

# POSTER LIST

November 1 (Wednesday)

10:20-12:00

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**P1**

## Poster Session I

Chair: Yoshiaki Itoh (Iwate Prefectural University, Japan) / Li-Wei Kang (National Taiwan Normal University, Taiwan)

**P1-1**

### Fatigue Classification and Onset Estimation Using Surface EMG Signals During Strength Training

*Eswar Adapa (Indian Institute of Information Technology Sri City, India); Anish Turlapaty (Indian Institute of Information Technology, India); Surya Naidu (IIIT Sri City, India)*

**P1-2**

### P300 Event-Related Potential in Perception of Multiple Traffic Objects During Vehicle Driving

*Yuki Yamamoto (Chubu University, Japan); Sou Nobukawa (Chiba Institute of Technology, Japan); Nobuhiko Wagatsuma (Toho University, Japan); Keiichiro Inagaki (Chubu University, Japan)*

**P1-3**

### Kernel Random Projection Depth for Outlier Detection

*Akira Tamamori (Aichi Institute of Technology, Japan)*

**P1-4**

### Soft-Sensor Construction Method Based on Adaptive Modeling and Transfer Learning for Manufacturing Process Including Maintenance Periods

*Kaito Katayama and Koichi Fujiwara (Nagoya University, Japan); Kazuki Yamamoto (AGC Inc., Japan)*

**P1-5**

### Detecting Wire Bonding Defects in Point Clouds on Self-Generated Dataset

*Shang Li Yuen and Phooi Yee Lau (MIMOS Berhad, Malaysia); Chin Wee Wong (Advanced Intelligence Lab, Malaysia); Muhammad Hafiz Samsuri (MIMOS Berhad, Malaysia); Zarina Hussin (MIMOS Berhad & MIMOS Semiconductor (M) Sdn Bhd, Malaysia); Nur Afiqah Kamarudin and Muhammad Syukri Mohd Talib (MIMOS Berhad, Malaysia); Hock Woon Hon (MIMOS Bhd, Malaysia)*

**P1-6**

### Predicting Outcomes of Cognitive Behavioral Therapy for Depression Using Data Driven Approaches

*Lily Tyszczyk (The University of Sheffield & ASTAR, Singapore); Liat Levita (University of Sussex, United Kingdom (Great Britain)); Jaime Delgadillo (The University of Sheffield, United Kingdom (Great Britain)); Haihong Zhang (Institute for Inforcomm Research, A\*STAR, Singapore); Mahnaz Arvaneh (The University of Sheffield, United Kingdom (Great Britain))*

**P1-7**

### Learning Adapters for Code-Switching Speech Recognition

*Chun-Yi He and Jen-Tzung Chien (National Yang Ming Chiao Tung University, Taiwan)*

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**P1-8**

### **FID-RPRGAN-VC: Fréchet Inception Distance Loss Based Region-Wise Position Normalized Relativistic GAN for Non-Parallel Voice Conversion**

*Sandipan Dhar and MD Tousin Akhter (NIT Durgapur, India); Padmanabha Banerjee (JGEC, India); Nanda Jana (National Institute of Technology Durgapur, India); Swagatam Das (Indian Statistical Institute, India)*

**P1-9**

### **Deformable Aligned Fusion for Video Super Resolution**

*Sin-Hong Lee, Chih-Hung Kuo and Tsai Chun Yu (National Cheng Kung University, Taiwan)*

**P1-10**

### **Learning Single Image Rain Streak Removal Based on Deep Attention Mechanism**

*Kuan-Hua Huang and Li-Wei Kang (National Taiwan Normal University, Taiwan)*

**P1-11**

### **A Transformer-Based Framework for Tiny Object Detection**

*Yi-Kai Liao, Gong-Si Lin and Mei-Chen Yeh (National Taiwan Normal University, Taiwan)*

**P1-12**

### **Lightweight Models Distillation with Learnable Teaching Material: An Application for Smart Table Tennis System**

*Duan-Yu Chen (Department of Electrical Engineering, Yuan Ze University, Taiwan); Yu-Hsuan Chen (Yuan Ze University, Taiwan)*

**P1-13**

### **Selecting Suitable Data Input for Deep-Learning Sign-Language Recognition with a Small Dataset**

*Yu-Jen Chen and Po-Chyi Su (National Central University, Taiwan)*

**P1-14**

### **Analysis of the Interaction Effect on Pruning and Transfer Learning in Model Training**

*Yu-Jen Wei, Jia-Hong Chen and Tien-Ying Kuo (National Taipei University of Technology, Taiwan)*

**P1-15**

### **Old Damaged Photo Recovery with Style Transfer-Based Data Augmentation**

*Chih-Hao Wang, Yu-Jen Wei, Ching Hsiang Chang and Tien-Ying Kuo (National Taipei University of Technology, Taiwan)*

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**Poster Session I**

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**P1-16**

**A Deep Learning Based Sustainable Energy Scheduling System**

*Kun-Lin Tsai (TungHai University, Taiwan); Yan-Hao Chen, Choa-Ting Huang, Guo-Wei Huang and Shih-Ting Tseng (Tunghai University, Taiwan)*

**P1-17**

**A Computational Efficient Direct Position Determination Approach of Narrow-Band Emitter**

*Yuan Zhao (Shenzhen Institute of Artificial Intelligence and Robotics for Society); Hanmin Sheng and Jinliang Shao (University of Electronic Science and Technology of China, China)*

**P1-18**

**Modeling and Analysis of the Epidemic-Behavior Co-Evolution Dynamics with User Irrationality**

*Wenxiang Dong and H. Vicky Zhao (Tsinghua University, China)*

**P1-19**

**Noise-Robust Pitch Detection Based on Super-Resolution Harmonics**

*Dongjie Zhu (Institute of Information Science, Beijing Jiaotong University); Tianrui Wang and Weibin Zhu (Institute of Information Science, Beijing Jiaotong University, China); Yingying Gao, Junlan Feng and ShiLei Zhang (China Mobile Research Institute, China)*

**P1-20**

**A Subband Approach to Personal Sound Zone with Joint Optimization of Sound Pressure and Particle Velocity**

*Yingke Zhao (Shaanxi University of Science and Technology, China); Wen Zhang (Northwestern Polytechnical University, China); Jingdong Chen (Center of Intelligent Acoustics and Immersive Communications, China)*

**P1-21**

**An Multi-Evidence Fusion Based on C-Distance with Uncertain Reasoning for Classification**

*Cuiping Cheng (ZHEJIANG LAB, China); Pengcheng Yue and Taihao Li (Zhejiang Lab, China)*

**P1-22**

**On Uncertainty Principles for Lowband Graph Signals**

*Na Li, Linbo Shang and Zhichao Zhang (Nanjing University of Information Science and Technology, China)*

**P1-23**

**CoA-DLinkNet: Connectivity-Enhanced Dual-Branch Road Extraction Network Based on D-LinkNet**

*Linghan Li, Heliu Chen, Renjie He, Yuchao Dai and Mingyi He (Northwestern Polytechnical University, China)*

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**Poster Session I**

Chair: Yoshiaki Itoh (Iwate Prefectural University, Japan) / Li-Wei Kang (National Taiwan Normal University, Taiwan)

**P1-24**

**Black-Box Lossless Fragile Watermarking Based on Hidden Space Search for DNN Integrity Authentication**

*Gejian Zhao and Chuan Qin (University of Shanghai for Science and Technology, China)*

**P1-25**

**Hiding Patient Information in Medical Images: A High-Capacity and Reversible Hiding Algorithm for E-Healthcare**

*Xiaoyi Zhou and Shuai Lee (Hainan University, China)*

**P1-26**

**A Visually Meaningful Image Encryption Algorithm with Attention Mechanism and Artificial Bee Colony Optimization**

*Jiarong Mao, Yuting An and Xiaoyi Zhou (Hainan University, China)*

**P1-27**

**High-Quality Triggers Based Fragile Watermarking for Optical Character Recognition Model**

*Yujie Yin and Heng Yin (Anhui University, China); Zhaoxia Yin (East China Normal University, China); Wanli Lyu (Anhui University, China); Sha Wei (China Academy of Information and Communication Technology, China)*

**P1-28**

**Coupled Transformed Induced Tensor Nuclear Norm for Robust Tensor Completion**

*Mengjie Qin (Zhejiang Lab & Research Center for Intelligent Robotics, Research Institute of Interdisciplinary Innovation, China); Zheyuan Lin, Minhong Wan and Chunlong Zhang (Zhejiang Lab, China); Jason Gu (Dalhousie University, Canada); Te Li (Zhejiang Lab, China)*

**P1-29**

**Multi-Frequency Feature Enhancement for Multi-Granularity Visual Classification**

*Meijiang Fu, Yixiao Zheng, Dongliang Chang and Wenpan Li (Beijing University of Posts and Telecommunications, China); Zhanyu Ma (BUPT-Beijing University of Posts and Telecommunications, China)*

**P1-30**

**Improving Aspect Sentiment Classification via Retrieving from Training Data**

*Tongtao Ling and Lei Chen (Guangdong University of Technology, China); Chen Liao and Shilei Huang (Shenzhen Raisound Technologies, China); Zhipeng Yu (Guangdong University of Technology, China); Liu Yi (Shenzhen Key Laboratory of Intelligent Media and Speech, PKU-HKUST Institution, China)*

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**P2**

Poster Session II

Chair: Tien-Ying Kuo (National Taipei University of Technology, Taiwan) / Jen-Tzung Chien (National Yang Ming Chiao Tung University, Taiwan)

P2-1

**Segmentation Enhancement for Iris Recognition Using Unit Gradient Vectors**

*Limhourlaurent Meam (Sirindhorn International Institute of Technology, Thammasat University, Thailand); Suradej Duangpummet (National Science and Technology Development Agency, Thailand); Waree Kongprawechnon (SIIT, Thailand)*

P2-2

**FactLLaMA: Optimizing Instruction-Following Language Models with External Knowledge for Automated Fact-Checking**

*Tsun-Hin Cheung (The Hong Kong Polytechnic University, Hong Kong); Kin-Man Lam (Hong Kong Polytechnic University, Hong Kong)*

P2-3

**Auditory Representation Effective for Estimating Vocal Tract Information**

*Toshio Irino and Shintaro Doan (Wakayama University, Japan)*

P2-4

**Accurate and Practical Query-By-Example by Using Multiple Deep Learning Models and Frame Compression Methods**

*Hikaru Yamaga and Yoshiaki Itoh (Iwate Prefectural University, Japan)*

P2-5

**Fundamental Frequency Estimation Based on Finite-Order Harmonic Constraint Differential Equation**

*Kenta Yamada, Yoshiki Masuyama, Kouei Yamaoka and Nobutaka Ono (Tokyo Metropolitan University, Japan)*

P2-6

**Tone Labeling by Deep Learning-Based Tone Recognizer for Mandarin Speech**

*WuHao Li and Chen Yu Chiang (National Taipei University, Taiwan); TehSin Liu (National Taiwan University, Taiwan)*

P2-7

**Learning to Enhance the Position Embedding and Coherence**

*Ting-Jia Shu and Jen-Tzung Chien (National Yang Ming Chiao Tung University, Taiwan)*

P2-8

**VLSI Design of Lossless Image Compression Using Improved LZW**

*Yao-Zhong Zhang, Chiung-An Chen and Jia Wen Wang (Ming Chi University of Technology, Taiwan)*

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Chair: Tien-Ying Kuo (National Taipei University of Technology, Taiwan) / Jen-Tzung Chien (National Yang Ming Chiao Tung University, Taiwan)

**P2-9**

**The Color Demosaicing and Image Scaling Based on Improve Hamilton-Adams**

*Yu-Wen Peng, Chia-Yu Hu, Yen-Ju Chin and He-Sheng Chou (Chung Yuan Christian University, Taiwan); Yuan-Jin Lin (National Cheng Kung University, Taiwan); Yu-Lin Liu and Shih-Lun Chen (Chung Yuan Christian University, Taiwan)*

**P2-10**

**Improving Regularization of Deep Learning Models in Fundus Analysis**

*Wei-Wen Hsu (National Taitung University, Taiwan); Yao-Chung Chang (National Taitung University, Taiwan); Wei-Min Lee (National Taitung University, Taiwan); Yu-Chuan Huang (National Defense Medical Center, Taiwan); Da-Wen Lu (Tri-Service General Hospital and National Defense Medical Center, Taiwan)*

**P2-11**

**Design of Interactive System for Acupoint Analysis Based on Augmented Reality**

*Chung-Yen Wei, Yu-Xaing Zhao and Bo-yuan Xu (National Quemoy University, Taiwan)*

**P2-12**

**Anomaly Detection of Rolling Element Bearings Using Domain Adaptation**

*Hsin-Tse Lu (National Chengchi University)*

**P2-13**

**Dental Positioning Medical Assistance System for BiteWing Radiograph Based on YOLOV4 and Image Enhancement**

*Li Yi-Qian, Mu-Feng Lin, Tsung-Yi Chen and Yu-Lin Liu (Chung Yuan Christian University, Taiwan); Yuan-Jin Lin (National Cheng Kung University, Taiwan); Mei-Ling Chan (Jiaying University, China); Chiung-An Chen (Ming Chi University of Technology, Taiwan); Li Kuo-Chen (Chung Yuan Christian University, Taiwan); Li Chun-Wei (Chang Gung Memorial Hospital, Taiwan); Shih-Lun Chen (Chung Yuan Christian University, Taiwan)*

**P2-14**

**Asynchronous Federated Learning Method in the 6G Massive Multimedia Transmission System**

*Yen-Ching Chang, Sheng-Siang Liao and Chin-Feng Lai (National Cheng Kung University, Taiwan)*

**P2-15**

**The Development of an AI-Assisted Diagnosis System for Adult Glioma Subtyping Prediction**

*Wei-Wen Hsu (National Taitung University, Taiwan); Jia-Yi Lin and Hsin-Hung Lai (National Defense Medical Center, Taiwan); Wan-Lin Hsu and Jeng-Ting Jiang (National Taitung University, Taiwan); Yao-Chung Chang (National Taitung University, Taiwan); YaoFeng Li (Tri-Service General Hospital and National Defense Medical Center, Taiwan)*

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Chair: Tien-Ying Kuo (National Taipei University of Technology, Taiwan) / Jen-Tzung Chien (National Yang Ming Chiao Tung University, Taiwan)

**P2-16**

**Poisoning Attacks Against Gait-Based Identity Recognition**

*Jianmin Dong (Zhejiang lab, China); Da-tian Peng (Northwestern Polytechnical University, China); Guanxiong Pei and Taihao Li (Zhejiang Lab, China)*

**P2-17**

**STrack: Velocity Estimation Using Single Antenna WiFi Devices**

*Jian Xu, Dongheng Zhang, Jiamu Li, Qibin Sun and Yan Chen (University of Science and Technology of China, China)*

**P2-18**

**SEformer: Dual-Path Conformer Neural Network is a Good Speech Denoiser**

*Kai Wang and Dimitrios Hatzinakos (University of Toronto, Canada)*

**P2-19**

**Complex Feature Information Enhanced Speech Emotion Recognition**

*Pengcheng Yue, Shukai Zheng and Taihao Li (Zhejiang Lab, China)*

**P2-20**

**Incorporating Pinyin into Pipeline Named Entity Recognition from Chinese Speech**

*Min Zhang, Xiaosong Qiao and Yanqing Zhao (Huawei co. LTD, China); Shimin Tao and Hao Yang (Huawei, China)*

**P2-21**

**Learning Semantic Information from Machine Translation to Improve Speech-To-Text Translation**

*Pan Deng and Jie Zhang (University of Science and Technology of China, China); Xinyuan Zhou and Zhongyi Ye (iFlytek Research, China); Weitai Zhang, Jianwei Cui and Li-Rong Dai (University of Science and Technology of China, China)*

**P2-22**

**Effective Fine-Tuning Method for Tibetan Low-Resource Dialect Speech Recognition**

*Yang Jiahao and Jianguo Wei (Tianjin University, China); Kuntharrgyal Khysru Kuntharrgyal Khysru (Qinghai Minzu University, Xining, China); Xu Junhai, Lu Wenhuan, Wenjun Ke and Xiaokang Yang (Tianjin University, China)*

**P2-23**

**Multi-Task Piano Transcription with Local Relative Time Attention**

*Qi Wang, Mingkuan Liu, Xianhong Chen and Wenmeng Xiong (Beijing University of Technology, China)*

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Chair: Tien-Ying Kuo (National Taipei University of Technology, Taiwan) / Jen-Tzung Chien (National Yang Ming Chiao Tung University, Taiwan)

**P2-24**

**Real and Imaginary Part Interaction Network for Monaural Speech Enhancement and De-Reverberation**

*Zehua Zhang (Harbin Institute of Technology Harbin Institute of Technology, Shenzhen, China); Changjun He and Shiyun Xu (Harbin Institute of Technology, Shenzhen, China); Wang Ming-Jiang (Harbin Institute of Technology, China)*

**P2-25**

**Progressive Multi-Scale Self-Supervised Learning for Speech Recognition**

*Hang Chen and Genshun Wan (University of Science and Technology of China, China); Tan Liu (iFLYTEK Research, iFLYTEK Co. Ltd., China); Chenxi Wang (University of Science and Technology of China, China); Pan Jia (iFlytek, China); Zhongfu Ye (University of Science & Technology of China, China)*

**P2-26**

**Improved Data2vec with Soft Supervised Hidden Unit for Mandarin Speech Recognition**

*Genshun Wan and Hang Chen (University of Science and Technology of China, China); Pengcheng Li (iFLYTEK Research, iFLYTEK Co. Ltd., China); Pan Jia (iFlytek, China); Zhongfu Ye (University of Science & Technology of China, China)*

**P2-27**

**Investigation of Ensemble of Self-Supervised Models for Speech Emotion Recognition**

*Yanfeng Wu and Pengcheng Yue (Zhejiang Lab, China); Cuiping Cheng (ZHEJIANG LAB, China); Taihao Li (Zhejiang Lab, China)*

**P2-28**

**Single Source Zone Detection in the Spherical Harmonic Domain for Multisource Localization**

*Liang Tao, Maoshen Jia and Bing Bu (Beijing University of Technology, China); Dingding Yao (Chinese Academy of Sciences, China)*

**P2-29**

**Robust Representation Learning for Speech Emotion Recognition with Moment Exchange**

*Yunrui Cai and Changhe Song (Tsinghua University, China); Boshi Tang (Tsinghua University & Shenzhen International Graduate School, China); Dongyang Dai (THU, China); Zhiyong Wu (Graduate School at Shenzhen, Tsinghua University, China); Helen Meng (Chinese University of Hong Kong, Hong Kong)*

**P2-30**

**Few Shot Learning Guided by Emotion Distance for Cross-Corpus Speech Emotion Recognition**

*Pengcheng Yue, Yanfeng Wu, Leyuan Qu, Shukai Zheng, Shuyuan Zhao and Taihao Li (Zhejiang Lab, China)*



# POSTER LIST

November 2 (Thursday)

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## P3

### Poster Session III

Chair: Ryo Matsuoka (The University of Kitakyushu, Japan) / Chung-Nan Lee (National Sun Yat-sen University, Taiwan)

#### P3-1

##### Remarks on an Optimal Predictive Control Using a Quaternion Neural Network and a Metaheuristics Optimisation Method

*Kazuhiko Takahashi, Remi Aoki, Eri Kagamiishi and Masafumi Hashimoto (Doshisha University, Japan)*

#### P3-2

##### Classification of Normal vs. Pathological Infant Cries Using Morse Wavelets

*Priyanka Gupta, Aastha Kachhi and Hemant A. Patil (Dhirubhai Ambani Institute of Information and Communication Technology, India)*

#### P3-3

##### Compressive Sensing Based Algorithms for Limited-View PAT Image Reconstruction

*Mary Anjaley Josy John (UAE University, United Arab Emirates); Imad Barhumi (United Arab Emirates University, United Arab Emirates)*

#### P3-4

##### Towards AST-LLDs for the Analysis of Depression in Speech Signals

*Sidharth Nagappan and Chern Hong Lim (Monash University, Malaysia); Anuja T Dharmaratne (Monash University Australia, Australia)*

#### P3-5

##### ecVoice: Audio Text Extraction Optimization of Video Based on Idioms Similarity Replacement

*Jinwei Lin (Monash University, Malaysia)*

#### P3-6

##### Heart Rate Acquisition and Processing Techniques for a Miniature Wearable Microphone Sensor

*Yi Yang Ang (Aevice Health Pte Ltd, Singapore & Nanyang Technological University, Singapore); Kirish Boodhoo (Aevice Health Ptd Ltd, Singapore); Wee Ser and Rex Xiao Tan (Aevice Health Pte Ltd, Singapore)*

#### P3-7

##### A Study on Counter-Movement Detection on Dumbbell Curl Using Convolutional Autoencoder

*Atsuya Emoto (The University of Kitakyushu, Japan); Koh Inoue (Kagawa University, Japan); Ryo Matsuoka (The University of Kitakyushu, Japan)*

#### P3-8

##### Causal Analysis of Hepatic Fat Accumulation by Linear Mixed Causal Model

*Takashi Nojima (Kyoto University, Japan); Yoshito Itoh, Kota Yano, Kanji Yamaguchi, Yuya Seko and Satoaki Matoba (Kyoto Prefectural University of Medicine, Japan); Kenichi Nishioji (Japanese Red Cross Kyoto Daini Hospital, Japan); Koichi Fujiwara (Nagoya University, Japan); Shota Kato and Manabu Kano (Kyoto University, Japan)*

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**P3**

Poster Session III

Chair: Ryo Matsuoka (The University of Kitakyushu, Japan) / Chung-Nan Lee (National Sun Yat-sen University, Taiwan)

**P3-9**

## Investigation of the Neuromodulation Effect of tVNS on Electrical Brain Activity

*WooJin Kim, Yun-Sung Lee and Hyuk Choi (Korea University, Korea (South)); Jae-Jun Song (Korea University Guro Hospital, Korea (South)); Ki-Hwan Hong (Neurive Coporation, Korea (South)); Han-Jeong Hwang (Korea University, Korea (South))*

**P3-10**

## Gender-Specific EEG Feature-Based Diagnostic Tool for Male Depression Based on Machine-Learning Techniques

*EunGyoung Yi and Miseon Shim (Korea University, Korea (South)); Seung-Hwan Lee (Ilsan Paik Hospital, Inje University, Korea (South)); Han-Jeong Hwang (Korea University, Korea (South))*

**P3-11**

## Optimal Input Data Search of Deep Learning Model for Cognitive Task Classification Based on NIRS

*Ahyun Kim, Hyung-Tak Lee and Han-Jeong Hwang (Korea University, Korea (South))*

**P3-12**

## Detection and Correction of Defective Relative Humidity Data Collected from the Greenhouse Environment Using Nested Kalman Filters with Standard Deviation Analysis

*Kraithep Sirisanwannakul and Nutchanon Siripool (Thammasat University, Thailand); Kenji Suzuki (Tokyo Institute of Technology, Japan); Waree Kongprawechnon (SIIT, Thailand); Jessada Karnjana (National Science and Technology Development Agency, Thailand)*

**P3-13**

## Pedestrian Crossing Intention Prediction with Multi-Modal Transformer-Based Model

*Ting Wei Wang and Shang-Hong Lai (National Tsing Hua University, Taiwan)*

**P3-14**

## Revolutionizing Formative Assessment in STEM Fields: Leveraging AI and NLP Techniques

*Chi Wee Tan, Ts. (Faculty of Computing and Information Technology, Tunku Abdul Rahman University of Management and Technology, 53300 Setap); Khai Yin Lim (Department of Computing and Information Technology, Tunku Abdul Rahman University of Management and Technology, Penang.)*

**P3-15**

## A Biased Mixed-Precision Convolution Engine for Hardware-Efficient Computational Imaging CNN

*Hao-Jiun Tu and Yu-Feng Ou (National Tsing Hua University, Taiwan); Yong-Tai Chen (NTHU, Taiwan); Huang Chao-Tsung (National Tsing Hua University, Taiwan)*

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Poster Session III

Chair: Ryo Matsuoka (The University of Kitakyushu, Japan) / Chung-Nan Lee (National Sun Yat-sen University, Taiwan)

**P3-16**

## A Lightweight Speaker Verification Model for Edge Device

*Ting-Wei Chen (National Sun Yat-sen University, Taiwan); Chia-Ping Chen (National Sun Yat-Sen University, Taiwan); Chung-Li Lu, Bo-Cheng Chan, Yu-Han Cheng, Hsiang-Feng Chuang and Wei-Yu Chen (Chunghwa Telecom Laboratories, Taiwan)*

**P3-17**

## Efficient Dictionary and Grid-Based Framework for Answering Durable k-Nearest Neighbor Queries on Time Series Data

*Bagus Jati Santoso, Dwi Prasetya Armunanta, Baskoro Adi Pratomo and Hudan Studiawan (Institut Teknologi Sepuluh Nopember, Indonesia)*

**P3-18**

## Dual-Path Residual Attention Convolution Networks for Color-Embedded-Grayscale Image

*Heri Prasetyo, Abid Ammar Mahdy, Abrar Dwi Fairuz Nadhif, Taufiqurrakhman Nur Hidayat and Rudi Hartono (Universitas Sebelas Maret, Indonesia)*

**P3-19**

## DOC: A Novel DOuble-Contour-Based Macro Placement Framework for Mixed-Size Designs

*Yin-Rong Zhuo, Hui-Lin Chen and Yu-Guang Chen (National Central University, Taiwan)*

**P3-20**

## Hindering Adversarial Attacks with Multiple Encrypted Patch Embeddings

*AprilPyone MaungMaung and Isao Echizen (National Institute of Informatics (NII), Japan); Hitoshi Kiya (Tokyo Metropolitan University, Japan)*

**P3-21**

## Implementation of PLIM on 429MHz LoRa/FSK with Improved Conversion Table

*Keita Takeda, Ryuji Miyamoto and Osamu Takyu (Shinshu University, Japan)*

**P3-22**

## Numerical Performance Evaluation of Sparse Reconstruction Using Optical Analog Circuit

*Soma Furusawa and Kazunori Hayashi (Kyoto University, Japan); Kaito Kameda and Ryo Hayakawa (Osaka University, Japan)*

**P3-23**

## Assessing the Effects of Filtering Processing on Pulse Wave Transit Time Measured by Photoplethysmography from Earlobe

*Shangdi Liao and Fei Chen (Southern University of Science and Technology, China)*

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Poster Session III

Chair: Ryo Matsuoka (The University of Kitakyushu, Japan) / Chung-Nan Lee (National Sun Yat-sen University, Taiwan)

**P3-24**

**Efficient Incremental Text-To-Speech on GPUs**

*Muyang Du, Chuan Liu, Jiaxing Qi and Junjie Lai (NVIDIA Corporation, China)*

**P3-25**

**Retinex-Based Low-Light Image Enhancement**

*Rui Luo and Yan Feng (Northwestern Polytechnical University, China)*

**P3-26**

**Fine-Grained Face Anti-Spoofing Based on Recursive Self-Attention and Multi-Scale Fusion**

*Shichuang Xie, Jiasheng Wu and Yanli Chen (Hangzhou Dianzi University, China); Meng Han (Zhejiang University, China); Ting Wu (Beihang University, China); Tong Qiao (Hangzhou Dianzi University, China)*

**P3-27**

**StyleStegan: Leak-Free Style Transfer Based on Feature Steganography**

*Xiujian Liang (Fudan University, China); Bingshan Liu (Nanjing University of Information Science & Technology, China); Qichao Ying, Zhenxing Qian and Xinpeng Zhang (Fudan University, China)*

**P3-28**

**Robust Watermark Imaging via Graph-Signal Optimization**

*Ruiguo Yang, Xinhui Han, Wenfa Qi and Wei Hu (Peking University, China)*

**P3-29**

**A Print-Scan-Resilient Watermarking Scheme for Trademark Images**

*Wenfa Qi (Peking University, China); Jiameng Wang and Zichen Yuan (Beijing Jiaotong University, China); Xiaolong Li (Beijing Jiaotong University, China)*

**P3-30**

**AI-Generated Image Detection Using a Cross-Attention Enhanced Dual-Stream Network**

*Ziyi Xi, Wenmin Huang, Kangkang Wei, Weiqi Luo and Peijia Zheng (Sun Yat-Sen University, China)*

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## P4

### Poster Session IV

Chair: Yoichi Haneda (The University of Electro-Communications, Japan) / Chih-Hsien Hsia (National Ilan University, Taiwan)

#### P4-1

##### Word Encoding for Word-Looking DGA-Based Botnet Classification

*Sea Ran Cleon Liew (University of Waterloo, Canada); Ngai Fong Law (Hong Kong Polytechnic University, Hong Kong)*

#### P4-2

##### Analysis of Spectro-Temporal Modulation Representation for Deep-Fake Speech Detection

*Haowei Cheng, Candy Olivia Mawalim, Kai Li, Lijun Wang and Masashi Unoki (Japan Advanced Institute of Science and Technology, Japan)*

#### P4-3

##### Flexible Evidence Model to Reduce Uncertainty Mismatch Between Speech Enhancement and ASR Based on Encoder-Decoder Architecture

*Ryu Takeda (Osaka University, Japan); Yui Sudo (Honda Research Institute Japan, Japan); Kazunori Komatani (Osaka University, Japan)*

#### P4-4

##### Investigating the Effectiveness of Speaker Embeddings for Shout Intensity Prediction

*Takahiro Fukumori, Taito Ishida and Yoichi Yamashita (Ritsumeikan University, Japan)*

#### P4-5

##### Is the Ideal Ratio Mask Really the Best? Exploring the Best Extraction Performance and Optimal Mask of Mask-Based Beamformers

*Atsuo Hiroe, Katsutoshi Itoyama and Kazuhiro Nakadai (Tokyo Institute of Technology, Japan)*

#### P4-6

##### Language Modeling for Spontaneous Speech Recognition Based on Disfluency Labeling and Generation of Disfluent Text

*Koharu Horii (Toyohashi University of Technology, Japan); Kengo Ohta (National Institute of Technology, Anan College, Japan); Ryota Nishimura (Tokushima University, Japan); Atsunori Ogawa (NTT Corporation, Japan); Norihide Kitaoka (Toyohashi University of Technology, Japan)*

#### P4-7

##### Transformer-Based Automatic Speech Recognition of Simultaneous Interpretation with Auxiliary Input of Source Language Text

*Shuta Taniguchi, Tsuneo Kato and Akihiro Tamura (Doshisha University, Japan); Yasuda Keiji (MINDWORD, Inc., Japan)*

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**P4**

## Poster Session IV

Chair: Yoichi Haneda (The University of Electro-Communications, Japan) / Chih-Hsien Hsia (National Ilan University, Taiwan)

**P4-8**

### **An Analysis of Personalized Speech Recognition System Development for the Deaf and Hard-Of-Hearing**

*Lester Phillip G Violeta and Tomoki Toda (Nagoya University, Japan)*

**P4-9**

### **Classification of Vocal Cord Disorders: Comparison Across Voice Datasets, Speech Tasks, and Machine Learning Methods**

*Ching-Chieh Chen (National Tsing Hua University, Taiwan); Wei-Cheng Hsu (China Medical University Hospital, Taiwan); Tzu-Han Lin and Kuan-Dar Chen (National Tsing Hua University, Taiwan); Yung-An Tsou (China Medical University Hospital, Taiwan); Yi-Wen Liu (National Tsing Hua University, Taiwan)*

**P4-10**

### **Detecting the Underwater Distance and Swimming Direction of Tilapia Using YOLO**

*Yi-Zeng Hsieh, Chia-Hsuan Wu and Cheng-Hou Chou (National Taiwan University of Science and Technology, Taiwan)*

**P4-11**

### **Application of Deep Learning Techniques for Thermal Imagery Analysis in Abnormal Identification of Floor Tiles in Heritage Environments**

*Xin-Yu Chen, Pei-Chen Wu, Li Kuo-Chen, Chu Yu-Chieh, Tsung-Yi Chen and Yu-Lin Liu (Chung Yuan Christian University, Taiwan); Yuan-Jin Lin (National Cheng Kung University, Taiwan); Chiung-An Chen (Ming Chi University of Technology, Taiwan); Mei-Ling Chan (Jiaying University, China); Huang Ching-Hui and Shih-Lun Chen (Chung Yuan Christian University, Taiwan)*

**P4-12**

### **Wavelet and Cutout in YOLO Architecture for Road Pothole Detection**

*Chih-Hsien Hsia (National Ilan University, Taiwan)*

**P4-13**

### **Improve Lightweight Convolutional Neural Network for Finger Vein Recognition System**

*Chih-Hsien Hsia (National Ilan University, Taiwan)*

**P4-14**

### **Lightweight CNN and Image Enhancement Using in Palm Vein Recognition**

*Chih-Hsien Hsia (National Ilan University, Taiwan)*

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## Poster Session IV

Chair: Yoichi Haneda (The University of Electro-Communications, Japan) / Chih-Hsien Hsia (National Ilan University, Taiwan)

**P4-15**

### Breast Cancer Detection Auxiliary System Leveraging Deep Learning and Mixed Reality

*Szu-Yin Lin, Ming-Chun Chien, Edwin Tiong Kwong Meng, Yu-Chieh Wang, Yu-Yi Kuo and Che-Hsuan Lin (National Ilan University, Taiwan)*

**P4-16**

### Efficient Reversible Data Hiding for 3D Mesh Models Based on Multi-LSB Substitution and Ring-Prediction

*Wanli Lyu and Lulu Cheng (Anhui University, China); Zhaoxia Yin (East China Normal University, China); Bin Luo (Anhui University, China)*

**P4-17**

### MAEDefense: An Effective Masked AutoEncoder Defense Against Adversarial Attacks

*Mengjiang Wu and Wanli Lyu (Anhui University, China); Zhaoxia Yin (East China Normal University, China); Bin Luo (Anhui University, China)*

**P4-18**

### Preemptive Image Protection Against Steganography

*Yusheng Guo, Nan Zhong, Zhenxing Qian and Xinpeng Zhang (Fudan University, China)*

**P4-19**

### Zero-Shot Multi-Speaker Accent TTS with Limited Accent Data

*Mingyang Zhang (The Chinese University of Hong Kong, Shenzhen, China); Yi Zhou (National University of Singapore, Singapore); Zhizheng Wu and Haizhou Li (The Chinese University of Hong Kong Shenzhen, China)*

**P4-20**

### Speech Enhancement with Multi-Granularity Vector Quantization

*Xiaoying Zhao, Qiushi Zhu and Jie Zhang (University of Science and Technology of China, China); Yeping Zhou and Peiqi Liu (China Merchants Bank, China)*

**P4-21**

### A Comparative Study on Multichannel Speaker-Attributed Automatic Speech Recognition in Multi-Party Meetings

*Mohan Shi and Jie Zhang (University of Science and Technology of China, China); Zhihao Du, Fan Yu, Qian Chen and Shiliang Zhang (Alibaba Group, China); Li-Rong Dai (University of Science and Technology of China, China)*

**P4-22**

### Hybrid Syllable and Character Representations for Mandarin ASR

*Fengrun Zhang and Chengfei Li (TAL Education Group, China)*

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## P4 Poster Session IV

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P4-23

### Enhancing Whisper Model for Pronunciation Assessment with Multi-Adapters

*Jing Li (Xinjiang University, China); Rui Li and Shen Guo (Xinjiang University, China); Aishan Wumaier (Xinjiang University, China)*

P4-24

### DoA Estimation of Room Reflections Using NN-Based MUSIC Algorithm

*Haowen Li (Northwestern Polytechnical University, Xi'an, China); Wen Zhang and Lijun Zhang (Northwestern Polytechnical University, China)*

P4-25

### Hybrid Multi-Task Learning for End-To-End Multimodal Emotion Recognition

*Junjie Chen (Tianjin Normal University, China); Yongwei Li (CASIA, China); Ziping Zhao (Tianjin Normal University, China); Xuefei Liu (CASIA, China); Zhengqi Wen (Institute of Automation, Chinese Academy of Sciences, China); Jianhua Tao (Tsinghua University, China)*

P4-26

### It's What You Say and How You Say It: Exploring Audio and Textual Features for Podcast Data

*Neil Shah (TCS Research); Vivek Srivastava, Mohit Bhardwaj and Satej Kadlay (TCS Research, India); Dharmeshkumar Agrawal (Dhirubhai Ambani Institute of Information and Communication Technology, India); Savita Bhat (Tata Research Development and Design Centre, India); Niranjana Pedanekar (Tata Research Development and Design Centre & Tata Consultancy Services Limited, India)*

P4-27

### Improved One-Class Learning for Voice Spoofing Detection

*Lixiang Li, Xiaopeng Xue, Haipeng Peng, Yeqing Ren and Mengmeng Zhao (Beijing University of Posts and Telecommunications, China)*

P4-28

### Sound Field Estimation Around a Rigid Sphere with Physics-Informed Neural Network

*Xingyu Chen and Fei Ma (Australian National University, Australia)*

P4-29

### A Controlled Noise Reduction Wiener Filter Based on the Quadratic Eigenvalue Problem

*Ningning Pan (Southwestern University of Finance and Economics, China); Jacob Benesty (INRS-EMT, University of Quebec, Canada); Jingdong Chen (Center of Intelligent Acoustics and Immersive Communications, China)*

P4-30

### Target Speaker Extraction with Attention Enhancement and Gated Fusion Mechanism

*Sijie Wang (Xinjiang University, China); Askar Hamdulla (Xinjiang University of China, China); Ablimit Mijit (Xinjiang University, China)*



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**P5**

Poster Session V

Chair: Toshio Irino (Wakayama University, Japan) / Yi-Zeng Hsieh (National Taiwan University of Science and Technology, Taiwan)

P5-1

**Jointly Modelling Transcriptions and Phonemes with Optimal Features to Detect Dementia from Spontaneous Cantonese**

*Xiaoquan Ke (The Hong Kong Polytechnic University, Hong Kong); Man Wai Mak (Hong Kong Polytechnic University, Hong Kong); Helen Meng (Chinese University of Hong Kong, Hong Kong)*

P5-2

**Combining Multiple End-To-End Speech Recognition Models Based on Density Ratio Approach**

*Keigo Hojo (University of Technology, Japan); Daiki Mori (Toyohashi University of Technology, Japan); Wakabayashi Yukoh (Toyohashi University of Technology, Japan & Tokyo Metropolitan University, Japan); Kengo Ohta (National Institute of Technology, Anan College, Japan); Atsunori Ogawa (NTT Corporation, Japan); Norihide Kitaoka (Toyohashi University of Technology, Japan)*

P5-3

**Speech-Emotion Control for Text-To-Speech in Spoken Dialogue Systems Using Voice Conversion and x-Vector Embedding**

*Shunichi Kohara, Masanobu Abe and Sunao Hara (Okayama University, Japan)*

P5-4

**Narrow-Edged Acoustical Beamforming Utilizing Phase Inversion for Frequency Modulation-Based Parametric Array Loudspeaker**

*Yuting Geng (Ritsumeikan University, Japan); Masato Nakayama (Osaka Sangyo University, Japan); Takano Nishiura (Ritsumeikan University, Japan)*

P5-5

**Corpus Construction for Deaf Speakers and Analysis by Automatic Speech Recognition**

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

P5-6

**Ensemble of Transformer and Convolutional Recurrent Neural Network for Improving Discrimination Accuracy in Automatic Chord Recognition**

*Hikaru Yamaga and Yoshiaki Itoh (Iwate Prefectural University, Japan)*

P5-7

**Construction of Automatic Speech Recognition Model That Recognizes Linguistic Information and Verbal/Non-Verbal Phenomena**

*Nagito Shione and Norihide Kitaoka (Toyohashi University of Technology, Japan); Wakabayashi Yukoh (Toyohashi University of Technology, Japan & Tokyo Metropolitan University, Japan)*

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**P5**

**Poster Session V**

Chair: Toshio Irino (Wakayama University, Japan) / Yi-Zeng Hsieh (National Taiwan University of Science and Technology, Taiwan)

**P5-8**

**Exploring Isolated Musical Notes as Pre-Training Data for Predominant Instrument Recognition in Polyphonic Music**

*Lifan Zhong (The University of Tokyo, Japan); Erica Cooper and Junichi Yamagishi (National Institute of Informatics, Japan); Nobuaki Minematsu (The University of Tokyo, Japan)*

**P5-9**

**Speech Quality Improvement Utilizing Out-Of-Focus Areas in Rolling-Shutter Video on Speech Extraction**

*Hayata Nakano, Tsubasa Yoshizawa, Yuting Geng, Kenta Iwai and Takanobu Nishiura (Ritsumeikan University, Japan)*

**P5-10**

**Personalized Audio Quality Preference Prediction**

*Chung-Che Wang, Yu-Chun Lin and Yu-Teng Hsu (National Taiwan University, Taiwan); Jyh-Shing Jang (NTU, Taiwan)*

**P5-11**

**AVATAR: Robust Voice Search Engine Leveraging Autoregressive Document Retrieval and Contrastive Learning**

*Yi-Cheng Wang, Tzu-Ting Yang, Hsin-Wei Wang, Bi-Cheng Yan and Berlin Chen (National Taiwan Normal University, Taiwan)*

**P5-12**

**Regression-Based Sound Event Detection with Semi-Supervised Learning**

*Chia-Chuan Liu (National Sun Yat-sen University, Taiwan); Chia-Ping Chen (National Sun Yat-Sen University, Taiwan); Chung-Li Lu, Bo-Cheng Chan, Yu-Han Cheng, Hsiang-Feng Chuang and Wei-Yu Chen (Chunghwa Telecom Laboratories, Taiwan)*

**P5-13**

**Proportionate NLMS with Variable Step-Size for Adaptive Feedback Cancellation in Hearing Aids**

*Linh T. T. Tran (Posts and Telecommunications Institute of Technology, Vietnam); Felix Albu (Valahia University of Targoviste, Romania); Hieu Nguyen (PTIT University, Vietnam); Nordholm Sven (Curtin University of Technology, Australia)*

**P5-14**

**Residual Echo Suppression Using Spatial Feature for Stereo Acoustic Echo Cancellation**

*Hsuan-Cheng Chou, Yih Liang Shen and Meng-Hsuan Wu (National Yang Ming Chiao Tung University, Taiwan); Bo-Wun Shih (Realtek Semiconductor Corporation, Taiwan); Tai-Shih Chi (National Chiao Tung University, Taiwan)*

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**P5-15**

**Multitaper Adaptive Time-Frequency Windowed Fourier Transform Based on the Reliable Region of Window Widths**

*Jen-Chieh Cheng and Jian-Jiun Ding (National Taiwan University, Taiwan)*

**P5-16**

**Enhancing Retinal Disease Classification with Dual Scale Twin Vision Transformers Using OCT Imaging**

*Prakash Kumar Karn (University of Auckland, New Zealand); Waleed H. Abdulla (The University of Auckland, New Zealand)*

**P5-17**

**Classification of Infant Sleep/Wake States: Cross-Attention Among Large Scale Pretrained Transformer Networks Using Audio, ECG, and IMU Data**

*Kai Chieh Chang (University of Illinois at Urbana-Champaign, USA); Mark Hasegawa-Johnson (University of Illinois, USA); Nancy McElwain (University of Illinois Urbana-Champaign, USA); Bashima Islam (Worcester Polytechnic Institute, USA)*

**P5-18**

**Dynamic Characteristics of Electroencephalogram Reflecting Driving-Experience-Dependent Performance Using Microstates**

*Yuta Inuma, Takuto Ozawa and Sou Nobukawa (Chiba Institute of Technology, Japan); Nobuhiko Wagatsuma (Toho University, Japan); Keiichiro Inagaki (Chubu University, Japan)*

**P5-19**

**Quefrequency Domain Features with Residual Networks for Spoof Speech Detection**

*Madhu R Kamble (Samsung Research and Development Institute Bangalore India & Samsung India, India)*

**P5-20**

**PDF-NET: Pitch-Adaptive Dynamic Filter Network for Intra-Gender Speaker Verification**

*Zhenyu Piao, Hyungseob Lim, Miseul Kim and Hong-Goo Kang (Yonsei University, Korea (South))*

**P5-21**

**Subjective Evaluation of a Focused Sound Source Reproducing at the Positions of a Listener's Moving Hand**

*Miho Hirohashi and Yoichi Haneda (The University of Electro-Communications, Japan)*

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**P5-22**

**Time Sensitive Hash and Adaptive Image Recovery Based Self-Embedding Fragile Watermarking Scheme in Encrypted Images**

*Xin Wang, Hongjie He and Fan Chen (Southwest Jiaotong University, China)*

**P5-23**

**Multi-Granularity Semantic and Acoustic Stress Prediction for Expressive TTS**

*Xiaoqin Feng (Shanghai Mobvoi Information Technology Co., Ltd, China); Yunlin Chen and Wenjiang Chi (Shanghai Mobvoi Information Technology, China); Liumeng Xue Xue (Audio Speech and Language Processing Group, China); Lei Xie (Northwestern Polytechnical University, China); Zhifei Li (Shanghai Mobvoi Information Technology, China)*

**P5-24**

**NADiffuSE: Noise-Aware Diffusion-Based Model for Speech Enhancement**

*Wen Wang, Dongchao Yang, Qichen Ye and Bowen Cao (PeKING University, China); Yuexian Zou (Peking University, China)*

**P5-25**

**Multi-Accent Pronunciation Assessment Based on Domain Adversarial Training**

*Binghuai Lin and Liyuan Wang (Tencent, China)*

**P5-26**

**GAN-Based Time-Domain Packet Loss Concealment Method with Consistent Mapping Approach**

*Yunhao Zhao, Changchun Bao, Xue Yang and Jing Zhou (Beijing University of Technology, China)*

**P5-27**

**MHM-Based Reversible Data Hiding with Adaptive Feature Selection**

*Shaowei Weng, Tanshuai Hou and Haiyang Rao (Fujian University of Technology, China)*

**P5-28**

**Feature Selection Based on Clonal Selection Algorithm for Image Steganalysis**

*Yu Liu and Hongxia Wang (Sichuan University, China)*

**P5-29**

**ScaleFormer: Transformer-Based Speech Enhancement in the Multi-Scale Time Domain**

*Tianci Wu (College of Computer Science, Inner Mongolia University, China); Shulin He (Inner Mongolia University, China)*

**P5-30**

**UniVR: A Unified Framework for Pitch-Shifted Voice Restoration in Speaker Identification**

*Yangfu Li and Xiaodan Lin (Huaqiao University, China)*