

The 26th International Workshop on Frontiers of Computer Vision (IW-FCV 2020)

[Workshop Program \(Revised\)](#)

Thursday, February 20th	
9:15-	Registration open
9:30-10:00	Welcome Coffee
10:00-10:15	Opening
10:15-12:00	Oral Session 1
Chairs	Hyeyoung Park (Kyungpook National University, Korea) Hideo Saito (Keio University, Japan)
Remote	OS1-1 Efficient and Fast Traffic Congestion Classification Based on Video Dynamics and Deep Residual Network. - Mohamed Abdelwahab, Mohamed Abdel-Nasser and Rin-Ichiro Taniguchi
	OS1-2 Semi-supervised Synthetic-to-Real Domain Adaptation for Fine-grained Naval Ship Image Classification. - Yoonhyung Kim, Hyeonjin Jang, Sangtae Park, Jiwon Lee and Changick Kim
	OS1-3 Occlusion-Aware Skeleton Trajectory Representation for Abnormal Behavior Detection. - Onur Temuroglu, Yasutomo Kawanishi, Daisuke Deguchi, Takatsugu Hirayama, Ichiro Ide, Hiroshi Murase, Mayuu Iwasaki and Atsushi Tsukada
	OS1-4 Identifying People Using Body Sway in Case of Self-Occlusion. - Takuya Kamitani, Yuta Yamaguchi, Masashi Nishiyama and Yoshio Iwai
	OS1-5 Complex Nonlinear and Grid-Sampling Harmonic Convolution for Rotation Equivariant Image Recognition. - Yusuke Nakasato, Seiya Ito, Naoshi Kaneko and Kazuhiko Sumi
	OS1-6 Utilizing 3D Information from Point Clouds to Support Document Image Binarization. - Quang-Vinh Dang and Guee-Sang Lee
OS1-Ex1	Adhesive strength estimation from copper surface images. - Xuejiao Deng, Masako Akagi, Tristan Hascoet, Tetsuya Takiguchi, Kiyoto Tai, Yuji Adachi, Ryoichi Takashima and Yasuo Arika
12:00-13:30	Lunch Break
13:30-15:00	Poster / Demo Session 1
Chairs	Soon Ki Jung (Kyungpook National University, South Korea) Yoshinori Kuno (Saitama University, Japan)
	PS1-1 Visualization of Voids in Tile Concrete by Non-contact Inspection using Electromagnetic Waves. - Takumi Honda, Takayuki Tanaka, Satoru Doi and Shigeru Uchida
	PS1-2 RPN with Composite Feature-Maps for Object Detection. - Jinsu An, Mun-Ho Jeong and Kang-Hyun Jo
	PS1-3 Faster R-CNN with Attention Feature Map for Robust Object Detection. - Youlkyeong Lee and Kang-Hyun Jo
	PS1-4 Dilated CNN based Human Verifier for Intrusion Detection. - Ajmal Shahbaz and Kang-Hyun Jo
	PS1-5 Some Aspects of Mathematical Modeling Techniques in Dairy Science. - Thi Thi Zin, Pyke Tin and Hiromitsu Hama
	PS1-6 Extracting glutamate spectrum from MRS data using Deep Learning. - Woo Seung Kim, Changsoo Yun, Jae Hyung Yeon, Hyeon Man Baek, Bong Soo Han, Dong Youn Kim and Yoonho Hwang
Canceled	
	PS1-8 Deep Matting for AR based Interior Design. - Maryam Sultana, In Su Kim and Soon Ki Jung
	PS1-9 Detection of Speech Impairments in Parkinson Disease using Handcrafted Feature-based Model on Spanish Speech Corpus. - Laiba Zahid, Muazzam Maqsood, Sehar Shahzad Farooq, Farhan Adil, Irfan Mehmood, Mustansar Fiaz and Soon Ki Jung
	PS1-10 Discriminative Metric Learning with Convolutional Feature Descriptors for Age-Invariant Face Recognition and Verification. - Yuta Somada, Wataru Ohyama, Nobu C. Shirai and Tetsushi Wakabayashi
	PS1-11 Early Wildfire Detection Using Convolutional Neural Network. - Seon Ho Oh, Sang Won Ghyme, Soon Ki Jung and Geon-Woo Kim
	PS1-12 Short-Term Action Recognition by 3D Convolutional Neural Network with Pixel-Wise Evidences. - Xiaohan Wang, Junichi Miyao and Takio Kurita
	PS1-13 Video Captioning with Dot Attention. - Komiki Maruyama, Toru Tamaki, Bisser Raytchev and Kazufumi Kaneda
	PS1-14 Motion Recognition of Assistant Referees in Soccer Games via Selective Color Contrast Revelation. - Yoonhyung Kim, Chanho Jung and Changick Kim
	PS1-15 Recognition of Historical Japanese Characters Based on Subcharacter Components. - Takehiro Nakano and Kengo Terasawa
	PS1-16 Detection of Various Vehicles Using YOLO Object Detector. - Abdelrahman Harras, Akinori Tsuji and Kenji Terada
	PS1-17 Ship Wake Trails Segmentation for Maritime Optical Images. - Truong Thanh Nhat Mai and Chul Lee
	PS1-18 Estimate Engagement Intensity with Eye Movements. - Van Thong Huynh, Aran Oh, Soo-Hyung Kim, Guee-Sang Lee, and Hyung-Jeong Yang
Demo	Robust Manipulation by Visual Learning. - Taeyeop Lee, Philipp Benz, Myungchul Kim and In So Kweon
15:00-16:00	Oral Session 2
Chairs	Jae Seok Jang (Kyungpook National University, Korea) Kengo Terasawa (Future University Hakodate, Japan)
	OS2-1 Analysis of Information Flow in Hidden Layers of the Trained Neural Network by Canonical Correlation Analysis. - Kejiro Kanda, Muthusubash Kavitha, Junichi Miyao and Takio Kurita
	OS2-2 Natural Disasters Tweets Analysis using Deep Multimodal Clustering with Autoencoded Embedding. - Truong Dong Do, Hyungjeong Yang, Aran Oh, Cong Do Thanh and Huykro Park
	OS2-3 Unsupervised Adversarial Learning for Dynamic Background Modeling. - Maryam Sultana, Arif Mahmood, Thierry Bouwmans and Soon Ki Jung
	OS2-4 The Body Condition Score Indicators for Dairy Cows Using 3D camera. - Thi Thi Zin, Pann Thinzar Seint, Pyke Tin and Yoichiro Horii
16:00-16:15	Coffee Break
16:15-17:30	Oral Session 3
Chairs	Hyun-Deok Kang (Ulsan National Institute of Science and Technology, Korea) Yoshimitsu Aoki (Keio University, Japan)
	OS3-1 Gaussian Processes for Efficient Plane-based Camera Calibration. - Yuji Oyamada
	OS3-2 Inverse Lighting from Cast Shadows under Unknown Radiometric Response Function. - Takuto Nakashima, Ryo Matsuoka and Takahiro Okabe
	OS3-3 Leveraging Pyramidal Feature Hierarchy for 3D Reconstruction. - Fairuz Safwan Mahad, Masakazu Iwamura and Koichi Kise

Friday, February 21st	
09:00-09:50	Invited Talk
Chair	Wataru Ohyama (Saitama Institute of Technology, Japan)
s2	Activity & Gait Recognition: Applications in Healthcare & Challenges Ahead. - Md Atiqur Rahman Ahad
09:50-10:05	Coffee Break
10:05-11:35	Oral Session 4
Chairs	Jong-Il Park (Hanyang University, Korea) Michihiro Mikamo (Kagoshima University, Japan)
OS4-1	Development of a PLC Device Inspection System Based on Deep Learning Approach. - Seon Cho, Jongho Jeong, Chilwoo Lee, Daejin Kim, Chimin Oh, Yongsu Na and Jinbong Kim
OS4-2	Consistency Ensured Bi-directional GAN for Anomaly Detection. - Kyosuke Komoto, Hiroaki Aizawa and Kunihito Kato
OS4-3	Lung tumor segmentation by fusing 2D and 3D models. - Minh-Trieu Tran, Soo-Hyung Kim, Hyung-Jeong Yang and Guee-Sang Lee
OS4-4	Transfer Learning by Cascaded Network to identify and classify lung nodules for cancer detection. - Shah B. Shrey, Lukman Hakim, Muthusubash Kavitha, Hae Won Kim and Takio Kurita
OS4-5	Improved U-Net for Medical Image Segmentation using Attention Gate. - Trinh Le Ba Khanh, Tran Thi Dung, Gueesang Lee, Soo-Hyung Kim and Hyung-Jeong Yang
Cancelled	
OS4-Ex1	Structural and Relational Reasoning with Multi-Scale Context for Semantic Segmentation. - Yukihiro Domae, Hiroaki Aizawa and Kunihito Kato
11:35-11:40	Group Photo
11:40-13:10	Lunch Break
13:10-14:40	Poster / Demo Session 2
Chairs	Chul Lee (Dongguk University, Korea) Daisuke Miyazaki (Hiroshima City University, Japan)
PS2-1	Development of underwater 3D-reconstruction system using cross-lasers-based scanner attached on underwater ROV. - Hanbin Wang, Takafumi Iwaguchi, Naoki Shirakura, Jun Takamatsu and Hiroshi Kawasaki
PS2-2	Unsupervised 3D Human Pose Estimation with Adversarial Learning. - Cheng Sun, Diego Thomas and Hiroshi Kawasaki
PS2-3	Redundancy Removal Method for Multi-view Video Considering Local Texture Quality. - Junyoung Yun, Hong-Chang Shin, Gwangsoon Lee and Jong-Il Park
PS2-4	Examination and Issues of Kumamoto Castle Ishigaki Region Extraction Focusing on Stone Contour Features. - Yuuki Yamasaki, Masahiro Migita, Go Koutaki, Masashi Toda and Tsuyoshi Kishigami
PS2-5	Combination of Super Resolution and Image Recognition Networks for Small Object Recognition. - Heedong Mun and Hyeoung Park
PS2-6	Application and Evaluation of Transfer Learning to Aquatic Insect Recognition. - Keiichi Tanida, Tristan Hascoet, Ryoichi Takashima, Tetsuya Takiguchi, Yasuo Arika, Natsuho Ooe and Takuya Sato
PS2-7	Implementation of Virtual Makeup System Using Interactive Metaphor. - Na Ram Choi, Eun Mi Park, Min Seok Kim, Sang Bin Yun, Jae Seok Jang and Soon Ki Jung,
PS2-8	Action Recognition in Sports Video Considering Location Information. - Rina Ichige and Yoshimitsu Aoki
PS2-9	Few-shot Pattern Classification using Prototypical Network with Probabilistic Similarity Measure. - Youngjae Lee and Hyeoung Park
PS2-10	Estimating Absorption Coefficient of Primary Color Woven Fabric based on Geometrical Optics. - Shiro Tanaka and Hiromi Tanaka
PS2-11	Study of GANs using a Few Images for Sealer Inspection Systems. - Dongwook Seo, Yejin Ha, Seungbo Ha, Kang-Hyun Jo and Hyun-Deok Kang
PS2-12	Interactive Virtual Lip Makeup system using Rendering Map with RGB Camera. - Hyeongil Nam, Jeongeun Lee and Jong-Il Park
PS2-13	Optimizing the Computational Efficiency of 3D Segmentation Models for Connectomics. - Weihao Zhuang, Hascoet Tristan, Ryoichi Takashima, Tetsuya Takiguchi and Yasuo Arika
PS2-14	Hybrid deep learning and data augmentation for disease candidate extraction. - Van-Dung Hoang, Van-Thanh Hoang and Kang-Hyun Jo
PS2-15	Human Motion Prediction Using Person 2D Pose Estimation on Unstable Data with RGB Camera. - Andi Prademon Yunus, Nobu C. Shirai, Kento Morita and Tetsushi Wakabayashi
PS2-16	A Deep-Learning Based Worker's Pose Estimation. - Prabesh Paudel and Kyoung- Ho Choi
PS2-17	Improve Visibility of Nighttime Images for Pedestrian Recognition on Curve Road. - Ryota Ogura, Takeshi Nagasaki and Hitoshi Matsubar
PS2-18	Hierarchical Attention Network for Brain Tumor Segmentation in MR Images. - Duc-Ky Ngo, Soo-Hyung Kim, Hyung-Jeong Yang and Guee-Sang Lee
PS2-19	Background Modelling Using Temporal Average Filter and Running Gaussian Average. - Thi Thi Zin, Cho Cho Mar and Kosuke Sumi
Demo	Robust Manipulation by Visual Learning. - Taeyeop Lee, Philipp Benz, Myungchul Kim and In So Kweon
14:40-15:10	Coffee Break
15:10-16:40	Oral Session 5
Chairs	Kang-Hyun Jo (University of Ulsan, Korea) Masashi Nishiyama (Tottori university, Japan)
OSS-1	Multispectral Photometric Stereo Using Intrinsic Image Decomposition. - Koumei Hamaen, Daisuke Miyazaki and Shinsaku Hiura
OSS-2	Indoor Visual Re-localization using Omni-directional Camera by Incorporating Confidence Indicator. - Toshihiro Takahashi, Hisato Fukuda, Yoshinori Kobayashi and Yoshinori Kuno
OSS-3	Adaptive Feature Selection Siamese Networks for Visual Tracking. - Mustansar Fiaz, Md. Maklachur Rahman, Arif Mahmood, Sehar Shahzad Farooq, Ki Yeol Baek and Soon Ki Jung
OSS-4	In-Plane Rotation-Aware Monocular Depth Estimation using SLAM. - Yuki Saito, Ryo Hachiuma, Masahiro Yamaguchi and Hideo Saito
OSS-5	Uncalibrated Photometric Stereo using Quadric Surfaces with Two Cameras. - Takumi Nasu, Tsuyoshi Migita, Takeshi Shakunaga and Norikazu Takahashi
OSS-6	Tensor-Based Deep Height Map Reconstruction for Rendering Time-Varying Water Drop Condensation. - Michihiro Mikamo and Hiroshi Kawasaki
16:40-17:00	Closing and Awards