

Time (Tokyo)	301	401	402	501	502	503	504	505	404	Online (Zoom)
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Monday, October 26

11:30-13:00	POS1A <i>Poster Session 1A</i>									
13:00-14:30				OS-ADE <i>Actual Data Science-based Digital-twin & Engineering for Enhancement of Human Abilities & Social Infrastructure</i>						
14:30-15:00		OS-ART <i>Performance Art with Consumer Electronics</i>	OS-ACS(1) <i>AI for Communication & Signal Processing Applications</i>		OS-ICT(1) <i>IoT & Image Processing Applications to Consumer Technologies</i>	OS-DTA <i>Drone Technology & Its Applications in Climate-Smart Agriculture</i>	OS-HCR <i>Harmonizing & Manipulating Cognitive Reality through XR Technologies</i>	OS-DSC(1) <i>Data Science & Its Application to Consumer Technology</i>		V-1 <i>Virtual Session</i>
	POS1B <i>Poster Session 1B</i>									
15:00-15:30										
15:30-16:00										

Tuesday, October 27

10:00-11:30		OS-AAT(1) <i>Audio & Acoustic Technology</i>	OS-DSC(2) <i>Data Science & Its Application to Consumer Technology</i>	OS-AIP(1) <i>Advanced Image Processing</i>	OS-ICT(2) <i>IoT & Image Processing Applications to Consumer Technologies</i>	OS-ACE(1) <i>Formal Approach to Consumer Technology</i>	RGE <i>Green Energy for CE</i>	OS-SNA(1) <i>Smart Sensing and Networking Technologies & Applications for</i>	RMC(1) <i>Mobile Computing & Communications</i>	
11:30-12:00	POS2A <i>Poster Session 2A</i>									

Time (Tokyo)	301	401	402	501	502	503	504	505	404	Online (Zoom)
								Enhancing Convenient Living and Health Promotion		
12:00- 13:00										
13:00- 14:30								OS- SNA(2)Smart Sensing and Networking Technologies & Applications for Enhancing Convenient Living and Health Promotion		
14:30- 15:00	DEM(1)Demo Session 1	RUI(1)User Interfaces & Experience in CE	OS- DSC(3)Data Science & Its Application to Consumer Technology	OS- AIP(2)Advanced Image Processing	OS-IDBIntegration of Data Science & Biomechanics for the Development of Wearable Support Systems to Maintain & Improve QOL	OS- ACE(2)Formal Approach to Consumer Technology	REMEEmbedded Technologies for CE		RMC(2)Mobile Computing & Communications	
15:00- 16:00										
16:00- 17:00		OS-VIDIn- Vehicle Interaction Design for Diverse User Needs	RAVAV Processing & Streaming	OS- AIP(3)Advanced Image Processing	OS-ICT(3)IoT & Image Processing Applications to Consumer Technologies	RHM(1)Home Medical & Healthcare	OS-TRITrusted & Resilient Residential Prosumer Infrastructure and Consumer Services			V- 2Virtual Session

Time (Tokyo)	301	401	402	501	502	503	504	505	404	Online (Zoom)
17:00- 18:00										
18:00- 18:30										

Wednesday, October 28

10:00- 11:30		OS- HAD(1) <i>Advances & Applications of Human Assistive Devices</i>	OS- MSE(1) <i>Maritime System Engineering</i>	OS- NLP <i>Machine Learning in Natural Language Processing & in Signal Processing</i>	OS- TMR(1) <i>Technologies for Multimedia & Real Data Analysis and Processing</i>	OS- PSA(1) <i>Privacy- Preserving & Secure AI for Consumer IoT Systems</i>	OS- DRR <i>Practical Issues, Systems & Applications for Disaster Risk Reduction</i>	OS-ACS(2) <i>AI for Communication & Signal Processing Applications</i>	RHM(2) <i>Home Medical & Healthcare</i>	
11:30- 12:00	POS3A <i>Poster Session 3A</i>									
12:00- 13:00										
13:00- 14:30		OS- HAD(2) <i>Advances & Applications of Human Assistive Devices</i>	OS- MSE(2) <i>Maritime System Engineering</i>	OS- AIP(4) <i>Advanced Image Processing</i>	OS- TMR(2) <i>Technologies for Multimedia & Real Data Analysis and Processing</i>	OS- PSA(2) <i>Privacy- Preserving & Secure AI for Consumer IoT Systems</i>	OS-DSE <i>Devices & Software with ECHONET Lite (ISO/IEC 14543- 4-3)</i>	OS- AIR <i>Artificial Intelligence & Robotics</i>	OS- AHC <i>Algorithm- Hardware Co- design for Emerging AI Models & Applications</i>	
14:30- 15:00	DEM(2) <i>Demo Session 2</i>									
15:30- 16:00										V- 3 <i>Virtual</i>

Time (Tokyo)	301	401	402	501	502	503	504	505	404	Online (Zoom)
16:00-18:00		OS-AAT(2)Audio & Acoustic Technology	OS-ASP Circuit & System Design for Intelligent Edge Computing & Advanced Signal Processing Technologies	OS-AIP(5)Advanced Image Processing	OS-TMR(3)Technologies for Multimedia & Real Data Analysis and Processing	OS-TSSTrustworthy Smart Systems	WorkshopNew Energy IoT Scenarios with Open Standards	OS-SLPspoken Language Processing for Daily Life	OS-CBSRecent Advancements in Cyber Security	Session

Thursday, October 29

10:00-11:30		OS-DHW(1)Digital Health Technologies for Well-being and Disease Detection in Real-World Settings	RUI(2)User Interfaces & Experience in CE	OS-CPS(1)Smart Cyber-Physical Systems & Security	OS-TMR(4)Technologies for Multimedia & Real Data Analysis and Processing	OS-MMIMusic & Musical Instruments	RHNHome Networks & Services	OS-HPL(1)Smart Health Monitoring, Personalized Biomedical & Life Support Technologies	OS-ISS(1)Intelligent Systems for Sustainable Living: Robotics, AI, and IoT Applications	
11:30-12:00	POS4A Poster Session 4A									
12:00-13:00										
13:00-15:00		OS-DHW(2)Digital Health Technologies for Well-being and Disease Detection in Real-World Settings	RUI(3)User Interfaces & Experience in CE	OS-CPS(2)Smart Cyber-Physical Systems & Security	OS-SCL(1)Emerging Advanced Technologies for Smart City/Township & Intelligent Logistics	OS-ITS(1)Intelligent Transport Systems	RWL(1)Wireless & RF in CE	OS-HPL(2)Smart Health Monitoring, Personalized Biomedical & Life Support Technologies	OS-ISS(2)Intelligent Systems for Sustainable Living: Robotics, AI, and IoT Applications	

Time (Tokyo)	301	401	402	501	502	503	504	505	404	Online (Zoom)
15:00- 15:30										
15:30- 16:00	POS4BPoster Session 4B									
16:00- 16:30		OS-SDS Agent Systems for Data Science & AI	RUI(4) User Interfaces & Experience in CE		OS- SCL(2) Emerging Advanced Technologies for Smart City/Township & Intelligent Logistics	OS- ITS(2) Intelligent Transport Systems	RWL(2) Wireless & RF in CE	OS-CTGAI- Driven Consumer Technologies & the Future of Game-Based Interventions		V- 4Virtual Session
16:30- 18:00										

Monday, October 26

Monday, October 26 11:30 - 13:00

POS1A: Poster Session 1A 

Room: 301

POS1A.1 *Computational Complexity Reduction for Iterative Soft-Decision Decoding in Overloaded MIMO-OFDM Systems*

Riku Mishima, Satoshi Denno and Yafei Hou (Okayama University, Japan)

POS1A.2 *Evaluation of Augmented Sound-Image Enhancement Using Pre-Virtual-Leading Hypersonic Signals*

Takumi Yamasaki, Ryota Imanaka, Yuting Geng and Takanobu Nishiura (Ritsumeikan University, Japan)

POS1A.3 *Exploring Auditory Distance Cues Across Recording Methods Using Level-Equalized Speech*

Tatsuki Sato, Yosuke Kobayashi, Hibiki Komoto and Ryo Teraoka (Muroran Institute of Technology, Japan)

POS1A.4 *Masking-Based Audible Area Control Using Intermodulation of Amplitude/Frequency-Modulated Waves with Parametric Array Loudspeakers*

Keiichi Moriyama, Yuting Geng and Takanobu Nishiura (Ritsumeikan University, Japan)

POS1A.5 *Sum-Rate Optimization via ConvCNP-Assisted D3QN for Port Selection and Precoding in Multi-User MISO Fluid Antenna Systems*

Chia-Chang Hu (National Chung Cheng University, Taiwan); Yu-Min Chen (National Chung Cheng University,, Taiwan)

POS1A.6 *Fisheye Geometry-Aware Egocentric 3D Human Pose Estimation with Patch Viewing Directions*

Yinghao He, Chee Siang Leow and Hiromitsu Nishizaki (University of Yamanashi, Japan)

POS1A.7 *Extraction and Tracking of Digestive Contents in Ultrasound B-Mode Videos for Small Intestinal Motility Evaluation*

Kisaki Yoshikawa, Osamu Sakata and Yusuke Yamanoi (Tokyo University of Science, Japan)

POS1A.8 *Region-Biased Attention for MM-DiT-Based Text-to-Video Object Control*

Busin Choi, Miso Park, Seongjun Kim, Boseok Jang and Yong-Goo Shin (Korea University, Korea (South))

POS1A.9 *Point-Cloud Tampering Using Generative AI for Attacking Self-Driving Mobility*

Ryoga Sagawa, Shinnosuke Sato, Ryoichi Shinkuma and Gabriele Trovato (Shibaura Institute of Technology, Japan)

POS1A.10 *Toward Trustworthy AI-Driven Mental Health Training: Multi-Agent Depression Simulation with Counterfactual Auditing*

Shouchen Ye (Ritsumeikan University, Japan); Can Gursesli (Tampere University, Finland); Ibrahim Khan, Yi Xia, Yuchen Tian and Ruck Thawonmas (Ritsumeikan University, Japan)

POS1A.11 *Acoustic and ASR-Derived Features for Deaf and Hard-of-Hearing Speech Intelligibility Prediction*

Akio Kobayashi (Yamato University, Japan); Keiichi Yasu (Tsukuba University of Technology, Japan)

POS1A.12 *The Effect of Different Bone-Conduction Headphones on the Discrepancy of Perceived Sound Source Direction from Air-Conduction Headphones*

Mamoru Iwaki, Katsutaka Uehara and Riki Sato (Niigata University, Japan)

POS1A.13 *Evaluation of a Assist Robot Using Gyroscopic Torque Based on Maximum Voluntary Contraction*

Yudai Kitano, Sakata Shusuke and Tsutomu Tanzawa (University of Yamanashi, Japan)

POS1A.14 *Sound Pressure Level Dependency of Perceived Sound Source Direction Through Bone Conduction Headphones*

Riki Sato and Mamoru Iwaki (Niigata University, Japan)

POS1A.15 *Relationship Between Stress Tolerance and Pre- and Post-Interaction Impressions of Robots with Human-like and Mechanical Appearances*

Mikoto Ogawa and Masayoshi Kanoh (Chukyo University, Japan)

POS1A.16 *Basic Research on Developing Methods for Addressing Cold Sensitivity in Elderly Women Using Wearable IoT Sensors*

Wakayo Fujimoto (Tokushima Bunri University, Japan); Fumiko Nakamura (National Institute of Technology, Nara College, Japan)

POS1A.17 *Robust World Model for LiDAR-Based Autonomous Driving Using Domain Randomization*

Takehiro Yamamoto, Ryusei Sugano, Ryoichi Shinkuma and Gabriele Trovato (Shibaura Institute of Technology, Japan)

POS1A.18 *Improving the Accuracy of Moving Base Attitude Estimation Using Multiple Baselines*

Yoshiki Ito, Takumi Ishibashi, Riku Shiiya, Masamichi Shiozawa, Taiki Udagawa and Yoshikazu Koike (Shibaura Institute of Technology, Japan)

POS1A.19 *Multi-IMU Based Attitude Estimation for Ocean Observation Systems*

Taiki Udagawa, Takumi Ishibashi, Masamichi Shiozawa, Riku Shiiya, Yoshiki Ito and Yoshikazu Koike (Shibaura Institute of Technology, Japan)

POS1A.20 *Sound-Based Estimation of Crane Sway Angle Using Convolutional Neural Network*

Reo Sameshima and Masayoshi Nakamoto (Hiroshima University, Japan)

POS1A.21 *Multitask Embedding-Fusion for Spoofing-Robust Short-Utterance Speaker Verification*

Taiyo Domukai, Ryunosuke Nagahashi, Shingo Kuroiwa and Yasuo Horiuchi (Chiba University, Japan); Masafumi Nishida (Shizuoka University, Japan); Satoru Tsuge (Daido University, Japan)

POS1A.22 *The Impact of Internet of Things on Supply Chain Visibility, Agility, and Adaptability in Vietnam's Maritime Logistics Industry*

Anh Hong Nguyen and Szu-Yu Kuo (National Kaohsiung University of Science and Technology, Taiwan)

POS1A.23 *Reliable and Persona-Stable LLM Agents for Interactive Guidance Tasks*

Chi-Yu Huang, Tsung-Hao Yang and Li Cho (Tatung University, Taiwan)

POS1A.24 *Does Side Really Matter? Investigating Left-Right Bias in Skeleton-Based Human Action Recognition*

Tatsuki Yamada, Ryota Goka, Keisuke Maeda, Naoki Saito, Takahiro Ogawa and Miki Haseyama (Hokkaido University, Japan)

POS1A.25 *Bias-Aware Cross-Domain Recommendation with Multimodal Instrumental Representations*

Hiroto Okada and Soh Yoshida (Kansai University, Japan)

POS1A.26 *Local Temporal Onset Density Control in Symbolic Music Arrangement via Sparse Autoencoders*

Genki Masuyama, Keigo Sakurai, Ren Togo, Takahiro Ogawa and Miki Haseyama (Hokkaido University, Japan)

POS1A.27 *Quantifying Task Difficulty for LLMs Based on Reasoning Trajectories*

Takuya Kinoshita, Ren Togo, Keisuke Maeda, Takahiro Ogawa and Miki Haseyama (Hokkaido University, Japan)

POS1A.28 *A Privacy-Preserving Unlearning Framework Based on Pixel-Level Encryption*

Ibuki Kameya, Tasuku Nakajima, Keisuke Maeda, Takahiro Ogawa and Miki Haseyama (Hokkaido University, Japan)

POS1A.29 *Mitigating Concept Bleed-Through in Continual Personalized Image Generation via Latent Space-Based Target Selection*

Toma Onozuka, Koshiro Toishi, Keisuke Maeda, Takahiro Ogawa and Miki Haseyama (Hokkaido University, Japan)

POS1A.30 *Spatial Audio Reproduction from 3D Gaussian Splatting Scenes via Mesh Conversion and Mesh-Based Acoustic Simulation*

Akari Maeda, Masaki Yoshida, Ren Togo, Takahiro Ogawa and Miki Haseyama (Hokkaido University, Japan)

Monday, October 26 13:00 - 15:00

OS-ART: Performance Art with Consumer Electronics

Room: 401

Chair: Soichiro Matsushita (Tokyo University of Technology, Japan)

13:00 *Development of a Dance Practice Support Software That Visualizes Differences in Movement Between a Trainer and Trainee*

Yuji Okuwaki and Takahiro Yoshida (Tokyo University of Science, Japan)

13:20 *Stability Evaluation of Guitar Strumming Form Using Dynamic Time Warping*

Ayaka Takamoto and Soichiro Matsushita (Tokyo University of Technology, Japan)

13:40 *Accurate Rhythm Evaluation System for Electric Guitar Group Lesson with Wrist-Worn Motion-Sensing Devices*

Soichiro Matsushita (Tokyo University of Technology, Japan)

14:00 *Evaluating Japanese Drum Skills Using a Wrist-Worn Inertial Motion Sensor*

Eita Nakajima (Tokyo Engineering University, Japan); Ayaka Takamoto and Soichiro Matsushita (Tokyo University of Technology, Japan)

14:20 *Quantifying Electric-Guitar Picking Endurance Using a Compact Wireless EMG Sensor*

Fumiyoshi Kamo (Tamagawa University, Japan); Atsushi Yamamoto (Japan Musicians Functional Anatomy Leaders Association, Japan); Sihan Wen (NOK Corporation, Japan)

Monday, October 26 13:00 - 15:00

OS-ACS(1): AI for Communication & Signal Processing Applications

Room: 402

Chairs: Sulin Chi (Otemon Gakuin University, Japan), Hsuan-Fu Wang (National Formosa University, Taiwan)

13:00 *Tensor-Network Quantum-Inspired Successive Subspace Learning for Lightweight Local Feature Representation*

Min-Kuan Chang (National Chung Hsing University, Taiwan); Jiun-Yu Tu (National Formosa University, Taiwan); Po-Chyi Su (National Central University, Taiwan)

13:20 *Logic Synthesis of Channel Coding Using Tsetlin Machines Toward AI-Native Air Interface*

Quang-Thang Duong (Osaka Institute of Technology, Japan)

13:40 *Automatic Problem Generation with LLMs for Programming Classes*

Hideki Bando and Nobuyuki Umezu (Ibaraki University, Japan)

14:00 *Understanding the Periodicity of Equirectangular Image by Fine-Tuning Local LLM*

Nurul Hidayah Rahim, Hiyori Murakami, Toshiharu Kosaku and Shigang Li (Hiroshima City University, Japan)

14:20 *Privacy-Preserving Object Detection for Vision Transformer-Based Models*

Homare Sueyoshi, Kiyoshi Nishikawa and Hitoshi Kiya (Tokyo Metropolitan University, Japan)

Monday, October 26 13:00 - 15:00

OS-ADE: Actual Data Science-based Digital-twin & Engineering for Enhancement of Human Abilities & Social Infrastructure

Room: 501

Chairs: Shuhei Wada (Kanagawa University, Japan), Masahiro Yagi (Kanazawa University, Japan)

13:00 *A Preliminary Study Toward a Pose-Aware Image Quality Metric for Human Pose Estimation*

Aki Shigesawa, Sho Takahashi and Toshio Yoshii (Hokkaido University, Japan); Masahiro Yagi (Kanazawa University, Japan); Marco Bertini (Università di Firenze, Italy)

13:20 *Acceptance Classes and Structure of Autonomous Vehicle Services in Tourist Destinations*

Kenji Tanabe, Shuhei Wada and Masato Takanokura (Kanagawa University, Japan)

13:40 *A Usability Study of an AI-Assisted XR-Based CPR Training System Using Consumer Smart Glasses*

Tanakorn Intakornudom, Phumpandin Sahassapaht, Kanapot Tinnongjik, Thawan Tantiwattanasirikul, Sopicha Ophasnavin and Ploychom Treekunprapha (Kyoto University of Advanced Science, Japan); Zilu Liang (Kyoto University of Advanced Science, Japan & The University of Tokyo, Japan)

Monday, October 26 13:00 - 15:00

OS-ICT(1): IoT & Image Processing Applications to Consumer Technologies

Room: 502

Chair: Thi Thi Zin (University of Miyazaki, Japan)

13:00 *The Detection and Segmentation Model for Cattle Tracking: A Comparative Study of YOLOv8, YOLO11, and YOLO26*

Theethawat Savastham (Interdisciplinary Graduate School of Agriculture and Engineering, University of Miyazaki, Japan); Masaru Aikawa (Organization for Learning and Student Development, University of Miyazaki, Japan); Ikuo Kobayashi (Faculty of Agriculture, University of Miyazaki, Japan); Thi Thi Zin (Graduate School of Engineering University of Miyazaki, Japan)

13:20 *A Fully on-Device Elderly-Care Companion Robot with Self-Repairing Long-Term Memory*

Remon Nakashima, Pyae Phyo Kyaw and Thi Thi Zin (University of Miyazaki, Japan)

13:40 *AI-Powered Calving Time Prediction Through Higher-Order Markov Chain Analysis*

Thi Thi Zin, Pyae Phyo Kyaw, Aung Si Thu Moe and Pyke Tin (University of Miyazaki, Japan)

14:00 *Automated Vision-Based Cattle Lameness Classification Using Side-View Back Curvature Keypoint Analysis*

Bo Bo Myint, Thi Thi Zin, Pyke Tin, Masaru Aikawa and Ikuo Kobayashi (University of Miyazaki, Japan)

14:20 *Toward Efficient Memory Bank-Based Anomaly Detection via Lightweight Backbone Adaptation*

Junhyeok Im and Jeonghun Cho (Kyungpook National University, Korea (South))

14:40 *Spatial Analysis of PaDiM Deviation Responses for Fixed-View Inspection*

Tsuneo Kagawa (Oita University, Japan); Noboru Daimon (Graduate School, Oita University, Japan); Satoshi Ohtake (Oita University, Japan)

Monday, October 26 13:00 - 15:00

OS-DTA: Drone Technology & Its Applications in Climate-Smart Agriculture

Room: 503

Chairs: Kingkarn Sookhanaphibarn (Bangkok University, Thailand), Worawat Choensawat (Bangkok University, Thailand)

13:00 *Development of an Adhesive-Free Cardboard-Based UAV for Disaster Response*

Mikihiro Kasahara and Katsuya Hasegawa (Japan Aerospace Exploration Agency, Japan)

13:20 *Acoustic Drone Detection Using a Hybrid ResNet50-BiLSTM Model*

Kingkarn Sookhanaphibarn, Worawat Choensawat, Pujana Paliyawan and Thutpon Jeerarattanatham (Bangkok University, Thailand)

13:40 *A Simulation-Guided Framework for Object-Centric Point Cloud Management in Natural Environments*

Jetnipat Thongprasith (Chulalongkorn University, Thailand); Toa Saito (Kanagawa Institute of Technology, Japan); Gridsada Phanomchoeng (Chulalongkorn University & Smart Mobility Research Center, Thailand); Ratchatin Chanchaen (Chulalongkorn University, Thailand); Kosuke Takano (Kanagawa Institute of Technology, Japan)

14:00 *SmartBorder: Simulation-Based Planning for UAV Border Patrol and Wireless Charging Systems*

Nitichai Kruawan, Pujana Paliyawan, Kingkarn Sookhanaphibarn and Worawat Choensawat (Bangkok University, Thailand)

14:20 *A Two-Phase Framework for Context-Aware Object Detection on Edge Devices*

Muhammad Tsaqif Mukhayyar and Idris Winarno (Politeknik Elektronika Negeri Surabaya, Indonesia); Kosuke Takano (Kanagawa Institute of Technology, Japan)

Monday, October 26 13:00 - 15:00

OS-HCR: Harmonizing & Manipulating Cognitive Reality through XR Technologies

Room: 504

Chairs: Shogo Ishikawa (Shizuoka University, Japan), Keiichi Zempo (University of Tsukuba, Japan)

13:00 *Feasibility Study of Co-Creation Methods in Constructing Patient Experience Spaces*

Keita Hirobe (Shizuoka University, Japan); Atsushi Omata (Hamamatsu University of School of Medicine, Japan); Takuhiro Mizuno (Alphacode Inc., Japan); Yujun Murakami (Orange Cross General Incorporated Foundation, Japan); Shogo Ishikawa (Shizuoka University, Japan)

13:20 *Nostril Flaring as an Additional Binary Input Channel for Head-Mounted Display*

Ryuma Ishibashi, Koushi Hiraoka and Shogo Fukushima (Kyushu University, Japan)

13:40 *Learning Effects of 3D and 2D Displays in a VR Environment Based on Eye-Tracking Analysis*

Akira Moriguchi and Koji Kashihara (Ritsumeikan University, Japan)

14:00 *Motion-Coupled Foot Vibration Enhances Height Change Perception in XR Flight*

Dawei Zhao, Hong Shen and Shogo Okamoto (Tokyo Metropolitan University, Japan)

14:20 *Palliative Care LLM Prompts Incorporating Physicians' Conversational Experience*

Hiroki Takahashi and Takuma Mizukoshi (University of Tsukuba, Japan); Mitsue Takeuchi (National Cancer Center Hospital East, Japan); Hiroko Terasawa and Keiichi Zempo (University of Tsukuba, Japan); Tomofumi Miura (National Cancer Center Hospital East, Japan)

Monday, October 26 13:00 - 15:00

OS-DSC(1): Data Science & Its Application to Consumer Technology ↗

Room: 505

Chairs: Mohd Anuaruddin Bin Ahmadon (Universiti Teknologi Petronas, Malaysia), Yuanyuan Wang (Yamaguchi University, Japan)

13:00 *Gated-DARTS with Layer-Specific Cells for U-Net*

Keigo Maie, Keiko Ono and Takuya Futagami (Doshisha University, Japan)

13:20 *Automated Essay Scoring-Grounded LLM Feedback for Hierarchical Essay Revision Support System*

Souya Teraoka and Takako Akakura (Tokyo University of Science, Japan)

13:40 *Detecting Meaningful Gaze Jumps as Indicators of Polymorphism Understanding*

Hidehiko Iwasa (St. Andrews University, Japan); Eiichi Kuwakawa (Kindai Technical College, Japan); Haruto Hase and Shuichi Ohno (Osaka Metropolitan University, Japan)

14:00 *A New Robust Period Estimation Method Suitable for IoT Under Impulsive Noise Environment*

Naoto Kikuchi and Yukihiro Kamiya (Aichi Prefectural University, Japan)

Monday, October 26 13:00 - 15:30

V-1: Virtual Session ↗

Room: Online (Zoom)

13:00 *Efficient Linear-Probe Dataset Distillation for Large-Scale Pre-Trained Vision Models*

Bincheng Peng and Guang Li (Hokkaido University, Japan); Ping Liu (University of Nevada, Reno, USA); Takahiro Ogawa and Miki Haseyama (Hokkaido University, Japan)

13:20 *A Lifestyle-Tag-Based Property Recommendation System Leveraging Implicit User Preferences and Spatial Context*

Kei Kikuchi and Mitsuyoshi Horikawa (Iwate Prefectural University, Japan); Akimasa Suzuki (Soka University, Japan); Kazushi Katayama (LIFULL Co., Ltd., Japan)

13:40 *Adaptive Multi-Level Response Matching for Point Cloud Dataset Distillation*

Ge Tian, Guang Li, Takahiro Ogawa and Miki Haseyama (Hokkaido University, Japan)

14:00 *Re-Defining Vanishing Municipalities in Japan: A Multidimensional Clustering and SLM-Based Policy Insight Framework*

Toma Okugawa (National Institute of Technology, Yuge College, Japan); Keito Inoshita (Kansai University, Japan & Shiga University, Japan)

14:20 *Observer-Guided Camerawork Generation for Free-Viewpoint Concert Video*

Chun Xie, Ryota Seya and Itaru Kitahara (University of Tsukuba, Japan)

14:40 *Nibble-Packed Int4 Inference on FPU-Less RV32IMC: A Host-Vs-Target Cost Asymmetry*

Bing Yan Zhang and Chun Yan Lo (University of Auckland, New Zealand); Chiu Wing Sham (The University of Auckland, New Zealand)

Monday, October 26 14:30 - 16:00

POS1B: Poster Session 1B ↑

Room: 301

POS1B.1 *Experimental Evaluation of Acceptable Delay and Packet Loss for Haptic and Audio Transmission in Multimodal Communication*

Manabu Ishihara (Tokyo University of Information Sciences, Japan)

POS1B.2 *Playback-Speed Effects on Japanese Word Intelligibility Under Simulated Hearing Loss*

Aiko Ogasawara, Kaede Taniguchi, Yosuke Kobayashi and Ryo Teraoka (Muroran Institute of Technology, Japan)

POS1B.3 *Enhancement of Demodulated Sound in Pin-Spot Audio Using Multiple Reflected Carrier Waves with Phased Array of Parametric-Array-Loudspeakers*

Ryusei Tsuboi, Yuting Geng and Takanobu Nishiura (Ritsumeikan University, Japan)

POS1B.4 *Sound Diffusion Control Based on Relaxation of Directivity Constraints Using Shoulder-Mounted Wearable Loudspeaker Arrays*

Teppei Okamoto, Yuting Geng and Masato Nakayama (Ritsumeikan University, Japan); Yoshiharu Soeta (National Institute of Advanced Industrial Science and Technology (AIST), Japan); Takanobu Nishiura (Ritsumeikan University, Japan)

POS1B.5 *Evaluation of Head-Related Effects on Personal Sound Zone Control with Coaxial Loudspeakers*

Kaname Endo (University of Electro-Communications, Japan); Tatsuya Kako (NTT, Inc, Japan); Yoichi Haneda (The University of Electro-Communications, Japan)

POS1B.6 *Subjective Evaluation of Speech-Feature Morphing for Perceived Auditory Distance*

Hibiki Komoto, Yosuke Kobayashi, Tatsuki Sato and Ryo Teraoka (Muroran Institute of Technology, Japan)

POS1B.7 *Performance Evaluation of Multichannel Feedforward Active Noise Control System with Dual Distant Reference Microphones Using an Industrial Factory Noise*

Ryoh Akatsu, Maoto Mizutani, Yuting Geng and Masato Nakayama (Ritsumeikan University, Japan); Yoshiharu Soeta (National Institute of Advanced Industrial Science and Technology (AIST), Japan); Takanobu Nishiura (Ritsumeikan University, Japan)

POS1B.8 *Wideband Frequency Impedance Measurement of the Middle Ear Under Sweeping Static Pressure*

Keigo Shimizu (Yamanashi University, Japan); Kenji Ozawa and Teruki Toya (University of Yamanashi, Japan)

POS1B.9 *Investigation of Phoneme-Dependent Speech Directivity in Natural Japanese Speech*

Koji Abe, Masayuki Nishiguchi and Kanji Watanabe (Akita Prefectural University, Japan)

POS1B.10 *An Audio Watermarking Method Utilizing Differences in the Pitch Patterns of Bass Phrases*

Harumi Murata (Chukyo University, Japan); Kaho Yamamoto (Shonan Institute of Technology, Japan); Akio Ogihara (Kindai University, Japan)

POS1B.11 *PAPR Reduction for OFDM Signals Using an Amplitude-Based Real-Valued Neural Network*

Kenshin Takechi, Kento Sakai and Masaya Ohta (Osaka Metropolitan University, Japan)

POS1B.12 *Decoder Complexity Reduction for Joint PRNet and OP-Based PAPR and OOB suppression of OFDM Signals*

Shinnosuke Tahara, Moka Okabe and Masaya Ohta (Osaka Metropolitan University, Japan)

POS1B.13 *Dynamic Coalition Formation for Hierarchical Multimodal Federated Learning Under Incomplete Modalities*

Yu-Wei Chan (National Taichung University of Science and Technology, Taiwan); Yi-Cyuan Tseng (National Chung Hsing University, Taichung, Taiwan); Min-Kuan Chang (National Chung Hsing University, Taiwan); Feng-Tsun Chien (National Yang Ming Chiao Tung University, Taiwan); Guu-Chang Yang (National Chung Hsing University, Taiwan)

POS1B.14 *Deep Reinforcement Learning Approach for anti-Sway Control of Cranes with Real Sensor Noise*

Rintaro Kinoshita, Yuto Ino and Masayoshi Nakamoto (Hiroshima University, Japan)

POS1B.15 *Hardware-Efficient Softmax Architecture for Transformers Supporting GELU and Swish*

Thai N. Nguyen, Min-Mou Tsai, Shao-I Chu and Bing-Hong Liu (National Kaohsiung University of Science and Technology, Taiwan)

POS1B.16 *Enabling Hardware-Agnostic DNN Compilation for AMD NPUs via an AIE-Level MLIR Pass*

Jihun Choi, Gyumin Kim, Junik Ma, Woojeong Jang and Jeonghun Cho (Kyungpook National University, Korea (South))

POS1B.17 *A Comparative Study of Multimodal Models for Beef Marbling Estimation Using Ultrasound Images and Individual Information*

Takumi Kobayashi, Shoma Adachi, Yoshio Iwai and Kota Aoki (Tottori University, Japan)

POS1B.18 *Data Augmentation of Retinal Disease Image Datasets Using Diffusion Models*

Hayato Matsushita and Satoshi Nishiguchi (Osaka Institute of Technology, Japan)

POS1B.19 *Multi-Components de-Rendering with Curved Axis Revolutionary Objects*

Chien-Hua Chen, Yun-Liang Chen and Chih-Yuan Yao (National Taiwan University of Science and Technology, Taiwan); Hung-Kuo Chu (National Tsing-Hua University, Taiwan)

POS1B.20 *A Method for Automatically Generating Video Clips for Graduation Albums Based on Subject Extraction and Grouping*

Akito Tomita (Osaka Institute of Technology, Japan); Koichi Nishimura (Setsunan University, Japan); Nobutaka Hayama and Masahiro Oga (DAICOLO CO. LTD, Japan); Yuta Muraki (Osaka Institute of Technology, Japan)

POS1B.21 *Semantic-Driven Backbone Enhancement for Small Object Detection in UAV Imagery*

Yihua Jing, Haoyuan Liu and Hiroshi Watanabe (Waseda University, Japan)

POS1B.22 *DeepLabV3-Based Pixel-Level Refinement for Weakly Supervised Crack Extraction*

Tatsuma Okada and Yusuke Fujita (Yamaguchi University, Japan)

POS1B.23 *Improved High-Frequency Texture Preservation in Image Denoising Using DRUNet*

Itsuki Sugiura and Tomio Goto (Nagoya Institute of Technology, Japan)

POS1B.24 *Research Toward Practical Application of Diagnostic Support System for Rheumatoid Arthritis*

Koyo Shibuya and Tomio Goto (Nagoya Institute of Technology, Japan)

POS1B.25 *Multiphasic Liver CT Image Generation Using Mask-Guided Attention Modulation in Diffusion Models*

Bo Qin, Jiaqing Liu and Yen-Wei Chen (Ritsumeikan University, Japan); Tomoko Tateyama (University of the Ryukyus, Japan)

POS1B.26 *Driving-Safety Status Identification via Region and Shape-Correlated Enhanced Augmentations in Low-Light Environments*

Seong-Hyun Jin and Dong-Min Son (Kyungpook National University, Korea (South)); Sung-Hak Lee (Kyungpook National University & School of Electronics Engineering, Korea (South))

POS1B.27 *Deep Learning-Based Detection of Counterfeit over-the-Counter Drugs in the Philippines Using YOLOv12*

Elaine Hazel A Grande (Centro Escolar University, Philippines); Ma. Editha A Grande (Ateneo de Manila University & Technological University of the Philippines - Manila, Philippines); Luigi Carlo M De Jesus (Asia Pacific College, Philippines & De La Salle University - Manila, Philippines)

POS1B.28 *Explicit Image Restoration by Dual ControlNet with Decoupled Orthogonal Control Information*

Taiga Yamada (Graduate School of Robotics and Design Engineering, Japan); Masataka Seo (Osaka Institute of Technology, Japan)

POS1B.29 *Performance Improvement of DNN-Based Video Frame Prediction via Gated Convolution*

Yiming Zhong, Yunpeng Huang, Shunichi Sekiguchi and Wataru Kameyama (Waseda University, Japan)

POS1B.30 Performance Evaluation of Wi-Fi FTM Ranging Using Embedded Device for Indoor Positioning

Yuina Kubo, Takuma Nagai and Takashi Ookawahara (National Institute of Technology, Toyama College, Japan); Yudai Sunagozaka (National Institute Technology, Toyama College, Japan); Koki Nakamura (Mitsubishi Electric Corp., Japan); Hiroshi Oguma (National Institute of Technology, Toyama College, Japan)

Tuesday, October 27

Tuesday, October 27 10:00 - 12:00

OS-AAT(1): Audio & Acoustic Technology ↑

Room: 401

Chairs: Irwansyah (Chiba University, Japan), Kazuma Hoshi (Nihon University, Japan)

10:00 Estimation of Air-Bone Gap Using Ear-Canal Sound Pressure Cancellation

Ken Takaki (The University of Tokyo, Japan); Seiji Nakagawa (Chiba University, Japan); Yoshihiro Kawahara (The University of Tokyo, Japan)

10:20 Force and Hearing Threshold Relationship of Nasal Bone Conduction at 1 kHz

Ken Takaki and Koki Shinjo (The University of Tokyo, Japan); Seiji Nakagawa (Chiba University, Japan); Yoshihiro Kawahara (The University of Tokyo, Japan)

10:40 Binaural Signal Matching for Binaural Reproduction via Spatial Parameter Estimation

Qingwen Liao (Waseda University, Japan); Wei Liu (Wuhan University, China); Xuemai Xie and Shoji Makino (Waseda University, Japan)

11:00 Spatial Audio Editing Method Based on Virtual Sound Source Decomposition

Takumi Ugai and Yoshinori Takahashi (Kogakuin University, Japan)

11:20 Few-Shot Material Vocabulary Expansion via Contrastive Vibro-Acoustic Sensing

Taewook Kim and Jinu Jo (Chungbuk National University, Korea (South)); Taehun Yang (Gyeongbuk National University, Korea (South)); Soochang Park (Chungbuk National University, Korea (South))

11:40 Reproduction of Jungle Crow's Calls Based on Vocal Tract Model and Reed Sound Source

Yuta Kihara and Yoshinori Takahashi (Kogakuin University, Japan)

Tuesday, October 27 10:00 - 12:00

OS-DSC(2): Data Science & Its Application to Consumer Technology ↑

Room: 402

Chairs: Mohd Anuaruddin Bin Ahmadon (Universiti Teknologi Petronas, Malaysia), Yuanyuan Wang (Yamaguchi University, Japan)

10:00 *Tourism Map Generation Using Color Features and GenAI-Based Sentiment Analysis*

Nanato Kohno, Yusong Zhou and Yuanyuan Wang (Yamaguchi University, Japan)

10:20 *Animart: Integrating Wildlife Re-Identification and Behavior Prediction for Citizen-Facing Damage Mitigation*

Yojiro Harie and Yoshimichi Watanabe (University of Yamanashi, Japan); Yuto Ogata (Niigata University, Japan); Bishnu Prasad Gautam (Suwa University of Science)

10:40 *Design and Field Validation of a 3D-Printed 6-DOF ROV for Shallow Water Environment*

Muhammad Zulfauzan Fahmi Che Alias, Herdawatie Abdul Kadir and Sharifah Saon (Universiti Tun Hussein Onn Malaysia, Malaysia); Abd Kadir Mahamad (Universiti Tun Hussein Onn Malaysia, Malaysia & Faculty of Electrical and Electronic Engineering, Malaysia); Nur Nazifa Mod Arsad (Universiti Tun Hussein Onn Malaysia, Malaysia); Mohd Anuaruddin Bin Ahmadon (Universiti Teknologi Petronas, Malaysia); Shingo Yamaguchi (Yamaguchi University, Japan); Iffan Darwis bin Mohd Ibrahim (Universiti Tun Hussein Onn Malaysia, Malaysia)

11:00 *Using Bloom Filter Arrays for Scalable Data Representation in Consumer Electronics*

Zhu Wang (Sany Group, China)

11:20 *Gaze-Based Confusion Estimation Toward Adaptive Mixed Reality Assembly Support*

Yoki Takano (Tokyo University of Agriculture and Technology, Japan); Kenji Terada (The Polytechnic University of Japan, Japan); Kaori Fujinami (Tokyo University of Agriculture and Technology, Japan)

Tuesday, October 27 10:00 - 12:00

OS-AIP(1): Advanced Image Processing

Room: 501

Chairs: Yen-Wei Chen (Ritsumeikan University, Japan), Tomio Goto (Nagoya Institute of Technology, Japan)

10:00 *Shadow Artifact Suppression in Real-Photo-to-Ukiyo-e Face Translation via Albedo-Guided Low-Frequency Correction*

Teruki Matsumoto (Ritsumeikan University, Japan); Masataka Seo (Osaka Institute of Technology, Japan); Yen-Wei Chen (Ritsumeikan University, Japan)

10:20 *Learning Latent Space Adversarial Perturbations for Image Protection Against Diffusion-Based Generative Models*

Daichi Ishii (Ritsumeikan University, Japan); Tomoko Tateyama (University of the Ryukyus, Japan); Jiaqing Liu and Yen-Wei Chen (Ritsumeikan University, Japan)

10:40 *Performance Analysis of Diffusion-Based Character Animation Generation*

Kyouhei Nishimura and Qiu Chen (Kogakuin University, Japan)

11:00 *Progressive Image Inpainting Method Based on Conditional Generative Adversarial Networks*

Chun-Kai Hsu, Yi-Chen Tseng and Chang Hong Lin (National Taiwan University of Science and Technology, Taiwan)

11:20 *Conditional Beta Primitive Shaping for Adaptive-Resolution Neural Splatting*

Yuta Nakamura and Hiroshi Watanabe (Waseda University, Japan)

11:40 *Learned Radius Estimation for UDF-Based Point Cloud Reconstruction*

Eito Ogawa and Hiroshi Watanabe (Waseda University, Japan)

Tuesday, October 27 10:00 - 12:00

OS-ICT(2): IoT & Image Processing Applications to Consumer Technologies

Room: 502

Chair: Thi Thi Zin (University of Miyazaki, Japan)

10:00 *Markov Chain-Based Analysis for Intrapartum Fetal Status Classification*

Myo Pone Pone Swe (Miyazaki University, Japan); Thi Thi Zin and Pyke Tin (University of Miyazaki, Japan); Tunn Cho Lwin (Miyazaki International University, Japan); Tsuyomu Ikenoue (University of Miyazaki, Japan)

10:20 *Wide-Area Sensor Network System Based on Embedded Generative Image Compression and LPWA for Agricultural IoT*

Andrew Carl Lema and Hiroshi Yamamoto (Ritsumeikan University, Japan)

10:40 *Compact Vision-Based Catfish Fry Detection for Philippine Aquaculture Monitoring*

Eugene H. Embalzado, Jr. and Marianne M. Sejera (Mapua University, Philippines)

11:00 *Crowd-Aware Adaptive Object Detection for Multi-Camera Edge AI Systems Using Reinforcement Learning*

Shogo Hayakawa (Kinki University, Japan); Kimihiro Mizutani (Kindai University, Japan)

11:20 *Simplified Domain-Adversarial YOLO11 for Data-Efficient Cabbage Detection Across Heterogeneous Farms*

Andy Desman Lo and Chih-Yang Lin (National Central University, Taiwan)

Tuesday, October 27 10:00 - 12:00

OS-ACE(1): Formal Approach to Consumer Technology

Room: 503

Chairs: Koichi Kobayashi (Hokkaido University, Japan), Shingo Yamaguchi (Yamaguchi University, Japan)

10:00 *Transformer-Based Finite-Time Switching Control for Pedestrian Flows*

Akihiro Morita, Koichi Kobayashi and Yuh Yamashita (Hokkaido University, Japan)

10:20 *FRIT and Data-Driven Prediction for ADRC*

Masashi Kobari (University of Electro-Communications, Japan); Osamu Kaneko (The University of Electro-Communications, Japan)

10:40 *Design of Hard-to-Predict Routes in Surveillance Using Heterogeneous Multiple Agents*

Ruka Sasaki, Koichi Kobayashi and Yuh Yamashita (Hokkaido University, Japan)

11:00 *Multi-Input Multi-Output Data-Driven Ramp Metering for Freeway Traffic Flow*

Tomoya Sasaki (The university of Electro-Communications, Japan); Osamu Kaneko (The University of Electro-Communications, Japan)

11:20 *Effects of Morphology and Interleg Coordination on Path-Following Performance of a Super-Long Multilegged Robot*

Tomoki Nagai (Osaka University, Japan); Kazuki Ito (Ritsumeikan University, Japan); Takahiro Goto (Saga University, Japan); Daisuke Nakanishi (National Institute of Technology, Matsue College, Japan); Keisuke Naniwa (Hokkaido University of Science, Japan); Kenji Sawada (The University of Osaka, Japan); Yasuhiro Sugimoto (Osaka Institute of Technology, Japan)

11:40 *Experimental Validation of Data-Driven Control and Prediction for Single Rotor Equipment System*

Chihaya Shimohigashi (The University of Electro-Communications, Japan); Kenji Sawada (The University of Osaka, Japan); Osamu Kaneko (The University of Electro-Communications, Japan)

Tuesday, October 27 10:00 - 12:00

RGE: Green Energy for CE

Room: 504

10:00 *A Multi-Head Bidirectional Dilated Residual Network for Simultaneous Multi-Appliance Load Monitoring*

Shi-hua Lin and Ching-Chun Chuang (National Kaohsiung University of Science and Technology, Taiwan)

10:20 *Energy Management Approach for Enhancing Wind Turbine Microgrid Performance During Low Wind Speed Conditions*

Christos Mademlis (Aristote University of Thessaloniki, Greece); Nikolaos Jabbour and Maria Mademli (Aristotle University of Thessaloniki, Greece)

10:40 *Energy Consumption of BLE Advertising: An Experimental Study*

Higo Ferreira Albuquerque and Eduardo Barbosa Caldeira (Sidia Institute of Science and Technology, Brazil); Janisley Oliveira De Sousa (Sidia Institute of Science and Technology, Brazil & Federal University of Amazonas, Brazil); David Alan De O. Ferreira (Sidia Institute of Science and Technology, Brazil)

11:00 *Relaxed-Mode MPC Energy Management for a Consumer-Neighborhood Microgrid with PV, Battery, and Hydrogen Storage*

Shing-Chow Chan, Feiyang Li and Yau Chung Cheng (The University of Hong Kong, Hong Kong); Ting Liu (University of Hong Kong, Hong Kong); Ho-Chun Wu (The University of Hong Kong, Hong Kong)

11:20 *Target-Oriented Design of Vertical SiC MOSFET Using Neural Network-Based Surrogate Modeling*

Sota Oyama (Hirosaki University, Japan); Ichirota Takazawa (Jedat Inc., Japan); Izuki Tanaka (Hirosaki university, Japan); Toshiki Kanamoto (Hirosaki University, Japan)

11:40 *A Comparison of the Accuracy of Electricity Demand Forecasting Models for the Introduction of Demand Response in a Fish Processing Plant*

Akari Maeda (Tsukuba University, Japan); Kenichiro Kimura (National Agriculture and Food Research Organization, Japan); Tadashi Ebihara (University of Tsukuba, Japan)

Tuesday, October 27 10:00 - 12:00

OS-SNA(1): Smart Sensing and Networking Technologies & Applications for Enhancing Convenient Living and Health Promotion ↗

Room: 505

Chairs: Wan-Jung Chang (National Kaohsiung University of Science and Technology, Taiwan), Ming-Che Chen (National Yunlin University of Science and Technology, Taiwan)

10:00 *AR-Based Gaze Feature Learning for Nystagmus Abnormality Screening Using MicroMLP*

Ming-Che Chen (National Yunlin University of Science and Technology, Taiwan); Hsiang-Han Chang (Southern Taiwan University of Science and Technology, Taiwan); Wan-Jung Chang (National Kaohsiung University of Science and Technology, Taiwan); Ching-Nung Wu (Kaohsiung Chang Gung Memorial Hospital, Taiwan)

10:20 *Single-LED Visible Light Positioning Using a View-Differentiated Receiver*

Yugo Sakiyama, Shigeki Takeda and Ran Sun (Ibaraki University, Japan)

10:40 *Towards Safer Bathing: A Wearable Assistive System for Monitoring and Preventing Bathing-Related Health Risks in Older Adults*

Joseph Arthur Koo, Argani Ken Toendan, Ethan Taku Shimada and AKM Akaiduzzaman (Kyoto University of Advanced Science, Japan); Zilu Liang (Kyoto University of Advanced Science, Japan & The University of Tokyo, Japan)

11:00 *Multi-Camera Vision-Based Hand Range-of-Motion Assessment During Tendon Gliding Exercises*

Chieh-Hsiang Hsu (National Formosa University, Taiwan); Yu-Chen Lin (Southern Taiwan University of Science and Technology, Taiwan); Hsiu-Yun Hsu, Fong-Chin Su and Li-Chieh Kuo (National Cheng Kung University, Taiwan)

Tuesday, October 27 10:00 - 12:00

RMC(1): Mobile Computing & Communications ↗

Room: 404

Chairs: Hiroyuki Hatano (Mie University, Japan), Ayano Naito (Aichi Institute of Technology, Japan)

10:00 *CYPHONIC v3: A Stateless Cloud Architecture for Scalable P2P Overlay Networking*

Soichiro Kimura, Hiroto Asano, Mitsuki Sugihara and Yoshiya Suzuki (Aichi Institute of Technology, Japan); Hidekazu Suzuki (Meijo University, Japan); Ayano Naito (Aichi Institute of Technology, Japan)

10:20 *Efficient and Stable End-Node Packet Processing for CYPHONIC Using GSO/GRO*

Hiroto Asano, Soichiro Kimura, Mitsuki Sugihara and Yoshiya Suzuki (Aichi Institute of Technology, Japan); Hidekazu Suzuki (Meijo University, Japan); Ayano Naito (Aichi Institute of Technology, Japan)

10:40 *CYPHONIC Specification Extension Supporting Remote mDNS-Enabled Devices*

Ikki Furuhashi and Taichi Mushika (Meijo University, Japan); Ayano Naito (Aichi Institute of Technology, Japan); Katsuyoshi Yoshida (STARCAT Co., Ltd., Japan); Hidekazu Suzuki (Meijo University, Japan)

11:00 *Tail-Risk Analysis of Age of Information with Short Packets: TDMA Versus NOMA*

Bo Jia and Haoyuan Pan (Shenzhen University, China)

Tuesday, October 27 11:30 - 13:00

POS2A: Poster Session 2A

Room: 301

POS2A.1 *GA-Optimized Modified Multiway Pixel-Value Differencing for High-Payload Data Hiding*

Hsiang-Cheh Huang and Shih-Chien Fang (National University of Kaohsiung, Taiwan); Feng-Cheng Chang (Tamkang University, Taiwan)

POS2A.2 *A High-Precision Tongue Segmentation Framework Using Fuzzy-Pooling YOLOv8 and Segment Anything Model*

Chia-Hsu Lin (Chang Gung University, Taiwan); Jiann-Der Lee (Chang Gung University, Taiwan & Chang Gung Memorial Hospital, Taiwan)

POS2A.3 *Lightweight Deep Learning for Anomaly Detection on Edge Devices via Depthwise Separable Convolution and Knowledge Distillation*

Sohei Kon and Hirokazu Shimauchi (Future University Hakodate, Japan)

POS2A.4 *Stable Keypoint-Driven Micro-Expression Video Synthesis with Edge Regularization and Warp Consistency*

Xiangbo Chen, Yoshio Iwai and Kota Aoki (Tottori University, Japan)

POS2A.5 *Improving Few-Shot Face Recognition Using an Age-Aware Feature Correction Network*

Akira Taira (Graduate School of Robotics and Design Engineering, Japan); Masataka Seo (Osaka Institute of Technology, Japan)

POS2A.6 *Image-Based Reversible Data Hiding Schemes for Military Applications*

Hsiang-Cheh Huang and Yu-Chuan Zeng (National University of Kaohsiung, Taiwan); Feng-Cheng Chang (Tamkang University, Taiwan)

POS2A.7 *Robust and Efficient Watermarking with Quick Response Codes for Practical Applications*

Hsiang-Cheh Huang and Jia-En Li (National University of Kaohsiung, Taiwan); Feng-Cheng Chang (Tamkang University, Taiwan)

POS2A.8 *A Few-Shot Japanese Font Generation Method via Cross-Language Adaptation of Diffusion Models*

Rinta Takeyama (KOG, Japan); Qiu Chen (Kogakuin University, Japan)

POS2A.9 *Frequency-Domain Fusion of AutoEncoder and U-Net for High-Accuracy Anomaly Detection*

Teruki Kato, Yinhao Li and Yen-Wei Chen (Ritsumeikan University, Japan)

POS2A.10 *Daily Outfit Recommendation Based on Color Features of 2D Anime Characters*

Menglu Li and Yuanyuan Wang (Yamaguchi University, Japan)

POS2A.11 *Object Detection in Motorsports to Improve Safety and Efficiency*

Jordan Andrae Gilfillian and Tomio Goto (Nagoya Institute of Technology, Japan)

POS2A.12 *Unified Progressive Framework for Low-Light Video Restoration and Super-Resolution*

Kota Mukai and Masataka Seo (Osaka Institute of Technology, Japan)

POS2A.13 *RG-YOLO: Residual-Gated YOLO for Crop Disease Detection*

Chuhan Zhang and Haimin Yan (Ritsumeikan University, Japan); Xiangbo Kong (Toyama Prefectural University, Japan); Hiroyuki Tomiyama (Ritsumeikan University, Japan)

POS2A.14 *Dynamic Pre-Filter Selection Using LightGBM to Optimize Object Detection Accuracy and Video Compression*

Kota Otsuki and Koyo Nitta (University of Aizu, Japan)

POS2A.15 *Panorama Video Based Projective Texture Mapping for 3D Scene Reconstruction and Navigation*

Hsuan-Ting Chou, Yong-Da Tan and Chih-Yuan Yao (National Taiwan University of Science and Technology, Taiwan); Hung-Kuo Chu (National Tsing-Hua University, Taiwan)

POS2A.16 *Annotation-Free Help Mark Recognition via Synthetic Data and Two-Stage Classification*

Zhiheng Li (Aoba-Japan International School, Japan); Dingjie Peng (Waseda University, Japan)

POS2A.17 *Secret Image Sharing with Hidden Key Delivery*

Hsiang-Cheh Huang and Zhong-Hsun Shih (National University of Kaohsiung, Taiwan); Feng-Cheng Chang (Tamkang University, Taiwan)

POS2A.18 Auditable Cattle Identification and Tracking from Weak-Prior UAV Video

Arishajafuri Nozaki and Zheng Wen (Waseda University, Japan); Maki Tsusaki (Kumamoto Agricultural Center, Japan); Kazuyoshi Takagi and Takeshi Ooya (JAPAN ID, Japan); Wataru Kameyama (Waseda University, Japan)

POS2A.19 A Study on Fingerspelling Word Boundary Detection Using Handshape and Motion Confidence

Yoshinori Yamaguchi and Hiroaki Sawano (Aichi Institute of Technology, Japan)

POS2A.20 Evaluation of Demodulation Schemes for Optical Camera Communication Using Event-Based Cameras

Kosuke Nakasono (Kagoshima University, Japan); Masaya Kawaguchi and Norio Aoyama (Toshiba Information Systems (Japan) Corporation, Japan); Takahiro Matsumoto and Yasuaki Ohira (Kagoshima University, Japan); Hideyuki Torii (Kanagawa-It, Japan); Yuta Ida (Yamaguchi University, Japan)

POS2A.21 Performance Evaluation of Monocular Depth Estimation for Indoor Drone Obstacle Avoidance

Taiki Yamagiwa and Xiangbo Kong (Toyama Prefectural University, Japan)

POS2A.22 Guidance Route Generation Using Semantic Weighting to Support Independent Walking of Visually Impaired People

Hozumi Azuma and Satoshi Nishiguchi (Osaka Institute of Technology, Japan); Masahiro Toyoura (University of Yamanashi, Japan)

POS2A.23 Design and Implementation of a 2D FFT-Based OTFS Modulation/Demodulation Chip for High-Mobility LEO Satellite Systems

Chen-Wei Wu and Pin-Ling Lin (National Taiwan University of Science and Technology, Taiwan); Mu-En Ting (Chang Gung University, Taiwan); Yuan-Ho Chen (National Taiwan University of Science and Technology, Taiwan); Wei-Han Hsiao (Chang Gung University & National Chiao Tung University, Taiwan); Yi-Kuang Yen (National Taipei University of Technology, Taiwan)

POS2A.24 Improved Branch and Bound Algorithm for Minimax Design of Sparse IIR Differentiators

Itsuki Koyama and Masayoshi Nakamoto (Hiroshima University, Japan); Naoyuki Aikawa (Tokyo University of Science, Japan)

POS2A.25 Lightweight Two-Stage Intrusion Detection for IoT Edge Gateways Using eBPF

Kento Tsuji and Kimihiro Mizutani (Kindai University, Japan)

POS2A.26 A Real-Time Digital Twin System Using Infrastructure-Fixed LiDAR for Safe Pre-Deployment Testing of Mobile Robots

Jiaze Li, Xinyu Wang, Ryoichi Shinkuma and Gabriele Trovato (Shibaura Institute of Technology, Japan)

POS2A.27 Need-Driven Pigeon Agents for Resource-Grounded Virtual Environments

Yuchen Tian, Ibrahim Khan, Yi Xia, Shouchen Ye and Ruck Thawonmas (Ritsumeikan University, Japan)

POS2A.28 CLIP-Guided Autonomous Cinematography of Minecraft Settlements via Tri-Region Prompt Evaluation

Masatomo Ichigo, Kouki Oishi, Ibrahim Khan and Ruck Thawonmas (Ritsumeikan University, Japan)

POS2A.29 Small Language Model for Fighting Game Commentary

Luke Ankeny, Boyu Chuang, Yiyang Liu, Thai Van Nguyen, Yi Xia, Ibrahim Khan and Ruck Thawonmas (Ritsumeikan University, Japan)

POS2A.30 *Physical Ability Evaluation by Joint Rotation Velocity in Tennis Swing Using Fourier Analysis*

Yunosuke Suganuma (National Institute of Technology, Numazu College, Japan); Fumiko Nakamura (National Institute of Technology, Nara College, Japan); Sumitaka Honji (Nara Institute of Science and Technology, Japan)

Tuesday, October 27 13:00 - 15:00

RUI(1): User Interfaces & Experience in CE

Room: 401

13:00 *Delay Perception is Modulated by Background Images in VR Environment*

Daisuke Shimizu and Shogo Okamoto (Tokyo Metropolitan University, Japan)

13:20 *A Sleep Persona Framework for Personality-Based Adaptive Short-Video Recommendation*

Chih-Chen Hsiao, Wan-Yi Lin and Ko-Chiu Wu (National Taipei University of Technology, Taiwan)

13:40 *Concurrent Validity of Temporal Drivers of Liking Measures*

Simeng Lyu, Hiroharu Natsume and Shogo Okamoto (Tokyo Metropolitan University, Japan)

14:00 *Size of Fingerprint-like Ridges in Tactile Sensors Influences Friction Coefficients*

Muhammad Irwan Yanwari (Politeknik Negeri Semarang, Indonesia); Shogo Okamoto (Tokyo Metropolitan University, Japan)

14:20 *Scene-Adaptive BGM Generation Using Atmosphere Keywords Extracted from Game Visuals*

Ayane Nagao (Kyoto Tachibana Women's University, Japan); Sakura Miyano and Shun Nishide (Kyoto Tachibana University, Japan)

14:40 *Impact of Cognitive Load on the Accuracy of Unobtrusive Continuous Gaze-Based Authentication*

Natsuki Miwa and Kaori Fujinami (Tokyo University of Agriculture and Technology, Japan)

Tuesday, October 27 13:00 - 15:00

OS-DSC(3): Data Science & Its Application to Consumer Technology

Room: 402

Chairs: Mohd Anuaruddin Bin Ahmadon (Universiti Teknologi Petronas, Malaysia), Yuanyuan Wang (Yamaguchi University, Japan)

13:00 *Compositional Prediction-Retrieval Missing-View Completion for Incomplete Multi-View Clustering*

Qibo Gao and Yoshihiro Hagihara (Iwate University, Japan); Chunzhi Gu (University of Fukui, Japan); Chao Zhang (University of Toyama, Japan); Katsuya Hotta (Iwate University, Japan)

13:20 *An Improved Biological Signal Processing and Data Cleaning Approach for EEG Database Analysis*

Norifumi Kawabata (Kanazawa University, Japan)

13:40 *Impact of Cost Function Locality on the Performance of Adam and CMA-ES in Variational Quantum Circuits*

Reon Yoshida, Keiko Ono and Takuya Futagami (Doshisha University, Japan)

14:00 *Digital Twin Guided Feature Selection for Lightweight Smart Grid Price Forecasting*

Mohd Hafizuddin Bin Kamilin (National Institute of Technology, Ube College, Japan); Shingo Yamaguchi (Yamaguchi University, Japan); Mohd Anuaruddin Bin Ahmadon (Universiti Teknologi Petronas, Malaysia)

14:20 *EC Value Prediction for Crop Fertilization Using a Hybrid XGBoost-Neural Network Model with IoT Soil Sensor Integration*

Muhammed Akram Irfan Mohd Rizalhanafi (Universiti Tun Hussein Onn Malaysia (UTHM), Malaysia); Nurul Naeema Abdul Majid and Maisara Othman (Universiti Tun Hussein Onn Malaysia, Malaysia); Abd Kadir Mahamad (Universiti Tun Hussein Onn Malaysia, Malaysia & Faculty of Electrical and Electronic Engineering, Malaysia); Mohd Anuaruddin Bin Ahmadon (Universiti Teknologi Petronas, Malaysia); Herdawatie Abdul Kadir and Sharifah Saon (Universiti Tun Hussein Onn Malaysia, Malaysia); Shingo Yamaguchi (Yamaguchi University, Japan)

Tuesday, October 27 13:00 - 15:00

OS-AIP(2): Advanced Image Processing

Room: 501

Chairs: Yen-Wei Chen (Ritsumeikan University, Japan), Tomio Goto (Nagoya Institute of Technology, Japan)

13:00 *Local Feature Calibration and Adaptive Fusion for Small-Object RGB-Infrared Object Detection*

Gaosiheng Chen, Bingyu Lu, Haoyuan Liu and Hiroshi Watanabe (Waseda University, Japan)

13:20 *Bridging Gaussian Representation and Real-Time Detection via Cholesky Parameterization*

Wotong Li, Haoyuan Liu and Hiroshi Watanabe (Waseda University, Japan)

13:40 *MIS: Diagnosing Bottlenecks in Copy-Paste Augmentation for Agricultural Object Detection*

Huy Khanh Tran, Yuichiro Nomura and Hiroshi Mineno (Shizuoka University, Japan)

14:00 *Adaptive Local-Global Fusion for Logical and Structural Anomaly Detection*

Taishi Takamatsu, Yinhao Li and Yen-Wei Chen (Ritsumeikan University, Japan)

14:20 *Improving Non-Pedestrian Human Detection in UAV Images via Synthetic Composition*

Akari Inaba, Koji Shimizu, Junya Yamauchi, Yijin Wei, Koichiro Kamide and Chao Zhang (University of Toyama, Japan)

14:40 *Reference-Guided Foreground Hue Augmentation for Defect Classification with Diverse Object Colors*

Smita Priyadarshani (YKK Corporation, Japan); Masayuki Tanaka and Su Ruotong (Institute of Science Tokyo, Japan); Imam Wijaya (YKK Corporation, Innovation Center, Digitalization Group, Japan); Catherine Kuramitsu (YKK Corporation, Japan)

Tuesday, October 27 13:00 - 15:00**OS-IDB: Integration of Data Science & Biomechanics for the Development of Wearable Support Systems to Maintain & Improve QOL **

Room: 502

Chairs: Mitsuhiro Hayase (Sugiyama Jogakuen University, Japan), Fumiko Nakamura (National Institute of Technology, Nara College, Japan)

13:00 *A Study on the Effect of Pump Heel Height on Body Balance Function During Walking*

Fumiko Nakamura (National Institute of Technology, Nara College, Japan); Mana Uchida (National Institute of Technology, Numazu College, Japan)

13:20 *Motion and Structure Aware Fusion for Occlusion-Robust 3D Human Pose Estimation*

Yusuke Asaka (Keio University, Japan); Kazuyuki Kojima (Shonan Institute of Technology, Japan); Tsukasa Fukunaga (Keio University, Japan)

13:40 *Performance Evaluation of IMU-Based Prediction of Margin of Stability Time Series Across Multiple Gait Conditions Using a Bi-LSTM Network*

Naoto Funai and Takashi Watanabe (Tohoku University, Japan)

14:00 *Jump-Rope Technique Classification and Counting: A Technique-Independent Jump Segmentation Approach*

Satoshi Ido, Shigemi Ishida and Hiroshi Inamura (Future University Hakodate, Japan)

14:20 *Extraction of Ground Reaction Force Characteristics in Healthy Young for the Research Elderly QOL*

Fumiko Nakamura (National Institute of Technology, Nara College, Japan); Wakayo Fujimoto (Tokushima Bunri University, Japan)

Tuesday, October 27 13:00 - 15:00**OS-ACE(2): Formal Approach to Consumer Technology **

Room: 503

Chairs: Koichi Kobayashi (Hokkaido University, Japan), Shingo Yamaguchi (Yamaguchi University, Japan)

13:00 *A Method for Deriving Time-Constraint Adaptation Strategies in IoT Systems Combining Timed Automata and Generative AI*

Yudai Yamamoto and Shingo Yamaguchi (Yamaguchi University, Japan)

13:20 *Deep Learning-Based Estimation of Interpersonal Relationships Using Monocular Camera Images*

Genichi Maruo and Atsuo Ozaki (Osaka Institute of Technology, Japan)

13:40 *Localized Precipitation Forecasting with Cloud and Temporal Multimodal Learning Considering Seasonal Conditions*

Kanato Nishiyama and Atsuo Ozaki (Osaka Institute of Technology, Japan)

14:00 *A Lightweight Passive Intrusion Detection System for ICS Using Communication Topology and Packet Volume*

Masatoshi Enomoto (Yokohama College of Commerce, Japan & The University of Electro-Communications, Japan); Shu Hosokawa (The University of Electro-Communications, Japan); Kenji Sawada (The University of Osaka, Japan)

14:20 *Knowledge-Base-Constrained Test Generation for IoT Non-Functional Requirements Using LLMs*

Yongqi Deng, Shingo Yamaguchi and Yudai Yamamoto (Yamaguchi University, Japan)

14:40 *As Single Grid Optimization, Mitigating Overload in Bulk Power Network by Selecting Load-Serving Network Topology*

Ichiro Toyoshima, Masakazu Higashino, Takashi Tatekoji, Ryohei Kozuki, Tatsuya Tanaka and Hisashi Kobayashi (Toshiba Corporation, Japan)

Tuesday, October 27 13:00 - 15:00

REM: Embedded Technologies for CE

Room: 504

Chair: Airi Nakamura (Panasonic Automotive Systems Co., Ltd., Japan)

13:00 *Edge-Aware Dense Retrieval for Consumer AI Systems: Evaluating ANN Search Tradeoffs*

Balamurugan Palanisamy (Birla Institute of Technology & Science, India); Sai Sesha Chalapathi G (Birla Institute of Technology and Science, India); Vikas Hassija (Kalinga Institute of Industrial Technology, India)

13:20 *A Calibration-Based Vision Framework for Analog Gauge Reading on Embedded Devices*

Dao-Jiun Wang, Chi-Huang Hung and Yong-Yi Fanjiang (Fu Jen Catholic University, Taiwan); Hui-Yang Chen, Ting-Chuan Lin and Hao-Wei Chen (Ampletech Technology Corporation, Taiwan)

13:40 *An Implementation of μ T-Kernel 3.0 over Arduino Platform for Education*

Takeshi Yashiro (Toyo University & YRP Ubiquitous Networking Laboratory, Japan)

14:00 *From Initial Product Configuration to Long-Term Value: An Empirical Analysis of Developer-Centric Hardware Platforms*

Masakazu Takasu and Junichi Akita (Kanazawa University, Japan); Shunichi Ohmori, Kanetaka Maki and Tomomi Kito (Waseda University, Japan)

14:20 *Impact of Compiler Evolution on Energy and Performance of Node.js Applications*

José Miguel Aragón-Jurado (Waseda University, Japan); Masao Arakawa (WASEDA University, Japan)

14:40 *Visualizing GS1 Compliance in RFID Deployments Through RF Tag Structure Analysis*

Riko Sugiura and Ayano Naito (Aichi Institute of Technology, Japan)

Tuesday, October 27 13:00 - 15:00

OS-SNA(2): Smart Sensing and Networking Technologies & Applications for Enhancing Convenient Living and Health Promotion ↑

Room: 505

Chairs: Wan-Jung Chang (National Kaohsiung University of Science and Technology, Taiwan), Ming-Che Chen (National Yunlin University of Science and Technology, Taiwan)

13:00 *KAKI: A Modular Smart Insole Platform for Lower-Body Sensing and Health Monitoring*

Ichiro Nathanael Wiratma, Alban Mulky Adiguna Turnip and Kayla Narina Tjandra (Kyoto University of Advanced Science, Japan); Jonathan Richard (Kyoto University of Advanced Science); Ian Piumarta (Kyoto University of Advanced Science, Japan); Zilu Liang (Kyoto University of Advanced Science, Japan & The University of Tokyo, Japan)

13:20 *Non-Image-Based Abnormal Sitting Posture Detection Using ToF Distance Sensing and Cloud-Based Analysis*

Yi-Shiun Lee, Miyuki Yonei, Cheng-Kuan Hsieh and Kai-Ting Tseng (Fu Jen Catholic University, Taiwan)

13:40 *Universal Packet Loss-Satisfying and Resource-Pruned Redundancy Management for Diverse Digital Transformation Applications*

Pin-Han Guo and Yu-Wen Huang (National Changhua University of Education, Taiwan)

Tuesday, October 27 13:00 - 15:00

RMC(2): Mobile Computing & Communications ↑

Room: 404

Chairs: Hiroyuki Hatano (Mie University, Japan), Ayano Naito (Aichi Institute of Technology, Japan)

13:00 *A Study on Spatial Position Modulation Suitable for Optical Camera Communication Systems Using Event-Based Cameras*

Koshiro Nagano (Kagoshima University, Japan); Norio Aoyama (Toshiba Information Systems (Japan) Corporation, Japan); Takahiro Matsumoto and Yasuaki Ohira (Kagoshima University, Japan); Hideyuki Torii (Kanagawa-Iit, Japan); Yuta Ida (Yamaguchi University, Japan)

13:20 *Energy Consumption of Assisted-GPS: A Case Study on a Mobile Device*

João Bezerra da Rocha Neto, Roger Carolino Brito Monteiro and Renan Figueredo da Silva (Sidia Institute of Science and Technology, Brazil); Janisley Oliveira De Sousa (Sidia Institute of Science and Technology, Brazil & Federal University of Amazonas, Brazil); David Alan De O. Ferreira (Sidia Institute of Science and Technology, Brazil)

13:40 *GNSS Performance in Dual-Frequency L1+L5: A Case Study on Mobile Devices*

Roger Carolino Brito Monteiro, João Bezerra da Rocha Neto and Renan Figueredo da Silva (Sidia Institute of Science and Technology, Brazil); Janisley Oliveira De Sousa (Sidia Institute of Science and Technology, Brazil & Federal University of Amazonas, Brazil); David Alan De O. Ferreira (Sidia Institute of Science and Technology, Brazil)

14:00 *Feasibility-Aware URLLC/eMBB Coexistence Scheduling in Multi-UAV Uplink NOMA Networks*

Min-Kuan Chang and Yun-Yao Zheng (National Chung Hsing University, Taiwan); Jiun-Yu Tu (National Formosa University, Taiwan)

Tuesday, October 27 14:30 - 16:00**DEM(1): Demo Session 1 ↗**

Room: 301

Evaluation of Real-Time IMD Cancellation for Single-Source DPOAE Measurement in Humans

Irwanasyah, Sho Otsuka and Seiji Nakagawa (Chiba University, Japan)

A System for Creating Illustrated Diaries Using Conversational AI and Art Style Learning

Yukari Sato, Sachiko Nagao and Yasuo Kawai (Bunkyo University, Japan)

Exploring Low-Cost Odor Sensing for Unobtrusive Home Health Monitoring Using BME690 Dynamic Heating

Yue Li (Nihon Kogakuin College of Hachioji, Japan); Ryu Kawachi and Akihito Kobayashi (Nihon Kougakuin Hachioji College, Japan)

Spatial Visualisation of Urban Damage from the Great Hanshin-Awaji Earthquake

Yasuo Kawai (Bunkyo University, Japan)

RECT: A Reproducible ECHONET Lite Containerized Testbed Framework

Pannathorn Suetrong, Athiruj Kaewseesuk and Manus Techaphattrapron (Kasetsart University, Thailand); Kalika Suksomboon (National Electronics and Computer Technology Center, Thailand & Asian Institute of Technology (AIT), Thailand); Sukumal Kitisin (Kasetsart University, Thailand); Masaki Umejima (Keio University Global Research Institute, Japan)

Signal Quality-Aware ROI Integration for Real-Time rPPG-Based Physiological Monitoring

Tadaaki Ikehara and Kazuyuki Kojima (Shonan Institute of Technology, Japan)

Development of a Pedaling Measurement System for Bicycles

Rina Wakao, Kazuya Kato and Mizuki Uematsu (Shonan Institute of Technology, Japan); Konatsu Sakai (Shonan Institute of Technology, Japan); Takako Nonaka (Shonan Institute of Technology, Japan); Hideyuki Natori (NATORI Manufacturing Inc., Japan)

Development of Barista-Style Coffee Maker Based on Pouring Profile Replication

Yuuki Nakamura and Kazuyuki Kojima (Shonan Institute of Technology, Japan)

A Method for Enhancing Realism in a Sketch Aquarium Using Mixed Reality

Remma Yamashita, Kaito Okawa, Akito Tomita and Yuta Muraki (Osaka Institute of Technology, Japan)

Stone Carving System Using Mixed Reality

Ryutaro Kondo, Akito Tomita and Yuta Muraki (Osaka Institute of Technology, Japan)

Embracing Yourself: Guiding Heartbeat Awareness Through Sound, Touch, and Hug Pressure

Akari Shimabukuro (Tsukuba University, Japan); Kosuke Shimizu, Yuka Maeda, Naoto Wakatsuki and Keiichi Zempo (University of Tsukuba, Japan)

Tuesday, October 27 16:00 - 17:00

OS-VID: In-Vehicle Interaction Design for Diverse User Needs

Room: 401

16:00 Effects of Warning Reliability, Secondary Task, and Visibility on Driver Response and Pedestrian Safety

Husam Muslim, Chokiu Leung, Sou Kitajima, Genya Abe, Akito Adachi and Nobuyuki Uchida (Japan Automobile Research Institute, Japan)

16:20 Effects of Foveal and Peripheral Alert Placement on Drivers' Reaction Time and Workload Across Different Auditory Perception Groups

Chloe Wong, Zixin Cui, Yuichi Saito and Makoto Itoh (University of Tsukuba, Japan)

16:40 3D Face-Mesh Analysis of Compensatory Head Motions for Simulated Visual Field Loss Drivers

KaiXu Chen, Zixin Cui, Xintong Li, Itaru Kitahara and Makoto Itoh (University of Tsukuba, Japan)

Tuesday, October 27 16:00 - 17:00

RAV: AV Processing & Streaming

Room: 402

16:00 *Motion-Adaptive Video Reconstruction for Quanta Image Sensors*

Hiroto Ikeda and Kosuke Kurihara (Tokyo University of Science, Japan); Yoshihiro Maeda (Shibaura Institute of Technology, Japan); Takayuki Hamamoto (Tokyo University of Science, Japan)

16:20 *Opponent-Aware Table Tennis Stroke Classification with Two-Stream 3D Pose Features*

Shuto Mori (Ritsumeikan University, Japan); Xiangbo Kong (Toyama Prefectural University, Japan); Tomoyasu Shimada and Hiroyuki Tomiyama (Ritsumeikan University, Japan)

16:40 *A Packet Header Parser for HTJ2K Streaming Hardware Decoder with Sub-Codestream Latency*

Taketo Kikuchi and Osamu Watanabe (Takushoku University, Japan)

Tuesday, October 27 16:00 - 17:00

OS-AIP(3): Advanced Image Processing

Room: 501

Chairs: Yen-Wei Chen (Ritsumeikan University, Japan), Tomio Goto (Nagoya Institute of Technology, Japan)

16:00 *Enhancing Performance of Super-Resolution Techniques Through Improvement of Fractal Images for Pre-Training*

Kei Ishihara and Tomio Goto (Nagoya Institute of Technology, Japan)

16:20 *8K 360-Degree VVC Video Encoding System with Real-Time Format Conversion*

Yasuko Sugito (NHK, Japan); Daichi Arai, Yuichi Kondo and Kyohei Unno (Japan Broadcasting Corporation (NHK), Japan); Yuichi Kusakabe (NHK, Japan)

16:40 *Super-Resolution for Printed Materials Using a Modified Feature Modulation Network with Spatial Attention and Cross-Correlation Modules*

Shin Nomiya and Yinhao Li (Ritsumeikan University, Japan); Kento Kozono, Miwa Gotou and Takato Agatsuma (TOKYO KEIKI INC, Japan); Yen-Wei Chen (Ritsumeikan University, Japan)

Tuesday, October 27 16:00 - 18:00

OS-ICT(3): IoT & Image Processing Applications to Consumer Technologies

Room: 502

Chair: Thi Thi Zin (University of Miyazaki, Japan)

16:00 *Text-Based Image Detection Using Optical Character Recognition in Embedded Android*

André de Oliveira Sacramento (Sidia Institute of Science and Technology, Brazil); Joao Victor Lima De Souza (SIDIA Institute of Science and Technology, Brazil & Federal University of Amazonas, Brazil); Wesley B. Conde (Sidia Institute of Science and Technology, Brazil); Gustavo M Torres (SIDIA Institute of Science and Technology, Brazil & Federal University of Amazonas, Brazil); David Alan De O. Ferreira (Sidia Institute of Science and Technology, Brazil); Janisley Oliveira De Sousa (Sidia Institute of Science and Technology, Brazil & Federal University of Amazonas, Brazil)

16:20 *Real-Time Occlusion Resolution Framework for Hand Tracking Using Video Inpainting*

Ryosuke Tanaka, Kota Takeuchi and Domu Kawakami (Kyoto Institute of Technology, Japan); Natsuki Oka (Miyazaki Sangyo-keiei University, Japan); Osamu Mizuno (Kyoto Institute of Technology, Japan); Kazuaki Tanaka (Konan University, Japan)

16:40 *Halation Mitigation in QR Code Images Using Frame Averaging and Deep Learning*

Ryota Aoyama and Masaya Ohta (Osaka Metropolitan University, Japan)

17:00 *IoT-Enabled Edge Event Screening for Indoor Air Quality and Split-Type Air-Conditioning Diagnostics in a Smart Classroom*

Luigi Carlo M De Jesus (Asia Pacific College, Philippines & De La Salle University - Manila, Philippines); Aaron Don M. Africa (De La Salle University Manila, Philippines); Stanley Glenn E Brucal (Asia Pacific College & De La Salle University, Philippines)

17:20 *Parameter-Free Physics-Aware Spatial Attention for Outdoor BLE-Based Livestock Positioning*

Yu Sun, Zhiyi Zhu, Patrick Finnerty and Chikara Ohta (Kobe University, Japan)

17:40 *Tourist Behavior Analytics via License Plate Recognition: Field Deployment and Dashboard-Based Monitoring at Shirakawa-Go*

Mingxiu Bian (Nagoya University, Japan); Yunhao Tu (Chubu University, Japan); Mayu Urata and Mamoru Endo (Nagoya University, Japan)

Tuesday, October 27 16:00 - 18:00

RHM(1): Home Medical & Healthcare

Room: 503

16:00 *Depth-Camera-Based Continuous Respiration Estimation with Probabilistic Inference of Sleep States*

Sae Harada and Daisuke Kushida (Tottori University, Japan)

16:20 *Fine-Grained Posture Classification Using CNNs with Integrated Silhouette and Pose Information*

Naoki Sugiyama (Ritsumeikan University, Japan); Yoshihiro Kai (Kyoto Tachibana University, Japan); Hitoshi Koda (Kyoto Institute of Technology, Japan); Toru Morihara (Marutamachi Rehabilitation Clinic, Japan); Noriyuki Kida (Kyoto Institute of Technology, Japan); Masato Nakayama (Ritsumeikan University, Japan)

16:40 *An Electrode Switching Device for Multi-Motion FES Using a Single-Channel Stimulator*

Kensuke Takenaka and Keisuke Shima (Yokohama National University, Japan); Koji Shimatani (Prefectural University of Hiroshima, Japan)

17:00 *Effects of Periocular Thermal Stimulation on Physiological and Psychological Responses During a Visual Display Terminal Task*

Koki Matsumoto and Natsuki Kunihiro (Kogakuin University, Japan); Junko Ichino (Waseda University, Japan); Jue Zhang (Kogakuin University, Japan); Hirotohi Asano (Shibaura Institute of Technology, Japan)

17:20 *Privacy-Preserving Personal Identification Based on Toilet Paper Unrolling Motion Using Reed Switches and Magnets*

Toshihiko Sasama, Ryoan Yamamoto and Kenichi Takahashi (Tottori University, Japan)

17:40 *Effects of Psychological Stress Induced by Mental Arithmetic and Memory Tasks on Static and Dynamic Physical Movements*

Yuito Yoshida and Koji Kashihara (Ritsumeikan University, Japan)

Tuesday, October 27 16:00 - 17:00**OS-TRI: Trusted & Resilient Residential Prosumer Infrastructure and Consumer Services **

Room: 504

Chairs: Michael Eckel (Fraunhofer SIT, Germany & ATHENE Center, Germany), Georgios Gkoktsis (Fraunhofer SIT & National Research Center for Applied Cybersecurity ATHENE, Germany)

16:00 *Towards Security-by-Design for ECHONET Lite: A Migration Path for Residential Prosumer Infrastructure*

Georgios Gkoktsis (Fraunhofer SIT & National Research Center for Applied Cybersecurity ATHENE, Germany); Michael Eckel (Fraunhofer SIT, Germany & ATHENE Center, Germany)

16:20 *TEE-Backed Trust Anchors for Smart Home Devices: Reducing Lateral Movement in Residential IoT Networks*

Michael Eckel, Janik Gorbracht and Georgios Gkoktsis (Fraunhofer SIT | ATHENE Center)

Tuesday, October 27 16:00 - 18:30**V-2: Virtual Session **

Room: Online (Zoom)

16:00 *Residual Resource-Block Reuse for Capacity Enhancement in Dense C-V2X Networks*

Krishna Pal Thakur (Indian Institute of Technology, Indore, India); Prabhat Kumar Upadhyay (Indian Institute of Technology Indore, India)

16:20 *An Egocentric Camera-Based Position Estimation Method for Indirect Workers in Manufacturing Sites*

Jundai Fujiwara, Mitsuyoshi Horikawa and Azuma Okamoto (Iwate Prefectural University, Japan)

16:40 *Mindfulness Pad: Designing Pressure Sensing and Haptic Cues for Classroom Problematic Smartphone Use Intervention*

Chih-Hsien Kuang (National Yunlin University of Science and Technology, Taiwan); Kao-Hua Liu (National Yunlin University of Science and Technology, Taiwan)

17:00 *Security Assumptions in ECHONET Lite: A STRIDE-Based Preliminary Analysis for Smart Homes and Residential Energy Systems*

Izel Gediz (Fraunhofer SIT & ATHENE, Germany); Georgios Gkoktsis (Fraunhofer SIT & National Research Center for Applied Cybersecurity ATHENE, Germany); Michael Eckel (Fraunhofer SIT, Germany & ATHENE Center, Germany)

17:20 *Training-Dynamics Selective Conformal Prediction for Diabetic Readmission Risk: Deferring Uncertain Cases to Clinicians*

Manish Kumar, Prabhat Kumar, R Abhishek and Lavi Tanwar (Delhi Technological University, India)

17:40 *StretchStrap: A Wearable Device Simulating Load Feedback Through Shoulder Skin Stretch*

Tung Sheng Wang and Kao-Hua Liu (National Yunlin University of Science and Technology, Taiwan)

Wednesday, October 28

Wednesday, October 28 10:00 - 12:00

OS-HAD(1): Advances & Applications of Human Assistive Devices

Room: 401

Chairs: Tadaaki Ikehara (Shonan Institute of Technology, Japan), Kazuyuki Kojima (Shonan Institute of Technology, Japan)

10:00 *Human Activity Recognition Using IMU Data from Smart Glasses*

Hayato Kumasaki, Yanlei Gu, Bisser Raytchev and Toru Higaki (Hiroshima University, Japan)

10:20 *MenuTalker: Conversational Menu Understanding and Ordering Assistance for Blind Diners*

Chun-Nan Chi (Fu-Jen Catholic University, Taiwan); Jia-Lien Hsu and Chi-Huang Hung (Fu Jen Catholic University, Taiwan)

10:40 *A Motion Instruction Method for Training Multi-DOF Control of an EMG-Controlled Supernumerary Robotic Finger*

Reo Umemura and Taro Shibanoki (Okayama University, Japan)

11:00 *A Training Data Generation Method for an EMG-Controlled Supernumerary Robotic Finger Interface*

Riichiro Morisaki and Taro Shibanoki (Okayama University, Japan)

11:20 *An OT-Designer Co-Design Workflow for 3D-Scanned and 3D-Printed Task-Specific Assistive Devices in Job Accommodation*

Tzu-En Lin (National Cheng Kung University, Tainwan, Taiwan); Wei-Ting Hsiao, Jer-Hao Chang and Chien-Hsu Chen (National Cheng Kung University, Taiwan)

Wednesday, October 28 10:00 - 12:00

OS-MSE(1): Maritime System Engineering

Room: 402

Chairs: Koji Murai (Tokyo University of Marine Science and Technology, Japan), Tadashi Ebihara (University of Tsukuba, Japan)

10:00 *A Study on Risk-Based Countermeasures for Pleasure Boat Accidents*

Nobuo Mitomo and Riku Shimizu (Nihon University, Japan)

10:20 *Development of a Risk Assessment Framework for Wind Power Systems*

Riku Shimizu and Nobuo Mitomo (Nihon University, Japan)

10:40 *A Human-Centered Cognitive Disturbance Framework for Ship-Handling Simulator Scenarios*

Kenji Yoshimura, Kenjiro Hikida and Makiko Minami (National Maritime Research Institute, Japan)

11:00 *Predictive Cognition Underlying Expert-Novice Discrepancies in Maritime Risk Perception*

Masashi Sugimoto (Shibaura Institute of Technology, Japan); Noriko Nagata (Kwansei Gakuin University, Japan); Chihiro Nishizaki, Hitoi Tamaru and Koji Murai (Tokyo University of Marine Science and Technology, Japan)

11:20 *Toward Evaluation of Remote Operator's Skill for Maritime Autonomous Surface Ship: Comparison of Onboard and Shore-Based Navigational Watch*

Koji Murai, Hitoi Tamaru, Jun Kayano and Hideyuki Kashima (Tokyo University of Marine Science and Technology, Japan)

11:40 *Prediction-Based Decision Support for Collision Avoidance Training Using Obstacle Zone Visualization*

Kohei Maehata (Oshima National College of Maritime Technology, Japan); Daisuke Suzuki (Japan Agency of Maritime Education and Training for Seafarers (JMETS), Japan); Kenichi Shimizu (Nagasaki University, Japan); Yuki Kato (Japan Agency of Maritime Education and Training for Seafarers (JMETS), Japan); Kyoko Takashima (Tokai University, Japan); Hitoi Tamaru, Koji Murai and Jun Kayano (Tokyo University of Marine Science and Technology, Japan)

Wednesday, October 28 10:00 - 12:00

OS-NLP: Machine Learning in Natural Language Processing & in Signal Processing

Room: 501

10:00 *Sound Event Detection of Esophageal Speech Using Self-Supervised Speech Representations*

Kohei Yano, Toshiki Sunaba and Haruki Kawanaka (Aichi Prefectural University, Japan); Naomi Watanabe and Yayoi Kamakura (Japanese Red Cross Toyota College of Nursing, Japan); Koji Oguri (Aichi Prefectural University, Japan)

10:20 *User-in-the-Loop Cross-Model Evaluation of LLM-Generated Health Feedback*

Pankhuri Raj (Kyoto University of Advanced Science, Japan); Zilu Liang (Kyoto University of Advanced Science, Japan & The University of Tokyo, Japan)

10:40 *Detection of Fake Political Video Using Multifaceted Features*

Yuta Furukawa and Yuichi Komano (Chiba Institute of Technology, Japan)

11:00 *HTP Chunking for Korean Consumer Electronics Manual RAG*

Hyeonggyu Sim (University of Kangnam, Korea (South)) & 강남대학교, Korea (South)); Woong Choi (Kangnam University, Korea (South))

11:20 *Bridging the Gap: Enhancing Local LLMs for in-Car Spoken Dialogue via Few-Shot Prompting*

Akimasa Watanabe, Akinori Ito and Takashi Nose (Tohoku University, Japan)

11:40 *Personalized SMS Interventions for Type 2 Diabetes Self-Management: System Architecture, Cohort Framework, and Machine Learning Approach*

Md Shoaib Bhuiyan (Suzuka University of Medical Science, Japan)

Wednesday, October 28 10:00 - 12:00

OS-TMR(1): Technologies for Multimedia & Real Data Analysis and Processing

Room: 502

Chairs: Takahiro Ogawa (Hokkaido University, Japan), Soh Yoshida (Kansai University, Japan)

10:00 *Group Recommendation Based on Disentangled Category-Preference Learning and Consensus--Rescue Aggregation*

Kaisho Hamaguchi and Soh Yoshida (Kansai University, Japan)

10:20 *Sequential Recommendation Method for Educational Articles Considering User Interest Levels*

Sora Yamai and Ryosuke Harakawa (Nagaoka University of Technology, Japan); Masaki Iisaka (SPRIX, Ltd, Japan); Masahiro Iwahashi (Nagaoka University of Technology, Japan)

10:40 *Meta-LoRA Adaptation for Few-Shot Cross-Domain LLM Recommendation Under Non-Overlapping IDs*

Kakeru Sugimoto and Soh Yoshida (Kansai University, Japan)

11:00 *Efficient Popularity Bias Mitigation in Recommender Systems Based on SISA-Style Partitioned Training*

Souma Matsuura and Soh Yoshida (Kansai University, Japan)

11:20 *Explainable Multimodal Embeddings Using Vision Language Model and Topic Model*

Huu Hoan Le, Ryosuke Harakawa and Masahiro Iwahashi (Nagaoka University of Technology, Japan)

11:40 *Explainable Classification of Column Agglutination Images for Red Blood Cell Antibody Screening*

Takuya Nakakura, Ryosuke Harakawa, Masahito Katsuki and Masahiro Iwahashi (Nagaoka University of Technology, Japan); Kazuto Omae, Kenki Saito, Hidekazu Azumi, Kazuya Sakai and Masanori Matsumoto (Nara Medical University, Japan)

Wednesday, October 28 10:00 - 12:00

OS-PSA(1): Privacy-Preserving & Secure AI for Consumer IoT Systems

Room: 503

Chairs: Pooja Chaudhary (Vellore Institute of Technology Vellore, India), Somya Ranjan Sahoo (VIT AP, India)

10:00 *Bayesian Sparse Attention for Flooding Attack Detection in IoT Networks*

Akshat Gaurav (Asia University, Taiwan); Shingo Yamaguchi (Yamaguchi University, Japan); Nadia Nedjah (State University of Rio de Janeiro, Brazil); Kwok Tai Chui (Hong Kong Metropolitan University, Hong Kong); Brij B. Gupta (Asia University, India)

10:20 *Blockchain-Based Trustworthy Multimodal Federated Learning*

Haochen Liang (The University of Tokyo, Japan); Hideya Ochiai (University of Tokyo, Japan)

10:40 *Data Recovery via Memory Forensics Using System Call Monitoring*

Ryo Higuchi, Hiroshi Inamura and Shigemi Ishida (Future University Hakodate, Japan)

Wednesday, October 28 10:00 - 12:00

OS-DRR: Practical Issues, Systems & Applications for Disaster Risk Reduction

Room: 504

Chairs: Kazuya Sugiyasu (Iwate Prefectural University, Japan), Nobuhide Yokota (Shizuoka University, Japan)

10:00 *Generative AI-Powered Early Warning System for Typhoon Disaster Response in the Philippines*

Ma. Editha A Grande (Ateneo de Manila University & Technological University of the Philippines - Manila, Philippines); Elaine Hazel A Grande (Centro Escolar University, Philippines); Luigi Carlo M De Jesus (Asia Pacific College, Philippines & De La Salle University - Manila, Philippines)

10:20 *Lightweight Semantic Water-Level Inference on STM32 for Edge Flood Monitoring*

Tzu-Hsiang Weng (Tamkang University, Taiwan); Sheng-Zhi Huang (TamKang University, Taiwan)

10:40 *A Route Planning Approach for Post Disaster Patrol Operations Subject to Impassable Road Conditions*

Kazuya Abe, Takahiro Uchiya and Yuichiro Tateiwa (Nagoya Institute of Technology, Japan)

11:00 *Verification of the Effectiveness of Staircase Guidance Methods for Crowd Evacuation with Variations in Walking Speed*

Taisei Tomatsu, Takahiro Uchiya and Yuichiro Tateiwa (Nagoya Institute of Technology, Japan)

11:20 *Development of a Region-Adaptive VR Training System for Emergency Culling with Firearms*

Soichi Tamagawa and Toru Kano (Ibaraki University, Japan)

11:40 *Image Sensor-Based Spot Extraction for FMCW LiDAR*

Nobuhide Yokota (Shizuoka University, Japan); Kazuya Sugiyasu (Iwate Prefectural University, Japan); Hideyuki Takahashi (Tohoku Gakuin University, Japan)

Wednesday, October 28 10:00 - 12:00

OS-ACS(2): AI for Communication & Signal Processing Applications

Room: 505

Chairs: Ueno Shuta (Otemon Gakuin University, Japan), Hsuan-Fu Wang (National Formosa University, Taiwan)

10:00 *Phased Array Antenna Pattern Synthesis Using Deep Learning with Uniformly Distributed Training Data*

Ming-Lin Chuang (National Penghu University of Science and Technology, Taiwan)

10:20 *Music-Theory-Based Data Augmentation for Piano Hand Motion Generation*

Yumeng Yang (University of Fukui, Japan); Katsuya Hotta (Iwate University, Japan); Chao Zhang (University of Toyama, Japan); Tatsuhito Hasegawa and Chunzhi Gu (University of Fukui, Japan)

10:40 *A Study on Dynamic Control of the Temperature Parameter in the Softmax Function for Image Classification*

Yoshiki Sugimoto, Chunzhi Gu and Tatsuhito Hasegawa (University of Fukui, Japan)

11:00 *Peripheral Intelligence Architecture (PIA): Embedded Isolation Forest for Real-Time Integrity Monitoring of Asynchronous, Heterogeneous Data Streams*

Peter Zak (ESCP, Germany)

11:20 *Compatibility-Aware Mutual Distillation*

Hiromu Takama, Chunzhi Gu and Tatsuhito Hasegawa (University of Fukui, Japan)

11:40 *AI-Based Environmental Sound Detection and LINE Notification System for Smart Living Applications*

Hsuan-Fu Wang (National Formosa University, Taiwan); Sulin Chi (Otemon Gakuin University, Japan); Chen-Han Ma and Wen-Chiao Chen (National Formosa University, Taiwan)

Wednesday, October 28 10:00 - 12:00

RHM(2): Home Medical & Healthcare

Room: 404

10:00 *Entertainment-Oriented 3D Contextual Screening System for Alzheimer's Disease*

Cheng-Li Liu (Vanung University, Taiwan); Che-Jen Chuang (Lee-Ming Institute of Technology, Taiwan)

10:20 *Living with Imperfect Health: A Companion-Based Narrative Sleep Diary System for Orthosomnia*

Chih-Chen Hsiao and Ko-Chiu Wu (National Taipei University of Technology, Taiwan)

10:40 *A Modular Wearable Eyemask System for Home Monitoring and Automated Detection of RBD-Related Sleep Events*

Kuei-Fu Yu, Kuan-Yu Chen, Yu-Tung Sun and Chia-Wei Li (National Cheng Kung University, Taiwan); Wen-Kuei Lin (National Cheng Kung University Hospital Sleep Medicine Center, Taiwan); Chung-Yao Chien (National Cheng Kung University, Taiwan); Tsung-Hua Lu (National Cheng Kung University Hospital, Taiwan); Sheng-Fu Liang (National Cheng Kung University, Taiwan)

Wednesday, October 28 11:30 - 13:00

POS3A: Poster Session 3A

Room: 301

POS3A.1 *What Drives Players? Psychological Motivations Behind Playing Alone Versus Playing with Others*

Anna Enrica Tosti (Università degli Studi di Firenze, Italy); Can Gursesli (Tampere University, Finland); Mirko Duradoni (Università degli Studi di Firenze, Italy); Riccardo Romei (University of Florence, Italy); Andrea Corridori and Andrea Guazzini (Università degli Studi di Firenze, Italy)

POS3A.2 *Detection of Accumulated Mental Fatigue Through Temporal Rhythm Analysis of Finger-Trajectory Dynamics*

Yukino Ota, Yusuke Yamanoi and Osamu Sakata (Tokyo University of Science, Japan)

POS3A.3 *Bandwidth-Aware IRASA for Reducing Oscillatory Bias in DFA of Heart Rate Variability*

Yudai Fujimoto, Shuqiong Wu and Toru Nakamura (The University of Osaka, Japan)

POS3A.4 *Improving Transcriptomic Prediction of Brain Cancer Survival Rates Using ResMLP*

Minn Minn Cherry, Yen-Wei Chen, Yinhao Li, Jihong Hu and Yang Ai (Ritsumeikan University, Japan)

POS3A.5 *Experimental Evaluation of Static Clutter Suppression for Phase-Based Sub-Millimeter Displacement Sensing Using FMCW Radar*

Yuto Sugawara, Rei Ishitsuka and Shigeki Takeda (Ibaraki University, Japan); Zequn Song (Kagawa University, Japan); Ran Sun (Ibaraki University, Japan)

POS3A.6 *Experimental Validation of Spatially Separated Multi-Point Phase-Based Sub-Millimeter Displacement Sensing Using FMCW Radar*

Rei Ishitsuka, Yuto Sugawara and Shigeki Takeda (Ibaraki University, Japan); Zequn Song (Kagawa University, Japan); Ran Sun (Ibaraki University, Japan)

POS3A.7 *Flood Detection from Bi-Temporal SAR Images Using a Local-Enhanced ChangeFormer*

Runa Kiyose and Xunquan Chen (Prefectural University of Hiroshima, Japan)

POS3A.8 *An Emotionally Expressive Disaster-Victim AI Agent for Volunteer Training*

Rui Kohama and Satoshi Nishiguchi (Osaka Institute of Technology, Japan)

POS3A.9 *Activities to Promote UAVs Utilization During Disasters Through Drone Operating Experiences for Non-Experts*

Kazuya Sugiyasu (Iwate Prefectural University, Japan); Hideyuki Takahashi (Tohoku Gakuin University, Japan); Nobuhide Yokota (Shizuoka University, Japan)

POS3A.10 *Development of an Adaptive English Learning System Based on Multimodal Fatigue Estimation*

Hiroto Kobayashi (Ibaraki University, Japan); Takako Akakura (Tokyo University of Science, Japan); Toru Kano (Ibaraki University, Japan)

POS3A.11 *A Bio-Inspired Hierarchical Multi-Modal Fusion Framework for Assistive Cycling Safety on the Edge*

Yao-Yun Hsiao and Hsiao-Yue Tsao (National Taipei University of Technology, Taiwan)

POS3A.12 *Development of a Neural Network for Flow Field Prediction Using Wall-Emphasized Distance Functions*

Haruki Matsuzaki and Kazuyuki Kojima (Shonan Institute of Technology, Japan)

POS3A.13 *VR Mechanics-Learning System Promoting Error Detection via Visual-Tactile Discrepancies*

Yuma Tokuda and Takako Akakura (Tokyo University of Science, Japan)

POS3A.14 *Formative UX and Empathy Evaluation of a Conversational Low/High-Fidelity AI Virtual Patient*

Javier Calderon Hobaica (Escuela de Ingenieros, Colombia); Álvaro D. Orjuela-Cañón (Universidad del Rosario, Colombia); Alvaro Uribe-Quevedo (Ontario Tech University, Canada); Karim Soliman (Queens University, Lakeridge Health, Canada); Peter R Lewis and Hamed Tadayyoni (Ontario Tech University, Canada)

POS3A.15 *Rating, Paired Comparison, or Ranking? Concurrent Validity of Scaling Methods for Realism of Tactile Texture Displays*

Ai Kurita, Ami Chihara and Shogo Okamoto (Tokyo Metropolitan University, Japan)

POS3A.16 *Acoustic Standardization for Latency-Deterministic Emotion Estimation in XR*

Hajar Alhalabi (Tsukuba University, Japan); Zhaolong Wang (University of Tsukuba, Japan); Yuki Higashiyama (Tsukuba University, Japan); Yukihiro Okada and Keiichi Zempo (University of Tsukuba, Japan)

POS3A.17 *Development of a Contact-Stabilized Axillary Thermometer with Numerical Temperature Prediction*

Hanaka Yasuda (Osaka Electro-Communication University, Japan); Yuji Mizuno (Osaka Electro-Communication University & Faculty of Medical Science and Health-Promotion, Japan)

POS3A.18 *POD-Net: Pathological-Optical Dual Decoupling Network for DR Multi-Lesion Segmentation*

Hao-Hsin Chiu (Chang Gung University, Taiwan); Jiann-Der Lee (Chang Gung University, Taiwan & Chang Gung Memorial Hospital, Taiwan); Chieh-Tsai Wu (Chang Gung Memorial Hospital, Taiwan)

POS3A.19 *Development of an Optical Sensing Device for Blood Urea Nitrogen (BUN) Measurement*

Rui-Cian Weng (National Center for Instrumentation Research, Taiwan); Chi-Hung Hwang (National Institutes of Applied Research, Taiwan)

POS3A.20 *Measurement and Graphical Visualization of Health Signals Using a Dual-Band Radar System*

Yu-Rui Chen (National University of Kaohsiung & Air Force Institute of Technology, Taiwan); Chi-Yu Lin (Chaoyang University of Technology, Taiwan); Wei-Lung Wu (Air Force Air Force Institute of Technology, Taiwan); Chen-Yi Guo (I-Shou University, Taiwan); Chao-Yuan Kuo (Zhende Acupuncture Clinic, Taiwan); Xin-Yi Wu (Yuh-Ing Junior College of Health Care and Management, Taiwan)

POS3A.21 *A Multi-Kernel Lightweight CNN with Radar-Oriented Data Augmentation for Human Activity Classification in Elderly Healthcare*

Akari Takebayashi and Xiangbo Kong (Toyama Prefectural University, Japan); Kenshi Saho (Ritsumeikan University, Japan); Kazuhide Kamiya (Toyama Prefectural University,, Japan)

POS3A.22 *Strawberry Disease Identification in the Philippines Using YOLOv11 Object Detection Model on RoboFlow*

Ana Antoniette Illahi (De La Salle University, Philippines); Luigi Carlo M De Jesus (Asia Pacific College, Philippines & De La Salle University - Manila, Philippines); Pocholo James Loresco (Far Eastern University Institute of Technology, Philippines)

POS3A.23 *Development of a Wireless Wearable Device and Database System for Strawberry Harvesting Support*

Shuya Yazawa and Kohei Yamaguchi (Shibaura Institute of Technology, Japan); Minori Hikawa–Endo (Okayama University, Japan); Ryosuke Yamanaka, Takayoshi Yano and Kazuo Soeno (National Agriculture and Food Research Organization, Japan); Hiroki Shigemune (Shibaura Institute of Technology, Japan)

POS3A.24 *Automatic 3D Urban Model Generation Using Hand-Drawn Terrain Images*

Kaito Okawa and Yuta Muraki (Osaka Institute of Technology, Japan)

POS3A.25 *Depth-Guided Masking for Robust Monocular Visual Odometry in Egocentric Video*

Ryosuke Nutaba, Kakeru Koizumi and Hiroshi Watanabe (Waseda University, Japan); Smita Priyadarshani, Sooyeong Jeong and Catherine Kuramitsu (YKK Corporation, Japan)

POS3A.26 *Machine Learning-Based 3D Modeling of the Oral Mucosa and Jawbone: Contrast Agent Comparison for Dental CBCT*

Issa Yoshikawa (Ibaraki University, Japan); Akira Takebayashi (Medical Engineering Lab, Japan); Hiroaki Yamamoto (Japan Institute for Advanced Dentistry); Kenichiro Kasamura (Medical Corporation Association Kenseikai, Japan); Toru Kano (Ibaraki University, Japan)

POS3A.27 *Moving Object Detection in LiDAR Sensor Network Against Physically Impossible False Positives*

Kenshin Hiyama and Ryoichi Shinkuma (Shibaura Institute of Technology, Japan)

POS3A.28 *A Lightweight Framework for Wireless Point Cloud Delivery in UAV-Based 3D Perception*

Min-Kuan Chang, Yong-Li Wang and Edwin GuanYing Huang (National Chung Hsing University, Taiwan); Jiun-Yu Tu (National Formosa University, Taiwan)

POS3A.29 *Construction of a Fake News Detection Model Using News Headline Features*

Toshiya Matsuzaki and Yuanyuan Wang (Yamaguchi University, Japan)

Wednesday, October 28 13:00 - 15:00

OS-HAD(2): Advances & Applications of Human Assistive Devices

Room: 401

Chairs: Tadaaki Ikehara (Shonan Institute of Technology, Japan), Kazuyuki Kojima (Shonan Institute of Technology, Japan)

13:00 *Investigation of Optimal Tactile Instruction Methods for Myoelectric Prosthetic Hand Training*

Takuma Kawamura and Taro Shibasaki (Okayama University, Japan)

13:20 *Uncontrolled Manifold Analysis of Assistive-Suit Effects on Joint Coordination*

Yuki Miyakoshi and Jun Inoue (Tokyo Denki University, Japan); Heigoro Endo and Tsuneyo Sano (Kanden Co., Ltd., Japan)

13:40 *Vibro Acoustic Sensing / Processing Towards Precise Realistic Touch Perception in Myoelectric Prosthesis*

Hiroki Miyake and Taro Shibasaki (Okayama University, Japan)

14:00 *User Performance Analysis on Enhanced Eye Auxiliary Lines for Portrait Drawing Assistance System*

Yue Zhang and Nobuo Funabiki (Okayama University, Japan)

Wednesday, October 28 13:00 - 15:00

OS-MSE(2): Maritime System Engineering

Room: 402

Chairs: Tadashi Ebihara (University of Tsukuba, Japan), Koji Murai (Tokyo University of Marine Science and Technology, Japan)

13:00 *Pilot-Assisted Time-Varying Carrier Frequency Offset Compensation for OSDM Underwater Acoustic Communications*

Ryoichi Ishijima, Tadashi Ebihara and Naoto Wakatsuki (University of Tsukuba, Japan)

13:20 *Effect of Signal Transmission Timing of Acoustic Beacons on Communication Quality in Underwater Positioning*

Kei Yamamoto, Tadashi Ebihara, Atsushi Tsuchiya and Naoto Wakatsuki (University of Tsukuba, Japan)

13:40 *Feasibility Study on Buoy-Based Underwater Acoustic Positioning Under Sea Surface Motion and Multipath Propagation*

Taiga Saito, Tadashi Ebihara, Atsushi Tsuchiya, Yuji Sato and Naoto Wakatsuki (University of Tsukuba, Japan); Tohru Yoshihara (Aomi Const. Co., Japan)

14:00 *Characterization of Line-of-Sight and Non-Line-of-Sight Underwater Acoustic Communication Channels in Shallow Water Using an Unmanned Surface Vehicle*

Yudai Iitsuka, Tadashi Ebihara, Atsushi Tsuchiya, Naoto Wakatsuki, Takuya Aoki and Yuji Sato (University of Tsukuba, Japan)

14:20 Underwater Optical Camera Communication Using a Fisheye Lens for Robust Communication Under Receiver Motion

Emi Kitano, Tadashi Ebihara, Naoto Wakatsuki and Atsushi Tsuchiya (University of Tsukuba, Japan)

14:40 Comparison of Field Measurements and Simulations of Temporal Variations in Underwater Acoustic Channel Impulse Responses in Extremely Shallow Waters

Kodai Ono, Tadashi Ebihara, Naoto Wakatsuki, Atsushi Tsuchiya, Yuji Sato and Takuya Aoki (University of Tsukuba, Japan); Tohru Yoshihara (Aomi Const. co, Japan)

Wednesday, October 28 13:00 - 15:00**OS-AIP(4): Advanced Image Processing**

Room: 501

Chairs: Yen-Wei Chen (Ritsumeikan University, Japan), Tomio Goto (Nagoya Institute of Technology, Japan)

13:00 Automatic Extraction of Ventricles in Pediatric Hydrocephalus Patients Using 3D U-Net and Pre-Training

Kota Kusumoto (Ritsumeikan University, Japan); Yutaro Iwamoto (Osaka Electro-Communication University, Japan); Masahiro Nonaka (Kansai Medical University, Japan); Yinhao Li and Yen-Wei Chen (Ritsumeikan University, Japan)

13:20 Task Prompt-Driven Depression Recognition Using Facial Images

Haichen Yu, Shiyu Teng and Jiaqing Liu (Ritsumeikan University, Japan); Tomoko Tateyama (University of the Ryukyus, Japan); Yue Huang (The Affiliated Kangning hospital of Wenzhou Medical University, China); Yen-Wei Chen (Ritsumeikan University, Japan)

13:40 A Wearable Multimodal Mobility Support System for Visually Impaired People

Ke-Cheng Zhu and Jiaqing Liu (Ritsumeikan University, Japan); Tomoko Tateyama (University of the Ryukyus, Japan); Yen-Wei Chen (Ritsumeikan University, Japan)

14:00 Visualizing Body-Interaction Importance for Conversation Activity Recognition in Pedestrian Groups

Wataru Ganaha, Takumi Ozaki and Masashi Nishiyama (Tottori University, Japan)

14:20 TPE-v3: A Detector-Guided Lightweight Framework for Human Pose Estimation in Thermal Images

Riku Motomochi (Kogakuin University, Japan & Graduate School of Engineering, Japan); Qiu Chen (Kogakuin University, Japan)

14:40 Improving Face Detection Accuracy for Masked Face with Blur

Riku Nagaoka and Tomio Goto (Nagoya Institute of Technology, Japan)

Wednesday, October 28 13:00 - 15:00**OS-TMR(2): Technologies for Multimedia & Real Data Analysis and Processing**

Room: 502

Chairs: Takahiro Ogawa (Hokkaido University, Japan), Soh Yoshida (Kansai University, Japan)

13:00 *Impact of Expert-Following Strategies in Financial Asset Recommendation*

Ryuki Unno, Koshi Watanabe, Keigo Sakurai, Keisuke Maeda, Takahiro Ogawa and Miki Haseyama (Hokkaido University, Japan)

13:20 *3D Stylization from a Single-View Image via Flow-Based Latent Editing*

Tomohiro Aizawa (University of Fukui, Japan); Katsuya Hotta (Iwate University, Japan); Chao Zhang (University of Toyama, Japan); Tatsuhito Hasegawa and Chunzhi Gu (University of Fukui, Japan)

13:40 *Instruction-Tuned Vision Language Model for Bridge Inspection with Reason-Based Prompts*

Seiya Kidoguchi, Keisuke Maeda, Takahiro Ogawa and Miki Haseyama (Hokkaido University, Japan)

14:00 *Towards Low-Power Time-Series Anomaly Detection with Spike-Based Variational Autoencoder*

Akira Hasegawa, Kenta Kubota, Ren Togo, Takahiro Ogawa and Miki Haseyama (Hokkaido University, Japan)

14:20 *Application of Deep Autoencoding Gaussian Mixture Model for Anomaly Detection in Hyperspectral Analysis of Rubber Materials*

Kentaro Oishi (Hokkaido University, Japan & Sumitomo Rubber Industries, Ltd., Japan); Ren Togo, Takahiro Ogawa and Miki Haseyama (Hokkaido University, Japan)

14:40 *STM Image Prompting via Geometric Structure Tiling to Estimate Atomic Geometric Equivalence*

Haruki Koyama and Ryosuke Harakawa (Nagaoka University of Technology, Japan); Daiki Katsube (Japan Fine Ceramics Center, Japan); Masahiro Iwahashi (Nagaoka University of Technology, Japan)

Wednesday, October 28 13:00 - 15:00

OS-PSA(2): Privacy-Preserving & Secure AI for Consumer IoT Systems

Room: 503

Chairs: Pooja Chaudhary (Vellore Institute of Technology Vellore, India), Somya Ranjan Sahoo (VIT AP, India)

13:00 *Efficient Cloud-Side DEK Rewrapping for Revocation in CP-ABE-Based IIoT Healthcare Systems*

Mu-San Chung and Shen-Fu Hsiao (National Sun Yat-sen University, Taiwan); Chih-Hung Wang (National Chiayi University, Taiwan)

13:20 *Multispectral Periocular Recognition Robust to Pose Variation Using Near-Infrared and Visible-Light Images*

Takashi Ito (University of Electro-Communications, Japan); Hiroshi Yoshiura (The University of Electro-Communications, Japan); Masatsugu Ichino (University of Electro-Communications, Japan)

13:40 *Noisy-Input Preprocessing for BT-MRI Classification: Software Accuracy and Pre-Synthesis Complexity Trade-off Analysis*

Chih-Wei Kao, Cheng-Min Wang, Jian-Hang Wu and Yu-Jou Lin (Yuan Ze University, Taiwan); Cheng-Hung Dixon Lin (National Taiwan Normal University, Taiwan)

Wednesday, October 28 13:00 - 15:00

OS-DSE: Devices & Software with ECHONET Lite (ISO/IEC 14543-4-3) ↑

Room: 504

Chairs: Masao Isshiki (Kanagawa Institute of Technology, Japan), Hidekazu Suzuki (Meijo University, Japan)

13:00 *Beyond Keycard Control: A Local Testbed for Profile-Based Guest-Room Energy Control Using MQTT and ECHONET Lite*

Jiun-Yu Tu, Yung-Hoh Sheu, Guan-Yu Chen and Po-Jen Hsiao (National Formosa University, Taiwan); Chih-Lin Hu (National Central University, Taiwan)

13:20 *A Framework for Automatic Construction and Large-Scale Deployment of in-Home Digital Twins*

Shinichi Miyakawa and Van Cu Pham (National Institute of Information and Communications Technology, Japan); Shuichiro Ogake (Jaist, Japan); Toshiyuki Miyachi (National Institute of Information and Communications Technology, Japan); Yuto Lim (Japan Advanced Institute of Science and Technology (JAIST), Japan); Yasuo Tan (Japan Advanced Institute of Science and Technology & National Institute of Information and Communications Technology, Japan)

13:40 *Dual-Protocol HEMS Adapter Bridging ECHONET Lite and TaiSEIA 101: Design and Implementation*

Chih-Lin Hu, Yi-Yue Jhang, Ruei-Ci Jian and Guan-Ting Chen (National Central University, Taiwan); Jiun-Yu Tu (National Formosa University, Taiwan); Chun-Hsiang Hsieh (Taiwan Testing and Certification Center, Taiwan); Hiroshi Sugimura and Masao Isshiki (Kanagawa Institute of Technology, Japan)

14:00 *Development of a Smart Meter Emulator for Energy Management System Experiments*

Tanomi Watanabe, Sota Kurihara, Masao Isshiki and Hiroshi Sugimura (Kanagawa Institute of Technology, Japan)

14:20 *Design and Implementation of an Intelligent Personalized Decision System for Cross-Protocol Smart Homes via Unified Parameter Matching*

Li-Syuan Chen (Institute for Information industry, Taiwan); Calvin Lin, Chiang Kuei Chun and Yung Chieh Hung (Institute for Information Industry, Taiwan)

14:40 *A Cloud-Integrated Device Control Method for Comfortable Space Creation Systems*

Kohei Yamashita, Ryosei Takaki and Hidekazu Suzuki (Meijo University, Japan)

Wednesday, October 28 13:00 - 15:00

OS-AIR: Artificial Intelligence & Robotics ↑

Room: 505

Chairs: Shohei Kato (Nagoya Institute of Technology, Japan), Atsuko Mutoh (Nagoya Institute of Technology, Japan)

13:00 *Cooperative Strategy for Multi-Drone Mountain Search Using Probability Distribution Maps*

Sota Horiuchi, Takahiro Uchiya and Yuichiro Tateiwa (Nagoya Institute of Technology, Japan)

13:20 *Agent-Based Evacuation Simulation with Individual Memory in a Real Urban District*

Shaajini Arul Anthony Raj Arulkumar, Atsuko Mutoh, Kosuke Shima, Koichi Moriyama and Nobuhiro Inuzuka (Nagoya Institute of Technology, Japan)

13:40 *Evaluating Individual Contributions in Chat Communication Using Utterance Content and Communication Structure*

Hiroyasu Nieda, Atsuko Mutoh, Kosuke Shima and Koichi Moriyama (Nagoya Institute of Technology, Japan); Tohgoroh Matsui (Chubu University, Japan); Nobuhiro Inuzuka (Nagoya Institute of Technology, Japan)

14:00 *LLM-Augmented Causal Information Prioritization for Robot Manipulation*

Raisei Ito, Takuto Sakuma, Wen Gu and Shohei Kato (Nagoya Institute of Technology, Japan)

14:20 *A Distributed Cooperative Task Allocation Method for Multi-UAV Building Damage Survey*

Ruri Inoue, Takahiro Uchiya and Yuichiro Tateiwa (Nagoya Institute of Technology, Japan)

14:40 *Detecting Character's Unveiled Attributes in a New Story via Existing Attributes Extraction*

Seiya Takahashi (Nagoya Institute of Technology, Japan); Shinji Iwata (CyberAgent, Japan); Koya Ihara (CyberAgent, Japan & Nagoya Institute of Technology, Japan); Shohei Kato (Nagoya Institute of Technology, Japan)

Wednesday, October 28 13:00 - 15:00

OS-AHC: Algorithm-Hardware Co-design for Emerging AI Models & Applications

Room: 404

Chair: Renyuan Zhang (Yunnan University, China)

13:00 *A Low-Power Multi-Radix Accumulation Architecture for 225-Way INT8 MAC Computation*

Luo Qiao and Renyuan Zhang (Yunnan University, China); Yasuhiko Nakashima and Yirong Kan (Nara Institute of Science and Technology, Japan); Hang Jin (Yunnan University, China)

13:20 *A Lightweight Hierarchical Spike Attention Mechanism for Surface EMG Gesture Recognition*

Yuchang Huang, Yirong Kan, Renyuan Zhang and Yasuhiko Nakashima (Nara Institute of Science and Technology, Japan)

13:40 *Teacher-Guided Saliency Refinement for Low-Bit Spiking Quantization of Large Language Models*

Tianyu Liu, Yirong Kan, Renyuan Zhang and Yasuhiko Nakashima (Nara Institute of Science and Technology, Japan)

14:00 *An Embedded Hybrid AI Platform and Decision Tree Structure for Integration with Neural Network Frameworks*

Junik Ma, Junho Kwak and Jeonghun Cho (Kyungpook National University, Korea (South))

14:20 *TFP-MDGNNet: A Hybrid Time-Frequency Graph Framework for N1-Aware Sleep Staging*

Taiqie Zhao and Yi Li (Yunnan University, China); Yirong Kan (Nara Institute of Science and Technology, Japan); Renyuan Zhang and Guang Shi (Yunnan University, China)

Wednesday, October 28 14:30 - 16:00

DEM(2): Demo Session 2

Room: 301

Frequency Analysis of Robert Johnson's Blues Singing

Masaki Hayashi (Uppsala University, Sweden)

Electric Guitar Lesson System for Fast Alternate Picking Technique

Soichiro Matsushita (Tokyo University of Technology, Japan); Fumiyoshi Kamo (Tamagawa University, Japan)

An AR-Based Marine Biology Learning Material Using 3D-Printed Models Reconstructed from CT Data

Sodai Abe and Toru Kano (Ibaraki University, Japan)

Development of a Wearable Gait Assessment System

Konatsu Sakai (Shonan Institute of Technology, Japan); Kazuya Kato, Mizuki Uematsu and Rina Wakao (Shonan Institute of Technology, Japan); Hideyuki Natori (NATORI Manufacturing Inc., Japan); Tadasuke Onishi (Josai International University, Japan)

Audio-Visual Stimulation Using AR Smart Glasses for Gait Support in Parkinson's Disease: A Pilot Study

Sota Yamamoto and Tadahiro Oyama (Kobe City College of Technology, Japan)

Development of an AR-Based Dental Implant Treatment Support System Using Anchor Switching

Ryota Kawasaki (Ibaraki University, Japan); Akira Takebayashi (Medical Engineering Lab, Japan); Hiroaki Yamamoto (Japan Institute for Advanced Dentistry); Shohei Kasugai (Southern Tohoku General Hospital, Japan); Toru Kano (Ibaraki University, Japan)

Rapid and Precise Tuning Support System for Timpani Using Mobile Device Based on Lissajous Figure by Two Microphones

Daiki Hiraishi, Naoto Wakatsuki, Tadashi Ebihara and Yuka Maeda (University of Tsukuba, Japan)

iEar: A Dual-Representation Approach for Eardrum Lesion Recognition Using Detection and Segmentation

Wan-Jung Chang and Min-Yu Chen (National Kaohsiung University of Science and Technology, Taiwan); Jian-Ping Su (iAmbition Technology Co., Ltd., Taiwan); Zong-Han Yang, Xiu-Yu Xie, Wei-Yang Ding, Hsin-An Lan and Jing-Xiang Hu (National Kaohsiung University of Science and Technology, Taiwan); Ching-Nung Wu and Chung-Feng Hwang (Kaohsiung Chang Gung Memorial Hospital, Taiwan); Ming-Che Chen (National Yunlin University of Science and Technology, Taiwan); Chih-Hsueh Lin (National Kaohsiung University of Science and Technology, Taiwan)

The Clothes Make the Cabin: Leveraging Multimodal LLMs to Translate Personal Belongings into in-Vehicle Ambient Experiences

Airi Nakamura and Tomohiro Konuma (Panasonic Automotive Systems Co., Ltd., Japan)

Design and Implementation of a Real-Time Multi-Site Immersive Learning System Using Photon Fusion

Wataru Iwai and Duc V. Nguyen (Tohoku Institute of Technology, Japan)

Vol-Driven Heterogeneous Transport Selection for Flood-Monitoring IoT: A Proof-of-Concept

Jun-Sen Hung (Tamkang University, Taiwan); Sheng-Zhi Huang (TamKang University, Taiwan)

Wednesday, October 28 15:30 - 18:00

V-3: Virtual Session

Room: Online (Zoom)

15:30 Thin Film Devices for Neuromorphic Computing - Amorphous Oxide Semiconductor Transistors with Charge-Trap or Ferroelectric Gate Insulator for Synapse Elements in Neuromorphic Systems -

Mutsumi Kimura, Tomoki Fukui, Ryoma Edahiro, Riku Horio, Kazuki Sawai and Hidenori Kawanishi (Ryukoku University, Japan)

15:50 Lightweight and Privacy-Preserving Face Recognition Using MobileNetV2 for Secure User Authentication

Sargun Singh (Chandigarh College of Engineering and Technology, India); Sudhakar Kumar (Chandigarh College of Engineering & Technology, India & Panjab University, India); Sunil K. Singh (Chandigarh College of Engineering and Technology Chandigarh, India & Panjab University, Chandigarh, India); Naveen (Chandigarh College of Engineering and Technology, India); Ching-Hsien Hsu (Asia University, Taiwan); Kwok Tai Chui (Hong Kong Metropolitan University, Hong Kong); Brij B. Gupta (Department of CSIE, Asia University, Taichung 413, Taiwan, & VIZJA University, Warsaw, Poland)

16:10 Robust Parameter Estimation of Multiple-Component Chirp Signals Under Impulsive Noise

Mingxi Lyu (University of Hong Kong, Hong Kong); Shing-Chow Chan (The University of Hong Kong, Hong Kong)

16:30 Near Optimal Design of Discrete and Phase-Coupled STAR-RIS-Aided MIMO Communication Systems

Hsiao-feng Francis Lu (National Yang Ming Chiao Tung University, Taiwan)

16:50 Local Temperature Sensing and Color Shift Compensation for Glass-Based Micro-LED Display

Bojia Lyu and Yanjun Zhang (Shanghai Tianma Microelectronics Co., Ltd., China); Yu Huang (Shanghai Jiao Tong University, China)

17:10 Performance Analysis of Mixed FSO-RF Communications in Satellite-UAV-Ground Networks

Shivaji Cheepurupalli and Prabhat Kumar Upadhyay (Indian Institute of Technology Indore, India)

Wednesday, October 28 16:00 - 18:00

OS-AAT(2): Audio & Acoustic Technology

Room: 401

Chairs: Yoshifumi Chisaki (Chiba Institute of Technology, Japan), Kazuhiko Kawahara (Kyushu University, Japan)

16:00 *[Invited] Toward Edge-Oriented Monitoring of Speech Quality Factors in Consumer Electronics*

Hayato Sato (Kobe University, Japan); Kiyohiro Kurisu (TOA Corporation, Japan); Yoshifumi Chisaki (Chiba Institute of Technology, Japan); Yosuke Kobayashi (Muroran Institute of Technology, Japan)

16:20 *Comparison of Perceptual Suppression of Air-Conducted Pure Tones Using Bone- and Cartilage-Conducted Secondary Sounds*

Teruki Toya, Ayumu Miki and Kenji Ozawa (University of Yamanashi, Japan)

16:40 *Effects of Weights Adjusted for Interaural Signal Differences in Beamforming-Based Binaural Reproduction*

Kanji Watanabe, Masayuki Nishiguchi and Koji Abe (Akita Prefectural University, Japan)

17:00 *Analysis of a Quincunx Planar Loudspeaker Array for Higher Spatial Nyquist Frequency*

Yuta Goshima and Yoichi Haneda (The University of Electro-Communications, Japan)

17:20 *Physical Evaluation of the Perceptual Diffusion Properties of Bending Wave Loudspeakers*

Atsuhiko Hashimoto (ESTECH Corporation, Japan); Kazuhiko Kawahara (Kyushu University, Japan)

17:40 *Compensation of the Doppler Effect on Continuous Measurement of Acoustic Impulse Responses*

Yuka Kobayashi and Kazuhiko Kawahara (Kyushu University, Japan); Miyato Tachibana (TOA Corporation, Japan)

Wednesday, October 28 16:00 - 18:00

OS-ASP: Circuit & System Design for Intelligent Edge Computing & Advanced Signal Processing Technologies

Room: 402

Chairs: Wan-Jung Chang (National Kaohsiung University of Science and Technology, Taiwan), Chih-Peng Fan (National Chung Hsing University, Taiwan)

16:00 *Real-Time Multimodal Guidance Based Pose Correction for Self-Practice Yoga on Embedded GPU Device*

Ching-Chun Chen, Tzu-Yi Hung and Yu-Cheng Huang (National Chung Hsing University, Taiwan); Irin Tri Anggraini, Yanqi Xiao and Nobuo Funabiki (Okayama University, Japan); Chih-Peng Fan (National Chung Hsing University, Taiwan)

16:20 *A High Area Efficiency Accelerator Based on Convolution and Hierarchical Attention*

Hsuan-Yang Huang (National Taipei University of Technology, Taiwan); Ching-Min Lee (I-Shou University, Taiwan); Yu-Cheng Fan (National Taipei University of Technology, Taiwan)

16:40 *Sparse Scout Monitor-Based Soft-Gated Scheduling for Always-on Keyword Spotting*

Junyeong Choi (Kyungpook National University, Korea (South)); Daejin Park (Kyungpook National University (KNU), Korea (South))

Wednesday, October 28 16:00 - 18:00

OS-AIP(5): Advanced Image Processing

Room: 501

Chairs: Yen-Wei Chen (Ritsumeikan University, Japan), Tomio Goto (Nagoya Institute of Technology, Japan)

16:00 *Extending Cat Face Landmark Detection Using Deep Learning*

Ryotaro Suzuki and Tomio Goto (Nagoya Institute of Technology, Japan)

16:20 *EfficientViT-Based Lightweight Tree Health Estimation Method for Urban Tree Monitoring*

Kento Nomura (Kogakuin University, Japan & Graduate School of Engineering Kogakuin, Japan); Qiu Chen (Kogakuin University, Japan)

16:40 *Analysis of LoRA and Prompt Design for CLIP-Based Few-Shot Image Recognition*

Tomoya Yakubo and Qiu Chen (Kogakuin University, Japan)

17:00 *Common Space Learning Based on Representation Disentanglement for Zero-Shot Classification*

Kiyoya Takahashi (Ritsumeikan University, Japan); Masataka Seo (Osaka Institute of Technology, Japan); Yen-Wei Chen (Ritsumeikan University, Japan)

17:20 *Clinical Reasoning-Guided Dermatological Feature Extraction for Explainable Skin Disease Classification*

Ruining Li, Yinhao Li and Yen-Wei Chen (Ritsumeikan University, Japan)

17:40 *Text-Guided Medical SAM 2 for 3D Brain Tumor Segmentation*

Kai Amano and Yen-Wei Chen (Ritsumeikan University, Japan)

Wednesday, October 28 16:00 - 18:00

OS-TMR(3): Technologies for Multimedia & Real Data Analysis and Processing

Room: 502

Chairs: Takahiro Ogawa (Hokkaido University, Japan), Soh Yoshida (Kansai University, Japan)

16:00 *Dual-Level Prototype Alignment for Heterogeneous Multimodal Federated Learning*

Haochen Liang (The University of Tokyo, Japan); Hideya Ochiai (University of Tokyo, Japan)

16:20 *Ranking Refinement with Context-Dependent Acoustic Preference for Music Recommendation*

Yuki Iwasa, Keigo Sakurai, Ren Togo, Takahiro Ogawa and Miki Haseyama (Hokkaido University, Japan)

16:40 *Gait Recognition Through Feature Completion Using Sensor Fusion*

Hinata Kimiyasu (The University of Osaka, Japan); Yasushi Yagi (The Institute of Scientific and Industrial Research, OSAKA University, Japan); Takuya Sakamoto (Kyoto University, Japan); Xiang Li (University of Osaka, Japan); Chi Xu (The University of Osaka, Japan); Jiaqing Liu and Yuting Geng (Ritsumeikan University, Japan); Shuqiong Wu (The University of Osaka, Japan)

Wednesday, October 28 16:00 - 18:00

OS-TSS: Trustworthy Smart Systems

Room: 503

Chairs: Yonchanok Khaokaew (King Mongkut's University of Technology North Bangkok, Thailand), Jirayu Samkunta (King Mongkut's University of Technology North Bangkok, Thailand)

16:00 *Dynamic Appointment Slot Allocation for Therapy Queueing Systems Using Fuzzy Service Time Intervals*

Jirayu Samkunta, Yonchanok Khaokaew and Nattagit Jiteurtragool (King Mongkut's University of Technology North Bangkok, Thailand); Patinya Ketthong (Thai-Nichi Institute of Technology, Thailand)

16:20 *Retrieval-Augmented User Similarity for Trustworthy Longitudinal Behaviour Modelling from Sensor Data*

Yonchanok Khaokaew, Jirayu Samkunta and Nattagit Jiteurtragool (King Mongkut's University of Technology North Bangkok, Thailand)

16:40 *A Generalized Signum Chaotic Map for Cryptographic Random Bit Generation*

Chatchai Wannaboon (King Mongkut's University of Technology North Bangkok, Thailand); Sorawit Fong-in (Thai-Nichi Institute of Technology, Thailand & Gunma University, Japan); Patinya Ketthong (Thai-Nichi Institute of Technology, Thailand)

17:00 *Micro-RAG: Resource-Aware Retrieval-Augmented Diagnostics for Consumer IoT Edge Devices*

Balamurugan Palanisamy (Birla Institute of Technology & Science, India); Sai Sesha Chalapathi G (Birla Institute of Technology and Science, India); Vikas Hassija (Kalinga Institute of Industrial Technology, India)

17:20 *Dynamic Parameter Switching in Chaotic Keyed Hash Functions Based on Input Entropy*

Nattagit Jiteurtragool, Yonchanok Khaokaew and Jirayu Samkunta (King Mongkut's University of Technology North Bangkok, Thailand)

Wednesday, October 28 16:00 - 18:00

Workshop: New Energy IoT Scenarios with Open Standards

Cooperation between IEC IS 14543-4-3-300 Series (AIF with ECHONET Lite) and SRD 63443 (ERAB)

Room: 504

Chair: Masao Isshiki (Kanagawa Institute of Technology, Japan)

Wednesday, October 28 16:00 - 18:00

OS-SLP: Spoken Language Processing for Daily Life

Room: 505

Chairs: Norihide Kitaoka (Toyohashi University of Technology, Japan), Ryota Nishimura (Toyohashi University of Technology, Japan)

16:00 *Development of an Audio Captioner-Enhanced Spoken Dialog System for Medical Interviews*

Riku Hamamoto and Kengo Ohta (National Institute of Technology, Anan College, Japan)

16:20 *Japanese Speech Emotion Recognition with a Multimodal LLM-Based Audio Captioner*

Momiji Ueta and Kengo Ohta (National Institute of Technology, Anan College, Japan)

16:40 *Effect of Content Representations on Flow-Based Voice Conversion*

Sota Watanabe, Rin Yamashita, Takashi Nose and Akinori Ito (Tohoku University, Japan)

17:00 *Topic-Oriented ASR Using Associative Knowledge Graph*

Hinata Koguchi (Saitama University, Japan); Yosuke Sugiura (Meiji University, Japan); Tetsuya Shimamura (Saitama University, Japan)

17:20 *Speaker-Attributed Automatic Speech Recognition for Improving Meeting Speech Recognition Using Whisper with Speaker Tokens*

Titapavee Lertruengphanit and Raufun Nahar (National Institute of Technology, Anan College, Japan)

Wednesday, October 28 16:00 - 18:00

OS-CBS: Recent Advancements in Cyber Security

Room: 404

Chairs: Brij Gupta (Asia University, Taiwan), Shingo Yamaguchi (Yamaguchi University, Japan)

16:00 *Chunkwise Attention-Based Learning for Phishing URL Detection*

Akshat Gaurav (Asia University, Taiwan); Varsha Arya (Hong Kong Metropolitan University (HKMU), Hong Kong); Shavi Bansal (Insights2Techinfo, India); M MF Tam (Hang Seng University of Hong Kong, Hong Kong); Ching-Hsien Hsu (Asia University, Taiwan); Kwok Tai Chui (Hong Kong Metropolitan University, Hong Kong); Brij B. Gupta (Asia University, India)

16:20 *An Efficient Observation Control Method with Frontier Exploration and Infection Ledger in Immune-Based Botnet Defense Systems*

Toshimi Nakano and Shingo Yamaguchi (Yamaguchi University, Japan)

16:40 *Agentic AI Framework for Intelligent Intrusion Detection Using Large Language Model*

Akshat Gaurav (Asia University, Taiwan); Shavi Bansal (Insights2Techinfo, India); Kwok Tai Chui (Hong Kong Metropolitan University, Hong Kong); Brij B. Gupta (Asia University, India)

17:00 *Transfer Learning-Driven Fully Convolutional DQN for Scaling Up Botnet Defense Systems*

Meika Cho, Shingo Yamaguchi and Sena Yoshioka (Yamaguchi University, Japan); Mohd Hafizuddin Bin Kamilin (National Institute of Technology, Ube College, Japan)

17:20 *Generalized Minimum Vertex Cut with Reachable Set Problem for Practical Network Defense to Suppress Botnet Propagation in IoT Systems*

Shingo Yamaguchi (Yamaguchi University, Japan)

17:40 *WXL: A WebAssembly-Based Client-Side CTF Training Laboratory for Classroom Use*

Chin Chen, Yong-Yi Fanjiang and Chi-Huang Hung (Fu Jen Catholic University, Taiwan); Ming-Hsun Tsai (Taipei Municipal Fuxing High School, Taiwan); Shih-Chung Lai (Hsinchu Municipal Digital Experimental Senior High School, Taiwan); Yi-Chiao Pai (National Sun Yat-sen University, Taiwan)

Thursday, October 29

Thursday, October 29 10:00 - 12:00

OS-DHW(1): Digital Health Technologies for Well-being and Disease Detection in Real-World Settings ↑

Room: 401

Chairs: Toru Nakamura (The University of Osaka, Japan), Shuqiong Wu (The University of Osaka, Japan)

10:00 *Integrating PVQD Pretraining with Clinical Fine-Tuning for Voice Severity Classification*

Ying-Chang Wu and Sheng-Fu Liang (National Cheng Kung University, Taiwan); Cheng-Ming Hsu (Chiayi Chang Gung Memorial Hospital, Taiwan)

10:20 *Wearable-Based Human Activity Recognition for Daily Medication Intake Monitoring*

Tong Lu, Yuanzhuo Zhang and Shigehiko Kanaya (Nara Institute of Science and Technology, Japan); Ming Huang (Shenzhen Institutes of Advanced Technology, China)

10:40 *Feature Design for Detecting Stress Accumulation Using Physiological and Behavioral Driving Data*

Hiroko Sawai (Toyota Central R&D Labs. Inc., Japan); Hideaki Yamaguchi, Eiji Fujioka, Kanae Maruyama and Iori Hisada (Aisin Corporation, Japan); Takayuki Nagaya (Toyota Central R&D Labs. Inc., Japan)

11:00 *Automated Kidney Segmentation and Maximum-Area Slice Identification in Abdominal CT Using Segment Anything Model with a Multi-Planar 2D Strategy*

Min-Yu Gu, Ching-Hsiang Tang and Zheng-An Zhu (Tamkang University, Taiwan)

11:20 *Food Bolus Detection in Ultrasound Images via Depth-Conditioned Bolus-Free Appearance Modeling*

Tuerkezhati Balati, Yoshihiro Hagihara and Makoto Sasaki (Iwate University, Japan); Chunzhi Gu (University of Fukui, Japan); Chao Zhang (University of Toyama, Japan); Takuya Akashi (Okayama University, Japan); Katsuya Hotta (Iwate University, Japan)

11:40 *Posture-Dependent Long-Range Cross-Correlations in Variance Modulations of Heart Rate and Breathing Intervals*

Yudai Fujimoto, Shuqiong Wu and Toru Nakamura (The University of Osaka, Japan)

Thursday, October 29 10:00 - 12:00

RUI(2): User Interfaces & Experience in CE

Room: 402

10:00 *Evaluation of OCEAN-Conditioned Walking Motion Generation with Transformer VAE*

Sota Kawaguchi and Kanon Sasaki (Kyoto Tachibana Women's University, Japan); Shun Nishide (Kyoto Tachibana University, Japan)

10:20 *Investigating the Effects of Music Intervention on Attention and Fatigue in a Post-Reading Recovery Context*

Tsai-Chun Chen, Yun Lin, Ko-Chiu Wu and Chien-Wen Cheng (National Taipei University of Technology, Taiwan)

10:40 *Trust-Behavior Dissociation and Decision-Making Mechanisms Under Time Pressure in Generative AI Hallucination*

Cai-Ru Yen and Chun-Ching Chen (National Taipei University of Technology, Taiwan)

11:00 *When the Screen Goes Black: Reflective Interruption for Self-Awareness Recovery in Short-Form Video Consumption*

Zhen-Ling Wu and Chun-Ching Chen (National Taipei University of Technology, Taiwan)

11:20 *Fall Detection Using Elevation Dynamics in Multi-Antenna BLE AoA Data*

Koki Miyake and Ayano Naito (Aichi Institute of Technology, Japan)

11:40 *From Reading to Recovery with a Post-Reading Micro-Break Interface for Digital Reading*

Yun Lin, Ko-Chiu Wu and Chien-Wen Cheng (National Taipei University of Technology, Taiwan)

Thursday, October 29 10:00 - 12:00

OS-CPS(1): Smart Cyber-Physical Systems & Security

Room: 501

Chairs: Arata Koike (Tokyo Kasei University, Japan), Qian Wu (Hosei University, Japan)

10:00 *Analysis of Security Compliance and Deviation Decision-Making Based on Situational Factors and Individual Traits*

Rikuo Umemoto, Qian Wu and Atsushi Kanai (Hosei University, Japan); Takashi Hatashima (NTT Social Informatics Laboratories, Japan); Shigeaki Tanimoto (Japan International University, Japan)

10:20 *DRL-Based Path Planning for Autonomous Mobile Robots Tracking a Moving Goal*

Shiori Funaki and Yuka Kato (Tokyo Woman's Christian University, Japan)

10:40 *QoE-Aware Wi-Fi Handover: An Experimental Evaluation and Decision Method*

Yoshiko Sueda (Meisei University, Japan); Arata Koike (Tokyo Kasei University, Japan)

11:00 *Intent-Based Loop Detection for Long-Term LLM Mentoring: Towards Effective Dialogue Management*

Moe Yamanaka (Japan Women's University, Japan); Keishiro Watanabe (NTT Corporation, Japan); Haruhisa Hasegawa (Japan Women's University, Japan)

11:20 *Comparative Study of BERT Pre-Training Methods for API Call-Based Malware Detection*

Miyu Kawabata, Qian Wu and Atsushi Kanai (Hosei University, Japan)

11:40 *Wearable-Based Continuous Authentication for Secure Digital Wallets Using Permissioned Blockchain*

Hironao Takahashi (Emaan Institute Management and Science, Japan); Muhammad Kamran (Dts Pakistan, Pakistan); Asadullah Soomro (DTS Inc Pakistan, Pakistan); Muhammad Waqar, Sr (DTS Inc, Pakistan)

Thursday, October 29 10:00 - 12:00

OS-TMR(4): Technologies for Multimedia & Real Data Analysis and Processing

Room: 502

Chairs: Takahiro Ogawa (Hokkaido University, Japan), Soh Yoshida (Kansai University, Japan)

10:00 *Controllable One-Shot 3D Talking Heads: Training-Free Coupling of Diffusion Motion and Gaussian Avatars*

Weijing Xie (University of Waseda, Japan); Hiroshi Watanabe (Waseda University, Japan)

10:20 *Training-Free Continuous Bitrate Control for Scalable Image Coding for Humans and Machines*

Yui Tatsumi and Hiroshi Watanabe (Waseda University, Japan)

10:40 *Fisher-Weighted Prototypes for Domain Generalization in Action Recognition*

Smita Priyadarshani, Sooyeong Jeong and Catherine Kuramitsu (YKK Corporation, Japan); Ryosuke Nutaba, Akarsh Chandra Shetty and Hiroshi Watanabe (Waseda University, Japan)

11:00 *Emotion Estimation in 360-Degree VR Video Viewing Using Bio-Signals and Image Features*

Haruto Shinomiya and Wataru Kameyama (Waseda University, Japan)

11:20 *Enhancing QR Code Readability Through Super-Resolution Using Adaptive Module Weighting*

Shoko Tanaka and Hiroshi Watanabe (Waseda University, Japan)

11:40 *Finger Technique Recognition in Beatmania IIDX Gameplay Videos*

Futa Higashi, Youji Ochi and Kazuaki Yoshihara (Kindai University, Japan)

Thursday, October 29 10:00 - 12:00

OS-MMI: Music & Musical Instruments ↗

Room: 503

Chairs: Kojiro Nishimiya (Kanagawa Institute of Technology, Japan), Naoto Wakatsuki (University of Tsukuba, Japan)

10:00 *Guitar-Oriented Automatic Chord Recognition with Simplified Chord Sheet Generation*

Zijie Zhu and Yuanyuan Wang (Yamaguchi University, Japan)

10:20 *A Prompt Optimization System for Music Generation AI Incorporating Human Feedback*

Yuki Waragai (Saitama University, Japan); Yosuke Sugiura (Meiji University, Japan); Tetsuya Shimamura (Saitama University, Japan)

10:40 *Visual Effects on Vowel Intelligibility in Japanese Singing by Musical Experience*

Go Hayami and Mikio Mori (University of Fukui, Japan)

11:00 *Calculation of the Frequency Characteristics of the Sinuses Using the Finite-Difference Time-Domain Method*

Ryo Hasegawa (Graduate School of Engineering, University of Fukui, Japan); Mikio Mori (University of Fukui, Japan)

11:20 *Artificial Blowing and 3D Acoustic Simulation for an Inclusive Wind Instrument Utilizing Helmholtz Resonance with Pitch Control via the Neck Aperture Area*

Yuito Tanaka (Kanagawa Institute of Technology, Japan); Seiji Adachi (Tianjin University, China); Kojiro Nishimiya (Kanagawa Institute of Technology, Japan)

11:40 *Markerless Measurement of Oscillating Human Lip-Reed Deformation Fields Using Digital Image Correlation with a Stroboscope*

Ukyo Inomata, Naoto Wakatsuki, Tadashi Ebihara and Yuka Maeda (University of Tsukuba, Japan)

Thursday, October 29 10:00 - 12:00

RHN: Home Networks & Services

Room: 504

Chair: Ayano Naito (Aichi Institute of Technology, Japan)

10:00 *Design and Implementation of a Multi-Tenant Management Framework for CYPHONIC*

Soma Tsuge, Soichiro Kimura, Mitsuki Sugihara and Ryouta Aihata (Aichi Institute of Technology, Japan); Hidekazu Suzuki (Meijo University, Japan); Ayano Naito (Aichi Institute of Technology, Japan)

10:20 *Improved Code Shift Keying Using Overlapping Illumination Region-Based Secret Sharing Scheme*

Junya Yada, Yusuke Kozawa and Hiromasa Habuchi (Ibaraki University, Japan)

10:40 *Distributed Dataflow Execution and Location-Aware Node Discovery for IoT Services*

Yutaro Goto and Towa Kato (Aichi Institute of Technology, Japan); Kimihiro Mizuno (Mitsubishi Electric Engineering Co Ltd, Japan); Atsunori Aoki (Mitsubishi Electric Engineering Co. Ltd., Japan); Naoya Chujo, Tadanori Mizuno, Katsuhiko Kaji and Ayano Naito (Aichi Institute of Technology, Japan)

11:00 *Color Shift Keying Based on Mixed-Color Switching Patterns for Enhancing Transmission Efficiency in RGB-LED Communications*

Yuto Oshima, Yusuke Kozawa and Hiromasa Habuchi (Ibaraki University, Japan)

11:20 *Evaluation of Role-Specific Rule-Based Agents in the Napoleon Card Game*

Ryoya Miyata and Shun Nishide (Kyoto Tachibana University, Japan)

11:40 *Constellation Distance for RIS-Based Spatial Modulation MISO System Using Genetic Algorithm*

Yuyang Liu, Takuto Matsui, Yafei Hou and Satoshi Denno (Okayama University, Japan)

Thursday, October 29 10:00 - 12:00

OS-HPL(1): Smart Health Monitoring, Personalized Biomedical & Life Support Technologies

Room: 505

Chairs: Shenglin Mu (Ehime University, Japan), Ryoichi Suzuki (Kanazawa Institute of Technology, Japan)

10:00 *Privacy-Preserving Indoor Safety Monitoring Using mmWave Radar and Mamba-Based Posture Transition Recognition*

Finny Lin Yen, Yu-Hsuan Lee, Chia-Yu Shen, Hsin-Ai Wu and Yong-Yi Fanjiang (Fu Jen Catholic University, Taiwan)

10:20 Auditory Brain Computer Interface Using Linguistic and Amplitude-Modulated Sinusoidal Auditory Stimuli

Seiji Nishifuji (Yamaguchi University, Japan); Ryo Ueda (Japan); Jia Mengqi and Shota Nakashima (Yamaguchi University, Japan)

10:40 Cross-Wavelength PPG Heart Rate Estimation Under Varying Skin Tones: A Comparative Study

Tungkunavipas Atipat (Kyoto University of Advanced Science, Japan); Zilu Liang (Kyoto University of Advanced Science, Japan & The University of Tokyo, Japan)

11:00 Markerless Evaluation of FES-Assisted Sit-to-Stand Movement Under Simulated Knee Osteoarthritis Conditions

Shenglin Mu (Ehime University, Japan); Satoru Shibata (Graduate School of Science and Engineering, Ehime University, Japan)

11:20 SmartBAN Meets BLE 6.0 Channel Sounding: MAC-Transparent Time-Division Coexistence

Masato Yoshimi, Takahiro Ito and Hirokazu Tanaka (Hiroshima City University, Japan)

11:40 Personalizing Motion-Based Mental Workload Estimation with Reduced User Burden: A Case Study of Floor-Mopping

Moemi Shidahara, Yoki Takano and Kaori Fujinami (Tokyo University of Agriculture and Technology, Japan)

Thursday, October 29 10:00 - 12:00

OS-ISS(1): Intelligent Systems for Sustainable Living: Robotics, AI, and IoT Applications

Room: 404

Chair: Tanima Bhowmik (Institute of Engineering & Management, India)

10:00 Design and Evaluation of LLM Chaining-Based Task Planning for General Purpose Service Robots

Lucas Da Mota Bruno and Jiahao Sim (Soka University, Japan); Yoshinobu Hagiwara (Soka University & Ritsumeikan University, Japan)

10:20 Evaluation of RL-Based Tray Balance on Mobile Manipulators in Isaac Sim Using YCB Objects

Keith Valentin Cardenas (Soka University, Japan); Yoshinobu Hagiwara (Soka University & Ritsumeikan University, Japan)

10:40 A Distance-Scaling Approach to the Repulsive Potential for the Stagnation Avoidance in Artificial Potential Fields for the Mobile Robot Navigation

Kazuki Matsuda, Kosuke Nakajima and Wataru Uemura (Ryukoku University, Japan)

11:00 Effects of Fine-Tuning Trajectory Count on VLA-Based Deformable Bag Grasping with a Service Robot

Kenta Sato (Soka University, Japan); Yoshinobu Hagiwara (Soka University & Ritsumeikan University, Japan)

11:20 Monocular Pose Estimation of Robotic Arms for Collision Avoidance in Mobile Manipulation

Yuki Nambara, Kosuke Nakajima and Wataru Uemura (Ryukoku University, Japan)

11:40 IMU-Based Driving State Estimation for Mobile Robots

Harusuke Sugimoto, Kosuke Nakajima and Wataru Uemura (Ryukoku University, Japan)

Thursday, October 29 11:30 - 13:00

POS4A: Poster Session 4A ↑

Room: 301

POS4A.1 *Development of a Wearable Sound Localization System with a Microphone Array*

Manato Nishiba (Nagoya University, Japan); Satoshi Ohtsuka (National Institute of Technology, Gunma College, Japan)

POS4A.2 *Depth-Guided Teacher Data Generation for Robust RGB-Based Imitation Learning*

Kei Nishijima, Kosuke Nakajima and Wataru Uemura (Ryukoku University, Japan)

POS4A.3 *eBPF-Based Lightweight Sensor Data Propagation Tracing in Containerized IoT Platforms*

Riku Tatsumi and Kimihiro Mizutani (Kindai University, Japan)

POS4A.4 *Robust Detection for Physically-Possible Postures in 3D Sensor Networks*

Yamato Takeda, Yuta Fukiya, Ryoichi Shinkuma and Gabriele Trovato (Shibaura Institute of Technology, Japan); Yoshiaki Sugimura (SIT Research Laboratory, Japan)

POS4A.5 *Virtual Rail System for Transport Efficiency of Autonomous Mobility*

Shuya Nakayama, Masaki Wago, Ryoichi Shinkuma and Gabriele Trovato (Shibaura Institute of Technology, Japan); Yoshiaki Sugimura (SIT Research Laboratory, Japan)

POS4A.6 *Robust Speaker Verification Against Session Variability for Forensic Voice Comparison DNN*

Yuu Suzuki (Chiba University, Japan); Masafumi Nishida (Shizuoka University, Japan); Satoru Tsuge (Daido University, Japan); Yasuo Horiuchi and Shingo Kuroiwa (Chiba University, Japan)

POS4A.7 *Evaluating Control-Flow and Dependency Information for LLM-Based Program Repair*

Daisuke Kondo, Keisuke Kitamura, Akihito Kohiga and Takahiro Koita (Doshisha University, Japan)

POS4A.8 *Analysis of Doppler Spread Induced by Regular Surface Waves in a Wave Tank*

Junnosuke Yoshita, Tadashi Ebihara, Naoto Wakatsuki and Atsushi Tsuchiya (University of Tsukuba, Japan)

POS4A.9 *Enhancing Operational Efficiency in Airline Check-in and Baggage Handling Services: An Empirical Study of Domestic Airports in Taiwan*

Chun-Ting You and Chieh-Yen Chen (National Kaohsiung University of Science and Technology, Taiwan); Cheng-You Yu and Liang-Bi Chen (National Penghu University of Science and Technology, Taiwan); Szu-Yu Kuo (National Kaohsiung University of Science and Technology, Taiwan)

POS4A.10 *S2-RAG: An Intelligent Geospatial Dialogue System for Context-Aware Spatial Querying*

Chia-Yu Chung and Wen-Hsing Kuo (Yuan Ze University, Taiwan)

POS4A.11 *Task Estimation System Using Machine Learning*

Toshimasa Aso and Nono Suzuki (Tokyo University of Marine Science and Technology, Japan)

POS4A.12 *Robust UAV Localization Under Wind and GPS Denial via Infrastructure LiDAR*

Han Wu, Xinyu Wang, Ryoichi Shinkuma and Gabriele Trovato (Shibaura Institute of Technology, Japan)

POS4A.13 *Proposal of a 3D Reconstruction Framework for an Interactive Digital Twin Environment Using Geometric and Generative Approaches*

Souhei Kuromiya and Yoshia Saito (Iwate Prefectural University, Japan)

POS4A.14 *Cross-Lingual Knowledge Editing in LLMs: Do Knowledge Edits Transfer Across Languages?*

Hantao Zhang and Tadahisa Kondo (Kogakuin University, Japan)

POS4A.15 *Defensive Positioning Evaluation Based on Space Valuation in Soccer Transition Phases*

Muhammad Yudistira Hanifmuti, Calvin Yeung and Keisuke Fujii (Nagoya University, Japan)

POS4A.16 *Feedback-Regulated Curricula for Edge Learning Systems*

Ozgur Ercetin (Sabanci University, Turkey)

POS4A.17 *A Study of Dialect Adaptation for Japanese Automatic Speech Recognition Using LoRA-Based Fine-Tuning with Standard and Dialectal Dataset*

Tomoki Asakage and Raufun Nahar (National Institute of Technology, Anan College, Japan)

POS4A.18 *Recognition of Japanese Seasoning Odors Using a Temperature-Modulated BME688 Gas Sensor*

Ricardo Salazar and Akihito Kobayashi (Nihon Kougakuin Hachioji College, Japan)

POS4A.19 *Towards Field-Ready Embedded Edge AI Landmark Detection: A Synthetic-Data-Based Deployment Evaluation*

Meng-Wen Liu and Ming-Yi Liao (Southern Taiwan University of Science and Technology, Taiwan)

POS4A.20 *Development of an AI-Assisted Evaluation System for Bilateral Carrying Assessment in Occupational Rehabilitation*

Dau-Chieh Wu (National Cheng Kung University, Taiwan); Jer-Hao Chang (National Cheng Kung University & NCKU Hospital, Taiwan); Yi-Cheng Chang (Southern Taiwan University of Science and Technology, Taiwan); Ming-Che Chen (National Yunlin University of Science and Technology, Taiwan); Wan-Jung Chang (National Kaohsiung University of Science and Technology, Taiwan)

POS4A.21 *Cross-Zone Indoor Air Quality Pattern Discovery in an Educational Building Using Time-Series IoT Analytics*

Luigi Carlo M De Jesus (Asia Pacific College, Philippines & De La Salle University - Manila, Philippines); Aaron Don M. Africa (De La Salle University Manila, Philippines); Stanley Glenn E Brucal (Asia Pacific College & De La Salle University, Philippines)

POS4A.22 *Electronic-Tongue Screening of E. Coli-Spiked Milk Using t-SNE and Random Forest Analysis of Applied-Potential pH Signatures*

Sergio Peruda, Jr. (Asia Pacific College, Philippines); Jocelyn Villaverde (Mapua University, Philippines)

POS4A.23 *Information System Design for Promoting Digital Transformation - a Case Study in a Kindergarten That Sought a System That Would Be Accepted by People*

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Toru Takahashi (Osaka Sangyo University, Japan & Graduate School of Engineering, Japan); Koji Yamada (Osaka Sangyo University, Japan)

POS4A.24 *Prompt Refinement for Vision-Language-Action Models Under Incomplete Instructions for Robot Control*

Shin Kawamura, Tatsuki Seino, Naoki Saito, Ren Togo, Takahiro Ogawa and Miki Haseyama (Hokkaido University, Japan)

POS4A.25 *Modeling Inside-Lane Advantage and Payout Distributions in Boat Racing: Heiwajima vs. Omura*

Uta Kawatani and Yuanyuan Wang (Yamaguchi University, Japan)

POS4A.26 *Emotion-Aware Landscape Image Sequence Generation from Music with Visual Smoothing*

Yihao Zheng, Renjie Fan and Yuanyuan Wang (Yamaguchi University, Japan)

POS4A.27 *Quantitative Evaluation of Lipstick Quality Based on Formulation Conditions*

Ayumi Hamada, Tadaaki Ikehara and Takehiro Miyasaka (Shonan Institute of Technology, Japan)

Thursday, October 29 13:00 - 15:00

OS-DHW(2): Digital Health Technologies for Well-being and Disease Detection in Real-World Settings

Room: 401

Chairs: Toru Nakamura (The University of Osaka, Japan), Shuqiong Wu (The University of Osaka, Japan)

13:00 *Voice-Interactive Multisensory Wellness System with IoT-Based Aroma and Audio Feedback*

Li-Feng Wang and Yen Hsu (Tatung University, Taiwan); Yueh-Guo Liou (Chang Gung University of Science and Technology, Taiwan); Chi-Huang Hung (Fu Jen Catholic University, Taiwan)

13:20 *An Enhanced Federated Aggregation Framework for MRI-Based Brain Tumor Classification*

Chin-Cheng Liu, Jo-Yu Huang, Cheih-Ping Kang and You-Chen Chou (Yuan Ze University, Taiwan); Cheng-Hung Dixon Lin (National Taiwan Normal University, Taiwan)

13:40 *Toward an LLM-Enhanced 3D Emergency Triage Training Simulator*

Wanassara Prasanthong, Pujana Paliyawan, Kingkarn Sookhanaphibarn and Worawat Choensawat (Bangkok University, Thailand)

14:00 *Reason First or Predict First: Enhancing the Interpretability of Large Language Models for Digital Mental Health Screening*

Ashala Lakmini Senanayake and Prasan Yapa (Kyoto University of Advanced Science, Japan); Zilu Liang (Kyoto University of Advanced Science, Japan & The University of Tokyo, Japan)

14:20 *An Enhanced ConvNeXt Model with Multi-Scale Fusion for Blood Cell Classification*

Zhang Ying, Jiaming Zheng, Genki Suzuki and Hiroyuki Shioya (Muroran Institute of Technology, Japan)

14:40 *A Modular Web Platform for Clinical Computer-Aided Diagnosis Workflows: A Desktop and Head-Mounted Display UX Evaluation*

Vagner Mendonça Gonçalves (University of São Paulo, Brazil & Federal Institute of São Paulo, Brazil); Alvaro Uribe-Quevedo (Ontario Tech University, Canada); Fatima L. S. Nunes (University of São Paulo, Brazil)

Thursday, October 29 13:00 - 15:00

RUI(3): User Interfaces & Experience in CE

Room: 402

13:00 *Effective Frequency of Vibratory Stimuli to Thoracoabdominal Region for Intensifying Fear*

Naoya Onuki, Tatsuya Kitajima and Shogo Okamoto (Tokyo Metropolitan University, Japan)

13:20 *Acoustic Characteristics and Perceptual Impressions of Nonwood Baseball Bat Impact Sounds for Auditory Feedback Design in Sports Training*

Kohei Naito, Shun Yamada and Tetsuo Tanaka (Kanagawa Institute of Technology, Japan); Takahiro Miura (National Institute of Advanced Industrial Science and Technology (AIST), Japan & The University of Tokyo, Japan); Mari Ueda (Kanagawa Institute of Technology, Japan)

13:40 *Retro Jukebox: Reducing Technology Anxiety in Smart Mat Rehabilitation Through Nostalgic Interaction Design*

Yip Hiu Lam and Ko-Chiu Wu (National Taipei University of Technology, Taiwan)

14:00 *Incremental Sketch Recognition for AI Players in Drawing Werewolf*

Nodoka Okamoto (Kyoto Tachibana University & Kyoto, Japan); Sota Nishiguchi, Akari Takemoto, Kiyoharu Hamaguchi and Shun Nishide (Kyoto Tachibana University, Japan)

14:20 *User-Guided High-Resolution Drawing Sequence Generation Using VAE and VAE+U-Net Models*

Homari Matsumoto (Kyoto Tachibana University, Japan); Atomu Nakamura (Kyouto Tachibana University, Japan); Koharu Chiba, Kiyoharu Hamaguchi and Shun Nishide (Kyoto Tachibana University, Japan)

14:40 *Embodied Interaction for Financial Literacy: A Pilot Study on WhizToys Smart Floor Mat vs. Computer Interface*

Yip Hiu Lam and Ko-Chiu Wu (National Taipei University of Technology, Taiwan)

Thursday, October 29 13:00 - 15:00

OS-CPS(2): Smart Cyber-Physical Systems & Security

Room: 501

Chairs: Arata Koike (Tokyo Kasei University, Japan), Qian Wu (Hosei University, Japan)

13:00 *Evaluating the Impact of Dimensionality Reduction Model Selection in High-Dimensional Educational Data Analysis*

Rina Katagiri and Yuka Kato (Tokyo Woman's Christian University, Japan)

13:20 *Study on Drone Control and Search Trajectory Design for Fully Automated Aquaculture*

Mika Kuramae and Kenichi Arai (Nagasaki University, Japan); Kazuki Fukae (Nagasaki Institute of Applied Science, Japan); Hideyuki Takahashi (Tohoku Gakuin University, Japan); Tetsuo Imai, Hirofumi Miyajima and Mitsuru Hattori (Nagasaki University, Japan); Toru Kobayashi (Komazawa University, Japan)

13:40 *A VR-Based Evaluation System for Optimizing Robot Attribute Values Using Bayesian Optimization Based on User Psychological State*

Aina Ito and Yuka Kato (Tokyo Woman's Christian University, Japan)

14:00 *A Bio-Inspired Homeostatic Policy Control Model for Physical AI*

Shigeaki Tanimoto (Japan International University, Japan); Yoshinori Fujihira (Muroran Institute of Technology, Japan); Toru Kobayashi (Komazawa University, Japan); Takeshi Yamauchi (Niigata University, Japan)

14:20 *LessonLock: A Teacher-Operated Cyber-Physical System for Classroom Network Access Control*

Chin Chen (Fu Jen Catholic University, Taiwan); Yi-Chi Tsai, Zhi-lu Lin and Yao-Lin Wu (Taipei Municipal Fuxing High School, Taiwan)

14:40 *Service Coordination to Achieve Collaborative Decision-Making for Flight Operations*

Xiaodong LU (Electronic Navigation Research Institute, Japan)

Thursday, October 29 13:00 - 15:00

OS-SCL(1): Emerging Advanced Technologies for Smart City/Township & Intelligent Logistics

Room: 502

Chairs: Liang-Bi Chen (National Penghu University of Science and Technology, Taiwan), Ya-Ling Kao (National Penghu University of Science and Technology, Taiwan)

13:00 *Secure Early-Exit Transformer for IoT Intrusion Detection on Edge Devices*

August F. Y. Chao (National Penghu University of Science and Technology, Taiwan)

13:20 *A Study on AI-Based Coloring for the Delay and Prevention of Dementia*

Yu-Xiang Zhao and Ai-Wei Chen (National Quemoy University, Taiwan); Yi Lee (National Taiwan University of Science and Technology, Taiwan); Mu-Chun Su (National Central University, Taiwan); Yi-Zeng Hsieh (National Taiwan University of Science and Technology, Taiwan)

13:40 *GC-CET Transformer-Based Channel Estimation for IRS-Assisted 6G MIMO Systems in Smart Cities*

Zih-Yan Li, Hong-Cheng Chen and Hong-Yunn Chen (National Pingtung University, Taiwan)

14:00 *The Impact of Artificial Intelligence on Competitive Advantage and Innovation Performance in the Container Shipping Industry*

Chieh-Yen Chen and Szu-Yu Kuo (National Kaohsiung University of Science and Technology, Taiwan)

14:20 *Passive NFC Device Fingerprinting for Clone Detection and Access Anomaly Identification in Smart Lock Systems*

Cheng-You Yu (National Penghu University of Science and Technology, Taiwan); Chun-Ting You (National Kaohsiung University of Science and Technology, Taiwan); Liang-Bi Chen (National Penghu University of Science and Technology, Taiwan); Szu-Yu Kuo (National Kaohsiung University of Science and Technology, Taiwan)

14:40 *A Few-Shot Intelligent Bakery Checkout System Based on High-Dimensional Feature Embedding and Geometric Space Metrics*

Deng-Ying Liu (National Pingtung University of Science and Technology, Taiwan); Tin-Yu Wu (National Yunlin University of Science and Technology, Taiwan); Zi-Rong Huang, Zong-Cheng Guo, Guo-Zhu He and Yao-Wei Tsai (National Pingtung University of Science and Technology, Taiwan)

Thursday, October 29 13:00 - 15:00

OS-ITS(1): Intelligent Transport Systems

Room: 503

Chairs: Naohisa Hashimoto (National Institute of Advanced Industrial Science and Technology, Japan), Tomotaka Wada (Kansai University, Japan)

13:00 *A Method of Pedestrian Individual Tracking Using Time-Series 3D Point Cloud Data*

Miguel Nobuaki Yasuda and Daisuke Kasamatsu (Soka University, Japan)

13:20 *Experimental Validation of Successive Antenna Element Space Interference Cancelling Radar for Multi-Target Angle Estimation*

Yuki Makino and Shigeki Takeda (Ibaraki University, Japan); Zequn Song (Kagawa University, Japan); Ran Sun (Ibaraki University, Japan)

13:40 *Throughput of Multi-Level PAM-Based Wireless Network Coding in Butterfly Networks*

Enishi Ohashi, Yusuke Kozawa and Hiromasa Habuchi (Ibaraki University, Japan)

14:00 *Novel Noise-Aided Receiver Scheme for Low-Resolution ADC Demodulation*

Kentaro Hatajiri, Hiroyuki Hatano, Kosuke Sanada and Kazuo Mori (Mie University, Japan)

14:20 *Indoor Drone System Integrating RTK Positioning and Laser-Based WPT*

Sukegawa Fumiaki, Yusuke Kozawa and Hiromasa Habuchi (Ibaraki University, Japan)

Thursday, October 29 13:00 - 15:00

RWL(1): Wireless & RF in CE

Room: 504

Chair: Yafei Hou (Okayama University, Japan)

13:00 *Accuracy Evaluation of Person Position Estimation Using Compressed CSI Under Temporary Shielding*

Yuji Makimura, Teppei Kobiki and Masashi Nishiyama (Tottori University, Japan)

13:20 *Wi-Fi CSI-Based Through-Wall Pre-Intrusion Behavior Sensing System*

Yuhang Fu, Shunpei Yamaguchi, Makoto Kobayashi and Masahiro Nishi (Hiroshima City University, Japan)

13:40 *Impact of Polynomial Truncation Order on IMD Suppression in Multi-Band A-RoF Networks*

Moeka Makabe, Hiroto Yorioka and Takeshi Higashino (Nara Institute of Science and Technology, Japan)

14:00 *Task-Specific Spatial Attention-Based Multi-Task Learning for Heterogeneous Massive MIMO Beamforming*

Sou Imai and Taisei Urakami (National Institute of Technology, Kagawa College, Japan); Na Chen (University of Science and Technology Beijing, China); Minoru Okada (Nara Institute of Science and Technology, Japan)

14:20 *A Combination Method of Adaptive Modulation and LED Lighting Allocation for Multi-User Spatially Parallel Signal Transmission in LED Visible Light Wireless Communications*

Ryoya Maruyama, Shigeru Tomisato, Satoshi Denno and Kazuhiro Uehara (Okayama University, Japan)

14:40 *Semantic Communication-Based Massive MIMO Beamforming Using Multi-Task Learning*

Kouki Asano, Taisei Urakami and Sou Imai (National Institute of Technology, Kagawa College, Japan); Na Chen (University of Science and Technology Beijing, China); Minoru Okada (Nara Institute of Science and Technology, Japan)

Thursday, October 29 13:00 - 15:00

OS-HPL(2): Smart Health Monitoring, Personalized Biomedical & Life Support Technologies

Room: 505

Chairs: Shenglin Mu (Ehime University, Japan), Ryoichi Suzuki (Kanazawa Institute of Technology, Japan)

13:00 *VR-Based Sit-Ski Simulator Designed for People with Disabilities and Everyone Else*

Ryoichi Suzuki and Takayuki Sawada (Kanazawa Institute of Technology, Japan)

13:20 *Assessing the Impact of Transfer-Learned IMU-Based Joint Angle Prediction on Lower-Limb Muscle Force Estimation During Gait*

Xinyue Li and Takashi Watanabe (Tohoku University, Japan)

13:40 *Cross-Model SHAP Interpretability Analysis for HRV-Based Stress Detection: Feature Importance, Direction, and Scale*

Yusuf Bolat (Kyoto University of Advanced Science, Japan); Zilu Liang (Kyoto University of Advanced Science, Japan & The University of Tokyo, Japan)

14:00 *Analysis of Subjective and Objective Stress Indicators by Age and Gender Using MindScale™*

Kosuke Sakurai, Tomochika Harada, Michio Yokoyama and Shigeyuki Seko (Yamagata University, Japan); Makoto Shohara, Ryosuke Takahashi and Daisuke Yoshida (Yume Cloud Japan, Japan)

14:20 *Dynamic Gait Stability Monitoring Using Smartphone's IMU Sensor*

Feifei Sun, Hiroki Watanabe and Shogo Okamoto (Tokyo Metropolitan University, Japan); Yasuhiro Akiyama (Shinshu University, Japan)

14:40 *Postprandial Glucose Response Prediction Using Multimodal Consumer Health Data*

Arnav Kumar and Jamison Meyer (Ohio State University, USA); Zilu Liang (Kyoto University of Advanced Science, Japan & The University of Tokyo, Japan)

Thursday, October 29 13:00 - 15:00

OS-ISS(2): Intelligent Systems for Sustainable Living: Robotics, AI, and IoT Applications

Room: 404

Chairs: Tanima Bhowmik (Institute of Engineering & Management, India), Wataru Uemura (Ryukoku University, Japan)

13:00 *Environment Identification Based on Point Cloud Variance for Mobile Robots*

Ryuki Takemura, Kosuke Nakajima and Wataru Uemura (Ryukoku University, Japan)

13:20 *Improving Point Cloud Matching During Robot Rotation by Correcting Angular Distortion in LiDAR Scans*

Haruki Ueda, Kosuke Nakajima and Wataru Uemura (Ryukoku University, Japan)

13:40 *Minimizing Expected Costs: Drone Arc Routing with Dynamic Adaptation to Stochastic Edge*

Suhan Mohan Puthran (Ritsumeikan university, Japan); Haruto Katsumata and Hiroyuki Tomiyama (Ritsumeikan University, Japan)

14:00 *Investigation of Relative Permittivity Variation in Atlantic Salmon During Heating*

Kei Imai, Yuuki Furuyama, Kouji Kuramochi and Takahiko Yamamoto (Tokyo University of Science, Japan)

14:20 *AgriSenseFlow: A Hybrid AI-Based Cyber-Physical System for Real-Time Crop Disease Detection and Localization*

Pratyusha Chatterjee (Institute of Engineering and Management, Kolkata, India); Tanima Bhowmik (Institute of Engineering & Management, India)

Thursday, October 29 15:00 - 16:30

POS4B: Poster Session 4B ↑

Room: 301

A Teacher-Organized Map with Potential Learning Applying Writer Verification in Online Exam

Taisuke Kawamata (Ibaraki University, Japan); Takako Akakura (Tokyo University of Science, Japan)

External Sinkhole Attack Detection in Large-Scale WSNs Using Metaheuristic Feature Selection

Seungwoo Han, Sawako Kitagata, Ingon Chanpornpakdi and Toshihisa Tanaka (Tokyo University of Agriculture and Technology, Japan); Su Man Nam (Cheongju University, Korea (South))

Classification of Pedestrian Dart-Out Risk in Tree-Occluded NLOS Areas Using a 2.4 GHz FMCW Radar

Yuki Nakaoka and Kenshi Saho (Ritsumeikan University, Japan)

3D Autonomous Navigation Based on Barrier Lyapunov Functions with Depth Sensing

Taro Shibasaki and Keigo Watanabe (Okayama University, Japan)

Accuracy-Efficiency Trade-Offs of CNN and Transformer Architectures for Facial Age Estimation

Yu-Wei Lin and Li-Wei Kang (National Taiwan Normal University, Taiwan)

A Proposal for an MLIR-Based Compiler Frontend Architecture Targeting CSNN Models

Choi Hangjun and Jeonghun Cho (Kyungpook National University, Korea (South))

Riemannian Geometry-Based Brain-State Classification Using Temporal Variations in Cerebral Blood Flow Connectivity

Akira Masuo (Seijoh University, Japan); Nobumi Abe (Nagoya college of medical health & sports, Japan); Takuto Sakuma and Shohei Kato (Nagoya Institute of Technology, Japan)

SensoryMap: A Crowdsourced System for Mapping Sensory Overload in Autistic Individuals Using Wearable Physiological Sensing

Lori Tai (University of North Carolina at Chapel Hill, USA); Yi-An Hsieh (National Taipei University of Technology, Taiwan)

LSTM-Based Early Prediction of Ventilator-Associated Pneumonia Using Stay-Level Cross-Validation and an Extended Prediction Window

Jia-Yuan Chiang and Shu-Yen Lin (Yuan Ze University, Taiwan); Mei-Ying Chang, Ya-Ting Chen and Mei-Yun Chang (Far Eastern Memorial Hospital, Taiwan)

A Study on Region of Interest Detection Suitable for Optical Wireless Communications Using Event-Based Cameras

Ayumi Kawabata (Kagoshima University, Japan); Norio Aoyama (Toshiba Information Systems (Japan) Corporation, Japan); Takahiro Matsumoto and Yasuaki Ohira (Kagoshima University, Japan); Hideyuki Torii (Kanagawa-It, Japan); Yuta Ida (Yamaguchi University, Japan)

Hierarchical Federated Learning-Based AP-UE Association System with Path Loss Consideration

Yuki Koga, Sota Okochi and Norihiko Shinomiya (Soka University, Japan)

An Economic-Driven and Grid-Supportive Decentralized V2G Control Strategy for Residential EV Chargers

Jen-Hao Teng (National Sun Yat-Sen University, Taiwan); Huan Lee (National Sun Yat-sen University, Taiwan)

Spatial-Context-Based Identification of Nearby IoT Devices for Matter-Enabled Smart Homes

Shunpei Ueda and Shigeyuki Sakazawa (Osaka Institute of Technology, Japan)

Formulation of Asynchronous Acoustic Tomography for Temperature and Flow Field Estimation Using One-Way Time-of-Flight

Yuki Fujita (National Agriculture and Food Research Organization, Japan & University of Tsukuba, Japan); Tadashi Ebihara and Naoto Wakatsuki (University of Tsukuba, Japan)

Prediction of the Power Grid Load to Optimize Local Energy Consumption

Phil Meier and Marcus Prochaska (Ostfalia University of Applied Sciences, Germany)

Lightweight Hardware Implementation of Integer Polynomial Multiplication on an SoC FPGA

Kuan Jen Lin and Hsiang Yun Peng (Fu Jen Catholic University, Taiwan)

Detecting Mixing Transactions in Bitcoin by Using Graph Neural Networks

Naoki Komatsu and Hiroyuki Inaba (Kyoto Institute of Technology, Japan)

Development of an Automatic Arc 3D Display Data Generation Program

Kotona Watanabe and Makiko Okumura (Kanagawa Institute of Technology, Japan)

Partner-Triggered Vibratory Feedback for Enhancing Emotional and Physiological Arousal in Competitive Games

Tatsuya Kitajima, Naoya Onuki, Shuhei Seki and Shogo Okamoto (Tokyo Metropolitan University, Japan)

Interactive Fifteen Puzzle Using Projection

Miho Ohashi and Nobuyuki Umezu (Ibaraki University, Japan)

Affordance-Based Contextual Cueing for Situated Foreign-Language Production via Smart Glasses

Tse Wei Lin and Hsiao-Yue Tsao (National Taipei University of Technology, Taiwan)

Asura Hands: Detection Threshold for Amplified Motion Gain in a Three-Hand Virtual Avatar

Xiaoyang Feng and Shogo Okamoto (Tokyo Metropolitan University, Japan); Masayuki Hara (Saitama University, Japan)

Comparative Evaluation of Protective Bubble Cues in a Redesigned Map-Based Risk-Aware Navigation Interface

Peng Chih Chia and SaiauYue Tsau (National Taipei University of Technology, Taiwan)

From Imitation to Individual Style: A Web-Based System for Developing Personal Calligraphy Through Morphing with Artistic Fonts

Yi-An Hsieh and Nan-Ching Tai (National Taipei University of Technology, Taiwan)

Beamforming for Distributed Integrated Sensing, Communication, and Power Transfer Systems

Kaito Goto and Teruyuki Miyajima (Ibaraki University, Japan)

A 60 GHz CMOS LNA Using Gain-Enhanced Techniques

Wei-Hong Hsu and Yi-Jan Emery Chen (National Taiwan University, Taiwan)

Smart Pet Water Fountain Integrating Wireless Power Transfer and Multi-Sensor Technologies

Che-Yu Lu, Ya-Hsuan Lin and Fang-Ching Liu (National United University, Taiwan)

Study on ASK Transmissions Focusing on Frequency Sweep Structures of Chirp Carriers

Yuki Goto and Yuta Ida (Yamaguchi University, Japan); Yasuaki Ohira (Kagoshima University, Japan); Sho Kuroda (FX Systems Corporation, Japan); Takahiro Matsumoto (Kagoshima University, Japan)

Transmission Characteristics for Shoe-Sole Conditions in Human Body Communication Between Floor and Wearable Electrodes

Mikihito Yamashita (Tokyo Polytechnic University, Japan); Fukuro Koshiji (Tokyo Denki University, Japan)

Thursday, October 29 15:30 - 18:00

V-4: Virtual Session

Room: Online (Zoom)

15:30 *Proactive GRU-Based Hybrid Beamforming with ISAC for Reliable mmWave V2X Communications*

Mandavi Dubey and Pi-Chung Wang (National Chung Hsing University, Taiwan); Vijay Dubey (National Tsing Hua University, Taiwan)

15:50 *Privacy-Preserving Location Sharing Architectures for Women-Centric Safety Applications*

Wai Yie Leong (INTI International University, Malaysia)

16:10 *MediGuide AI: An Explainable Healthcare Assistant*

Malavika S Prasad (Amrita Vishwa Vidyapeetham (Deemed University), India); Geshna B, Asmi K and Vibhu Sanchana (Amrita Vishwa Vidyapeetham, India); T. Keerthika (Amrita Vishwa Vidyapeetham, Coimbatore, India)

16:30 *Cross-Domain Bengali ASR for Broadcast and Informal Vlog Speech: Reducing Transfer Gaps with LLM-Assisted Correction*

Akif Islam (University of Rajshahi, Bangladesh); Raufun Nahar (National Institute of Technology, Anan College, Japan); Md. Ekramul Hamid (University of Rajshahi, Bangladesh)

16:50 *An Experimental Validation Framework for Keyboard-Based Stress Estimation in VDT Work Environments*

Sayaka Akiyama and Yuka Kato (Tokyo Woman's Christian University, Japan)

17:10 *Gender-Inclusive Ergonomic Design of Smartphones Based on Hand Anthropometry*

Wai Yie Leong (INTI International University, Malaysia)

Thursday, October 29 16:00 - 18:00

OS-SDS: Agent Systems for Data Science & AI

Room: 401

Chairs: Akira Kawai (Shiga University, Japan), Tomoki Yoshihisa (Shiga University, Japan)

16:00 *Development of a 3D Visualization and Automatic Evaluation Tool Using Driving Behavior Data*

Yuki Hirai and Akira Kawai (Shiga University, Japan)

16:20 *A Kitchen Equipment Layout Optimization Method to Reduce Cooking Time Using Evolutionary Algorithms*

Harukana Maeda, Hiroyasu Matsushima and Tomoki Yoshihisa (Shiga University, Japan)

16:40 *Inferring Collective Reward Preferences from Multi-Agent Trajectories with Gradient-Based Inverse Reinforcement Learning in Soccer*

Soujanya Dash, Kenjiro Ide and Rikuhei Umemoto (Nagoya University, Japan); Taiga Someya (The University of Tokyo, Japan); Kohei Kawaguchi (Hong Kong University of Science and Technology, Hong Kong); Keisuke Fujii (Nagoya University, Japan)

17:00 *Depth-and-Event-Aware Visual Cue Selection Agent from XR Logs for Monocular XR Support*

Hayato Tomisu (Shiga University, Japan); Naoto Kai (The University of Osaka); Tomoki Yoshihisa (Shiga University, Japan)

17:20 *Using Large Language Models to Develop Microservice-Based Applications and Perform Automated Deployment*

Yan-Yun Mao and Hsin-Yu Huang (Lee-Ming Institute of Technology, Taiwan); Yong-Yi Fanjiang (Fu Jen Catholic University, Taiwan); Yi-Siou Syu and Wen-Chin Tsen (Lee-Ming Institute of Technology, Taiwan); Finny Lin Yen (Fu Jen Catholic University, Taiwan)

17:40 *A Preliminary Study on Federated Learning-Based Support for Students' Self-Regulated Learning Considering Course-Level Non-IID Data Distributions*

Satoru Matsumoto (Tohoku University, Japan)

Thursday, October 29 16:00 - 18:00

RUI(4): User Interfaces & Experience in CE

Room: 402

16:00 *Shared Information Management in Message Communication*

Moeka Hirata and Kiyoshi Tanaka (Otsuma Women's University, Japan)

16:20 *Designing for Guidance: A Care Matching Platform Interface for Family Caregivers Under Stress*

Hsiang-Chien Kung and Ko-Chiu Wu (National Taipei University of Technology, Taiwan)

16:40 *Dynamic and Visual Evaluation of Rigging Methods for Generated 3D Characters*

Koharu Chiba and Homari Matsumoto (Kyoto Tachibana University, Japan); Atomu Nakamura (Kyouto Tachibana University, Japan); Shun Nishide (Kyoto Tachibana University, Japan)

17:00 *Geo-Affective Crowdsensing: A Collective Emotional Mapping System for Urban Micro-Environment Awareness*

Yi-Pei Lin and Ko-Chiu Wu (National Taipei University of Technology, Taiwan)

17:20 *The Effects of Video-Induced Emotions on Cognitive Load and Reading Comprehension in Digital Reading*

Yi-Pei Lin, Hsiang-Chien Kung and Ko-Chiu Wu (National Taipei University of Technology, Taiwan)

Thursday, October 29 16:00 - 18:00

OS-SCL(2): Emerging Advanced Technologies for Smart City/Township & Intelligent Logistics

Room: 502

Chairs: August F. Y. Chao (National Penghu University of Science and Technology, Taiwan), Liang-Bi Chen (National Penghu University of Science and Technology, Taiwan), Szu-Yu Kuo (National Kaohsiung University of Science and Technology, Taiwan), Shih-Hsiung Lee (National Kaohsiung University of Science and Technology, Taiwan)

16:00 *Power Profiling of MPSL-Based BLE+Thread Coexistence on nRF5340: A Benchmark for SED and SSED in Commercial Smart Lock Applications*

Cheng-You Yu (National Penghu University of Science and Technology, Taiwan); Chun-Ting You (National Kaohsiung University of Science and Technology, Taiwan); Liang-Bi Chen (National Penghu University of Science and Technology, Taiwan); Szu-Yu Kuo (National Kaohsiung University of Science and Technology, Taiwan)

16:20 *Integrating Industry 4.0 Technologies into Smart Ports: An Ambidexterity Strategy Perspective*

Xuan-Fang Wang and Szu-Yu Kuo (National Kaohsiung University of Science and Technology, Taiwan)

16:40 *Enhancing Student Learning Outcomes and Learning Satisfaction Through the ARCS Model in Higher Education AI Courses*

Chun-Ting You (National Kaohsiung University of Science and Technology, Taiwan); Cheng-You Yu and Liang-Bi Chen (National Penghu University of Science and Technology, Taiwan); Szu-Yu Kuo (National Kaohsiung University of Science and Technology, Taiwan)

17:00 *Green Supply Chain Performance in Container Terminals Through Digital Twins and Circular Economy*

Bo-Shiang Tsai and Szu-Yu Kuo (National Kaohsiung University of Science and Technology, Taiwan)

17:20 *Star Transformer Architecture for IoT CSI Feedback in Smart Cities*

Hong-Cheng Chen, Zih-Yan Li and Hong-Yunn Chen (National Pingtung University, Taiwan)

17:40 *Identifying Key Digital Map Functions for International Cruise Terminals*

You-Yi Lee and Szu-Yu Kuo (National Kaohsiung University of Science and Technology, Taiwan)

Thursday, October 29 16:00 - 18:00**OS-ITS(2): Intelligent Transport Systems**

Room: 503

Chairs: Naohisa Hashimoto (National Institute of Advanced Industrial Science and Technology, Japan), Tomotaka Wada (Kansai University, Japan)

16:00 *Physics-Guided TCN-Transformer Learning for Early Electric Vehicle Battery Degradation Detection in Real-World Driving*

David Chunhu Li (Ming Chuan University, Taiwan)

16:20 *Visible Tour: An Automatic Tourist Guide System Based on Visibility Analysis Using a 3D City Model*

Manato Yamada (Toyo University, Japan); Takeshi Yashiro (Toyo University & YRP Ubiquitous Networking Laboratory, Japan)

16:40 *Effects of Gaze and Autonomic Nervous System Activity in Emergency Driving Transitions*

Hiroyuki Yamato and Koji Kashihara (Ritsumeikan University, Japan)

17:00 *Super-Resolution-Based Distant Object Detection for Autonomous Driving*

Shiina Tsubono (Hiroshima, Japan); Yanlei Gu, Bisser Raychev and Toru Higaki (Hiroshima University, Japan)

17:20 *A Method of Deadlock Avoidance Using MARL*

Taiyo Sugiura, Masaru Unno and Daisuke Kasamatsu (Soka University, Japan)

Thursday, October 29 16:00 - 18:00**RWL(2): Wireless & RF in CE**

Room: 504

Chair: Yafei Hou (Okayama University, Japan)

16:00 Coverage Improvement by Subcarrier Reuse in SDMA-OFDM Underwater VLC

Shu Kosukegawa, Yuki Iyoda, Yusuke Kozawa and Hiromasa Habuchi (Ibaraki University, Japan)

16:20 Performance Evaluation of a Reduced-Overhead Lower-Layer Configuration for Time-Domain LDM in Next-Generation DTTB Systems

Hiroto Yamamoto (Tokyo University of Science, Japan); Akira Nakamura (Kanagawa University, Japan); Makoto Itami (Tokyo University of Science, Japan)

16:40 Periodic NAV Notification for Maintaining Channel Planning in IEEE 802.11 WLANs

Yuya Kawabuchi, Yusuke Hirano and Shinichi Miyamoto (Wakayama University, Japan)

17:00 Device-Level Hybrid MAC Protocol Using NAV-Based Reservation for QoS Provisioning in IEEE 802.11 WLANs

Tatsushi Araki, Yusuke Hirano and Shinichi Miyamoto (Wakayama University, Japan)

17:20 Singular Spectrum Analysis of GNSS-Derived ZTD for Asian Dust Detection

Yamato Kondo (National Institute of Technology, Kagawa Collage, Japan); Akira Ono (National Institute of Technology (KOSEN), Kagawa College, Japan); Takeshi Higashino (Nara Institute of Science and Technology, Japan)

Thursday, October 29 16:00 - 18:00

OS-CTG: AI-Driven Consumer Technologies & the Future of Game-Based Interventions

Room: 505

Chairs: Can Gursesli (Tampere University, Finland), Antonio Lanata (University of Florence, Italy)

16:00 Color or No Color? Effects of Chromatic and Achromatic Stimuli on Eye Movements During a Spatial Memory Game

Can Gursesli (Tampere University, Finland); Anna Enrica Tosti (Università degli Studi di Firenze, Italy); Ibrahim Khan and Yi Xia (Ritsumeikan University, Japan); Andrea Guazzini (Università degli Studi di Firenze, Italy); Daniel Fernández Galeote and Juho Hamari (Tampere University, Finland); Ruck Thawonmas (Ritsumeikan University, Japan); Antonio Lanata (University of Florence, Italy)

16:20 Behavioral Fidelity and Philosophy-Grounded Design for Self-Reflective Conversational AI

Takumi Matsuo (The University of Osaka, Japan); Keito Inoshita (Kansai University, Japan & Shiga University, Japan)

16:40 Powering AI at the Edge: An Analysis of Power Consumption of AI Applications on Smartphones

Janisley Oliveira De Sousa (Sidia Institute of Science and Technology, Brazil & Federal University of Amazonas, Brazil); Eduardo Barbosa Caldeira (Sidia Institute of Science and Technology, Brazil); Georgio S. Colares (Federal University of Amazonas & Sidia Institute of Science and Technology, Brazil); Raphael Barroso Santana and David Alan De O. Ferreira (Sidia Institute of Science and Technology, Brazil)

17:00 Glanceable Chronotype and Social Jetlag on Smartwatches: A Gamified MCTQ Design

Nhung Huyen Hoang and Thilini Savindya Karunaratna (Kyoto University of Advanced Science, Japan); Joey Villeneuve and Edward Melcer (Carleton University, Canada); Zilu Liang (Kyoto University of Advanced Science, Japan & The University of Tokyo, Japan)

17:20 *Towards Automated UX Quantification: A Preliminary Study of LLM-Based Inference from User Interviews*

Thanayos Siratranont, Wanassara Prasanthong, Pujana Paliyawan, Kingkarn Sookhanaphibarn and Worawat Choensawat (Bangkok University, Thailand)

17:40 *From Prompt Engineering to Visual Personality Design: An Intuitive Interface for AI Virtual Character Creation*

Bo-Rong Chen and Hsiao-Yue Tsao (National Taipei University of Technology, Taiwan)