified camera model for 3D reconstruction

Author(s): Ahmad Zawawi Jamaluddin, Osama Mazhar, Cansen Jiang, Ralph Seulin, Olivier Morel, David Fofi, Universite Bourgogne Franche-Comte (France)

Synthesis filter bank and pupil function for perfect reconstruction of all-in-focus image from focal stack

Author(s): Akira Kubota, Chuo University (Japan)

Estimation of extrinsic parameters of multiple fish-eye cameras using calibration markers

Author(s): Hiroya Okamoto, Yuki Tanaka, Akihiko Hishigi, Chuo University (Japan); Abdelaziz Khat, Noriko Shimomura, Nissan Motor (Japan); Gakuto Masuyama, Kazunori Umeda, Chuo University (Japan)

Underwater 3D scanning using Kinect v2 time of flight camera

Author(s): Atif Anwer, Syed Saad A Ali, Amjad Khan, Fabrice Mériaudeau, Universiti Teknologi PETRONAS (Malaysia)

Break

16:10 - 16:20

Session 3: Face and Gesture

16:20 - 17:40

Chair: Takashi Komuro (Saitama University, Japan)

A visual surveillance system for person re-identification

Author(s): Hazem El-Alfy, Daigo Muramatsu, Osaka University (Japan); Yuuichi Teranishi, Nozomu Nishinaga, National Institute of Information and Communications Technology (Japan); Yasushi Makihara, Yasushi Yagi, Osaka University (Japan)

Mixed features for face detection in thermal image

Author(s): Chao Ma, Thanh Ngo Trung, Hideaki Uchiyama, Hajime Nagahara, Atsushi Shimada, Rin-ichiro Taniguchi, Kyushu University (Japan)

Spatial and temporal segmented dense trajectories for gesture recognition

Author(s): Kaho Yamada, Takeshi Yoshida, Kazuhiko Sumi, Aoyama Gakuin University (Japan); Hitoshi Habe, Kindai University (Japan); Ikuhisa Mitsugami, Osaka University (Japan)

Development of facial aging simulation system combined with three-dimensional shape prediction from facial photographs

Author(s): Takeshi Nagata, Kazutoshi Matsuzaki, Mizuho Information & Research Institute, Inc. (Japan); Kei Taniguchi, Yoshinori Ogawa, Kazuhiko Imaizumi, National Research Institute of Police Science (Japan)

Reception

18:00 - 20:00

MONDAY 15 MAY

Session 4: Machine Learning

9:30 - 11:30

Chair: Johan Debayle (École nationale supérieure des mines de Saint-Étienne, France)

Deep learning for evaluating difficult-to-detect incomplete repairs of high fluence laser optics at the National Ignition Facility

Author(s): Nathan Mundhenk, Laura Mascio Kegelmeyer, Scott K Trummer, Lawrence Livermore National Lab (United States)

A method based on machine learning using hand-crafted features for crack detection from asphalt pavement surface images

Author(s): Yusuke Fujita, Koji Shimada, Yamaguchi University (Japan); Manabu Ichihara, Wesco Co. Ltd. (Japan); Yoshihiko Hamamoto, Yamaguchi University (Japan)

Training sample selection based on self-training for liver cirrhosis classification using ultrasound images

Author(s): Yusuke Fujita, Yamaguchi University (Japan); Yoshihiro Mitani, National Institute of Technology, Ube College (Japan); Yoshihiko Hamamoto, Makoto Segawa, Yamaguchi University (Japan); Shuji Terai, Niigata University (Japan); Isao Sakaida, Yamaguchi University (Japan)

Recognition and defect detection of dot-matrix text via variation-model based learning

Author(s): Wataru Ohyama, Koushi Suzuki, Tetsushi Wakabayashi, Mie University (Japan)

Convolution neural network for contour extraction of corneal endothelial cells

Author(s): Saya Katafuchi, Motohide Yoshimura, University of Nagasaki (Japan)

Development of a classification method for a crack on a pavement surface images using machine learning

Author(s): Akiyoshi Hizukuri, Takeshi Nagata, Mizuho Information & Research Institute, Inc. (Japan)

Lunch Break

11:30 - 13:00

Plenary Talk 2:

13:00 - 14:00

Chair: Philippe Bolon (Université Savoie Mont Blanc, France)

Machine Learning, Deep Learning and Optimization in Computer Vision

Author(s): Stéphane Canu, INSA de Rouen, Normandie Université (France)

Break

14:00 - 14:10

Session 5: 3D Measurement

14:10 - 16:10

Chair: Yann Gavet (École nationale supérieure des mines de Saint-Étienne, France)

Microgeometry capture and RGB albedo estimation by photometric stereo without demosaicing

Author(s): Yvain Quéau, Technical University Munich (Germany); Mathieu Pizenberg, Jean-Denis Durou, IRIT, CNRS, University de Toulouse (France) Daniel Cremers, Technical University Munich (Germany)

Dent detection method by high gradation photometric stereo

Author(s): Akihisa Hasebe, Kunihito Kato, Gifu University (Japan) ; Hideki Tanahashi, Naoki Kubota, Gifu Prefectural Research Institute of Information Technology (Japan)

Use of polarimetric imaging of emissive objects

Author(s): Abir Zanzouri Kechiche, Olivier Aubreton, Universite Bourgogne Franche-Comte (France); Alexandre Mathieu, Laboratoire LE2I Le creusot (France); Christophe Stolz, Universite Bourgogne Franche-Comte (France)

Joint technique of fine object boundary recovery and foreground image deblur for video including moving objects

Author(s): Yuki Matsushita, Hiroshi Kawasaki, Kagoshima University (Japan); Teruhisa Takano, The University of Tokyo (Japan); Shintaro Ono, Kagoshima University (Japan); Katsushi Ikeuchi, The University of Tokyo (Japan)

3D shape measurement with defect detection

Author(s): Hiroyuki Ukida, Tokushima University (Japan)

Three dimensional measurement using likelihood function by multi-camera

Author(s): Tsuyoshi Shimizu, University of Yamanashi (Japan)

Break

16:10 - 16:20

Session 6: Object Classification and Tracking

16:20 - 18:00

Chair: Yvain Quéau (Technical University Munich, Germany)

Object classification with range and reflectance data from a single laser scanner

Author(s): Shuji Oishi, Toyohashi University of Technology (Japan); Naoaki Kondo, Ryo Kurazume, Kyushu University (Japan)

Evidential multi-class classification from binary classifiers: application to waste sorting quality control from hyperspectral data

Author(s): Marie Lachaize, Veolia Recherche et Innovation (France); Sylvie Le Hégarat-Masclé, Emanuel Aldea, Université Paris Sud (France); Aude Maitrot, Veolia Recherche et Innovation (France); Roger Reynaud, Université Paris Sud (France)

Affordance-based 3D feature for generic object recognition

Author(s): Masaki Iizuka, Shuichi Akizuki, Manabu Hashimoto, Chukyo University (Japan)

Visual object tracking based on disc-harmonic moments features invariants

Author(s): Driss Moujahid, Omar Elharrouss, Hamid Tairi, Sidi Mohamed Ben Abdellah University (Morocco)

Tracking and removal of suspended matter from underwater video images

Author(s): Takashi Komuro, Kun Chen, Saitama University (Japan); Koichiro Enomoto, Niigata University (Japan); Masashi Toda, Kumamoto University (Japan); Naoaki Tezuka, Japan Fisheries Research and Education Agency (Japan)

Banquet

19:00 – 21:00

TUESDAY 16 MAY

Session 7: Human Factor

9:30 - 11:30

Chair: Fabrice Meriaudeau (Universiti Teknologi Petronas, Malaysia)

Hyperspectral imaging using flickerless active LED illumination

Author(s): Makoto Ohsaki, Hajime Nagahara, Kyushu University (Japan); Tetsuo Ikeda, Kyushu University Hospital (Japan); Rin-ichiro Taniguchi, Kyushu University (Japan)

Method for evaluating the uniformity of projector luminance distribution

Author(s): Naoki Sakai, Yumiko Kishi, Toru Suino, Makoto Hino, Ricoh Company, Ltd. (Japan)

Attention retargeting in real space with projector camera system

Author(s): Katsumi Yamamoto, Hironori Takimoto, Akihiro Kanagawa, Okayama Prefectural University (Japan)

Evaluating the visibility of presentation slides

Author(s): Genki Sugawara, Nobuyuki Umezu, Ibaraki University (Japan)

Features contributing sense of scale in photographs

Author(s): Nobuyuki Umezu, Ibaraki University (Japan)

Prototype implementation of mirror with built-in display

Author(s): Misaki Tani, Nobuyuki Umezu, Ibaraki University (Japan)

Lunch Break

11:30 - 13:00

Plenary Talk 3:

13:00 - 14:00

Chair: Hiroyasu Koshimizu (Chukyo University, Japan)

Machine vision for various manipulation tasks

Author(s): Yukiyasu Domae, Mitsubishi Electric Corporation (Japan)

Break

14:00 - 14:10

Session 8: Autonomous Vehicle

14:10 - 15:50

Chair: Shuji Oishi (Toyohashi University of Technology, Japan)

Studying the response of drivers against different collision warning systems: a review

Author(s): Muhammad Muzammel, Mohd Zuki Yusoff, Aamir Saeed Malik, Mohamad Naufal Mohamad Saad, Fabrice Meriaudeau, Universiti Teknologi Petronas (Malaysia)

Fast and robust-vanishing point detection system using Fast M-estimation method and regional division for in-vehicle camera

Author(s): Yuki Kondo, Hosei University (Japan); Munetoshi Numada, Hiroyasu Koshimizu, Chukyo University (Japan); Ichiro Yoshida, Yuki Morishita, Hosei University (Japan)

Motorcyclists safety system to avoid rear end collisions based on acoustic signatures

Author(s): Muhammad Muzammel, Mohd Zuki Yusoff, Aamir Saeed Malik, Mohamad Naufal Mohamad Saad, Fabrice Meriaudeau, Universiti Teknologi Petronas (Malaysia)

Plugin-docking system for autonomous charging using particle filter

Author(s): Hiroshi Koyasu, Masayoshi Wada, Tokyo University of Agriculture and Technology (Japan)

Real-time flight altitude estimation using phase correlation with Gram polynomial decimation

Author(s): Aadil J. Choudhry, National University of Sciences and Technology (Pakistan); Amir Badshah, International Islamic University (Pakistan); Saadullah Amin, National University of Sciences and Technology (Pakistan)

Break

15:50 - 16:00

Session 9: Inspection

16:00 - 17:20

Chair: Akira Kubota (Chuo University, Japan)

Automatic construction of image inspection algorithm by using image processing network programming

Author(s): Yuichiro Yoshimura, Kimiya Aoki, Chukyo University (Japan)

Computer vision based nacre thickness measurement of Tahitian pearls

Author(s): Martin Loesdau, Sébastien Chabrier, Alban Gabillon, Université de la Polynésie française (French Polynesia)

A novel quantitative methodology for age evaluation of the human corneal endothelium

Author(s): Klervi Rannou, Ecole Nationale Supérieure des Mines de Saint-Etienne (France); Gilles Thuret, Philippe Gain, University Jean Monnet (France); Jean-Charles Pinoli, Yann Gavet, Ecole Nationale Supérieure des Mines de Saint-Etienne (France)

Component extraction on CT volumes of assembled products using geometric template matching

Author(s): Katsutoshi Muramatsu, Yutaka Ohtake, Hiromasa Suzuki, Yukie Nagai, University of Tokyo, School of Engineering (Japan)

Closing

17:20 – 17:30