

The 8th IIEEJ International Conference on Image Electronics and Visual Computing IEVC2024

National Cheng Kung University, Tainan City, Taiwan March 11-14, 2024

Timetable

I IIII C Cabi	•			
Time	F. C. Room	ATI Room	Chi-Duan Building	Hall
Mar. 11 (M	lon)			
13:00	Opening			
13:20	Keynote #1			
14:20	Bre	eak		
14:35	1A: Rendering	1B: Modeling & Animation		
Mar. 12 (Tu	ne)			
9:00	2A: Computer Vision & 3D Image Processing (1)	2B: Virtual, Augmented, and Mixed Reality (1)	2C: Security and Privacy	
10:20		Break		
10:35	Poster FF			
11:35		Lunch		
13:20				4: Poster 1
14:35		Break		
14:50	5A: Image Recognition & Detection (2)	5B: Virtual, Augmented, and Mixed Reality (2)	5C: Image Recognition & Detection (1)	
16:10	Break			
16:25	6A: Computer Vision & 3D Image Processing (2)	6B: Artificial Intelligence and Deep Learning	6C: Computer Vision & 3D Image Processing (3)	
Mar. 13 (W		, <u> </u>		
9:00	Keynote #2			
10:00	Break			
10:15				7: Poster 2
11:30	Lunch			
13:15	Excursion			
18:30	Banquet			
Mar. 14 (Th	hu)			
9:00	8A: Virtual, Augmented, and Mixed Reality (3)	8B: Medical Image processing		
10:20	Break			
10:35	Keynote #3			
11:35	Lunch			
13:20		9: Multimedia		
14:00		Break		
14:15	Special Session: Industry Forum	10: Image Recognition & Detection (3)		
15:15	,	Break		
15:30				
17:00	Closing			

		Мо	nday, March 11	
13:00-1	3:20 Open	ning		F. C. Room
13:20-1	4:20 Keyno	ote #1		F. C. Room
	r e Tangible Comp o hen (National Taiw	_		Chair: Issei Fujishiro (Keio University)
14:35-1	6:15 Session	on 1A: Rendering		F. C. Room
1A-1 1A-2 1A-3 1A-4 1A-5 14:35-1 1B-1 1B-2 1B-3 1B-4	Masaki Abe and Implementation Wenxiang Yang, Accelerated Ray Yusuke Kobayasi Multi-Kernel De Masahiro Morii, Procedural Gen Hitomi Tanaka, k 6:15 Session Physical Simula Shuhei Era, Kunio Blood Flow and Nobuhiko Mukai Procedural Moc Yuchen Zhang, T	hi and Takafumi Koike enoising Autoencoder for Pa Amirul Haziq Bin Azman, Naoh	in Image-Based Distributed to ty Influence by Symplectic rticle-Based Rendering isa Sakamoto and Takuma kon the Fold-and-Forging Prand Takafumi Koike Considering Joint Range of a lodel with a Blood Flow Colla Chang hyness ya Ito, Yuriko Takeshima and	d Rendering Architecture Method with Adaptive Step Size Cawamura rocess of Japanese Sword Making ATI Room Mikami (Tokyo University of Technology) Motion Introl Mechanism Tsukasa Kikuchi
1B-5	_	Work with Virtual Camera a Kunio Yamamoto and Masaki (_	
		Tue	sday, March 12	
09:00- 1	A Study on Corr	on 2A: Computer Vision & 3 rection Method for Vertical I ma, Mengbo You, Tsutomu Kin	Chair: Taichi W Direction of Earthenware F	F. C. Room (atanabe (Tokyo University of Technology) (ragments Based on 3D Measured Point)
2A-2	Real-Time Intui	tive Interaction and Realistic ma, Toru Higaki, Kazufumi Kan	Illumination for CT Volum	
2A-3	2D-To-3D Conv	ersion Profiling of Monocula	r Food Images	taru rukumoto
2A-4	An Efficient Sm	Gwo Giun Lee, Chin An Kuo and oothing Method for Texture nd Seishi Takamura	* *	
09:00-1	0:20 Session	on 2B: Virtual, Augmented,	• • • • • • • • • • • • • • • • • • • •	ATI Room
2B-1	• •	Kansei Evaluation of Tones T	hat Change the Sence of V	nji Mizuno (Aichi Institute of Technology) Veights with Volume
2B-2	Investigating Fa	liroyuki Nagata, Shunya Matsu actors Influencing Personal S and Takashi Ohta		taverse
2B-3	-	scape: An Augmented Realit	y System with Visual Expe	ience Harmonizing Music and

Rin Izumi, Shuhei Kodama and Tokiichiro Takahashi

2B-4 A Study on a Round Structure: The Spatial Comparison of Mongolian Ger and Geodesic Dome Using Virtual Environment

Naranchimeg Usukhbayar, Peng Jiang and Takamitsu Tanaka

09:00-10:20 Session 2C: Security and Privacy

Chi-Duan Building

Chair: Osamu Uchida (Tokai Universtity)

2C-1 **Study on the Color Factor That Affects Feelings toward Visual Emergency Notification on Smartphones**Jirarit Jirasukprasert, Peng Jiang, Satoshi Mikami and Takamitsu Tanaka

2C-2 Comparative Visualization of Depiction Distribution in Media Mix Works
Kotomi lida, Kai Lenz and Yuriko Takeshima

2C-3 Digital Seal and Digital Sign Using Color-Coded Round or Rounded Rectangular Symbols with Digital Signatures

Nobuyuki Teraura, Isao Echizen and Keiichi Iwamura

10:35-11:35 Session 3: Poster FF

F. C. Room

Chair: Eri Yokoyama (Osaka Institute of Technology)

13:20-14:35 Session 4: Poster1

LBP-02 Multimedia Information Gateway Service

Kiyoshi Tanaka

LBP-04 High-Precision Video Retrieval through Image Generation

Kazuya Ueki, Haruki Sato, Yuma Suzuki, Takumi Takada, Hiroki Takushima and Takayuki Hori

LBP-05 Object Detection Method for Drone Videos Using Optical Flow

Takahiro Shindo, Kein Yamada, Taiju Watanabe and Hiroshi Watanabe

LBP-06 Extension of Tactical Board Capable of Determining Normative Offensive Sequences for Rugby Sevens Kotaro Yashiro, Soma Hirose and Yohei Nakada

LBP-07 Image Coding for Machines with Objectness-Based Feature Distillation

Kei lino, Shunsuke Akamatsu, Hiroshi Watanabe, Shohei Enomoto, Akira Sakamoto and Takeharu Eda

LBP-08 Creation and Evaluation of a Board Game for Environmental Learning: Gamification for Learning about River Water Quality and Ecosystems

Ryo Ishii and Mizuho Iinuma

LBP-09 The Relationship between the Variation in Drawn Lines and Reaction Time in a Simulated Right Turn Situation
Taisei Inoue, Motonori Ishibashi and Norimasa Yoshida

LBP-10 Anomaly Detection Using Mist Score from Surveillance Videos

Takayuki Tozawa and Hironobu Abe

LBP-11 Occlusion-Robust Faces Recognition Using Multi-Tasking Model with Part Segmentation

Yuta Akutsu and Akira Kubota

LBP-12 Edge-Cloud Collaborative Object Detection Model with Feature Compression

Shunsuke Akamatsu, Kei Iino, Hiroshi Watanabe, Shohei Enomoto, Akira Sakamoto and Takeharu Eda

LBP-13 **Development of a Piano Learning Mobile Application Using Augmented Reality and Hand Tracking**Wen-Hsin Li, Cheng-Ta Yang and Mizuho linuma

LBP-14 **Sentinel-1 Image Shoreline Monitoring Technology in Waisanding Sandbar Based on Deep-Learning**Kuo-Yu Liao, Bing-Jiun Hsieh, Kuan-Yu Huang, Pei-Yin Chen, Hsiao-Wei Chung, Cheng-Chien Liu, Wen-Chang Yang, Meng-Syue Li and Kun-I Lin

LBP-15 The Effect of Edge Information in Stable Diffusion Applied to Image Coding

Hiroshi Watanabe, Luoxu Jin, Taiga Hayami, Takeshi Chujoh, Yukinobu Yasugi, Sujun Hong, Zheming Fan and Tomohiro Ikai

LBP-16 A Preliminary Study on Quantitative Evaluation of Cataract Using Lens Images

Kousuke Yasuzawa, Kiyoshi Tanaka, Yoshiki Tanaka, Sho Yokoyama, Kei Ichikawa and Kazuo Ichikawa

LBP-17 A Preliminary Study on Pupil Tracking in Cataract Surgery Using YOLOv8

Hayato Yamada, Yoshiki Tanaka, Seiji Tokiwa, Sho Yokoyama, Kiyoshi Tanaka and Kazuo Ichikawa

LBP-18 Attentive Listening System Using Generative Images and an Affective Emoji Keiko Ochi, Koji Inoue, Divesh Lala and Tatsuya Kawahara

14:50-16:10 Session 5A: Image Recognition & Detection (2)

F. C. Room

Chair: Seishi Takamura (Hosei University)

5A-1 Automatic Image Selection System for High School Baseball Player Photos

Eiji Fukuzawa, Akane Niimi, Yosuke Yamano and Hideaki Tamori

5A-2 Online Hand-Drawing Pattern Classification Using Sketch-RNN

Shione Ishida and Kyoko Sudo

Mika Ishino, Kaito Aoki and Kyoko Sudo VigNet: Semiautomatic Generation of Vignette Illustrations from Video 5A-4 Mayu Namai and Issei Fujishiro 16:25-17:45 Session 5B: Virtual, Augmented, and Mixed Reality (2) ATI Room Chair: Kenji Mizutani (Tokai University) 5B-1 Task-Dependent Optimization of Stereophonic Sound in VR Contents Ryota Tanaka and Yasunari Obuchi 5B-2 Stability Enhancement in VR Hand Manipulation through Dynamic Truss Structure Connections Hiroyoshi Komobuchi and Susumu Maruno 5B-3 An Examination of Motion Analysis during Weight Illusion by Impression Change of the Own Body Joichiro Muraoka, Yusei Muraishi, Kosei Tomioka, Mie Sato and Naoki Hashimoto 5B-4 Chronological Changes in the Form of Festival Preparation Works and Their Influence on the Local Community **Bonds** Mika Enomoto and Yasuharu Den 14:50-16:10 Session 5C: Image Recognition & Detection (1) Chi-Duan Building Chair: Takafumi Koike (Hosei University) 5C-1 **Color Compensation for Underwater Images of Battleship Yamato** Tasuku Yamamoto and Masashi Baba 5C-2 **EEG-Based BCI System Using Deep Learning to Control PC Mouse** Ayoub Mlatem and Tomoko Ozeki 5C-3 Open Vocabulary 3D Multiple Object Tracking through Stereo Camera Qingxiang Wang and Hiroshi Hanaizumi 5C-4 **Guidance Map Transformation for Lighting Control in Patch-Based Style Transfer** Muhammad Arief, Hideki Todo and Koji Mikami 16:25-17:45 Session 6A: Computer Vision & 3D Image Processing (2) F. C. Room Chair: Suguru Saito (Tokyo Institute of Technology) 6A-1 Tube-NeRF: Fast Synthesis of Stereo Novel Views Observed from within a Long Passage Yutaro Koike and Takafumi Koike 6A-2 Quantifying the Effect of Image Transformation Using Hypersphere Embedding Daiki Ishiguro and Tomoko Ozeki 6A-3 Auxiliary Selection: Optimal Selection of Auxiliary Tasks Using Deep Reinforcement Learning Hidenori Itaya, Tsubasa Hirakawa, Takayoshi Yamashita and Hironobu Fujiyoshi 6A-4 Estimating Wiped Rate of Cleaning Process in Semiconductor Manufacturing Using DNN and 3D Body Tracking Takehiro Nagata, Li-Wei Cheng, Chun Xie, Hidehiko Shishido and Itaru Kitahara 16:25-17:45 Session 6B: Artificial Intelligence and Deep Learning ATI Room Chair: Hiroshi Watanabe (Waseda University) 6B-1 **Learning Weight Parameter Distribution in Neural Network** Satoru Fujita 6B-2 FoodGAN: Realistic Cuisine Image Synthesis with Multi-Scale GANs Weiyi Xia and Satoru Fujita Deep Neural Network 3D Reconstruction Using One-Shot Color Mapping of Light Ray Direction Field 6B-3 Hiroshi Ohno and Takashi Usui 6B-4 Data Augmentation for Image and Clinical Data in Classification of Parotid Tumors by Deep Learning Koji Kinoshita, Yumi Onishi, Masaharu Isshiki, Sohei Mitani and Yuki Irifune 16:25-17:45 Session 6C: Computer Vision & 3D Image Processing (3) Chi-Duan Building Chair: Tomokazu Ishikawa (Toyo University) 6C-1 Development of Interaction Methods Using Physical Objects with a Stereoscopic Mid-Air 3D Image Mayumi Takazaki and Shinji Mizuno 6C-2 Frame-Break: Enhancing the Stereoscopic Effect of an Anamorphosis-Based Naked-Eye 3D Imaging System Keita Tokunaga and Issei Fujishiro 6C-3 Portable See-through AR Using Parallax Barrier-Based Autostereoscopic 3D Tablet Ryotaro Motomiya, Rintaro Akiyama and Takafumi Koike

5A-3

Estimating the Way of Grasp Complex Contoured Pieces

Wednesday, March 13

09:00-10:00 Keynote #2 F. C. Room

Chair: Kiyoshi Tanaka (Shinshu University)

The Principle and Future Prospects of AIGC Generative Models

Jhing-fa Wang (National Cheng Kung University)

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10:15-1	1:30 Session 7: Poster2
CTP-01	Method for Automatically Assigning Appropriate Elevation Values to a River Portion in Digital Elevation Model
	5A Data Discoults Manager Taskillani Canada and Katagori Tadanaga
CTP-02	Ryosuke Magata, Toshikazu Samura and Katsumi Tadamura An Automatic Face Image Generation System with Pose and Facial Expression Difference for Game Characters
CIF-UZ	Based on StyleGAN2
	Hironobu Abe and Qing Chen
CTP-03	A Study on Adaptive Estimation of Camera Extrinsics Using Building Structures to Acquire VR Spherical Images
C C	for Remote Control of Robots
	Yudai Onoda and Yoshikazu Yano
CTP-04	Real-Time 3D Video Communication System Using Stereo Video Capture and Autostereoscopic Display with
	Eye Tracking
	Kyosuke Yanagida, Takafumi Koike, Goro Hamagishi and Hideya Takahashi
CTP-05	Preparation of Invisible QR Code Using Achromatic Colors by Thin Film Interference
	Hiromasa Ohsuka and Shuichi Maeda
CTP-06	Feature Analysis and Visualization of Title Logos in Japanese Manga
	Momoka Ito, Kai Lenz and Yuriko Takeshima
LBP-21	Visual Simulation of Dry Ice Sublimation in Water Using Flame Shape from Combustion Simulation
	Yuito Kobayashi, Kai Lenz, Tomoya Ito, Yuriko Takeshima and Tsukasa Kikuchi
LBP-22	Visual Simulation of Spaghetti Using XPBD
	Haruto Sato, Kai Lenz, Tomoya Ito, Yuriko Takeshima and Tsukasa Kikuchi
LBP-23	A Research on Enhancing GameFeel by Modifying Hit Stop Duration Based on Gaze Information
	Rena Tomizawa and Tomokazu Ishikawa
LBP-24	Proposal for a Coloring Support System for Beginners in Digital Illustration
	Seigi Sakai, Takahiro Yokoi, Tsuyoshi Saitoh and Mizuki Nakajima
LBP-25	A Method to Retrieve Drawings as References for Animators
	Masahiro Fuchiue and Suguru Saito
LBP-26	Computer Graphics Modeling of Human Speech Organs
	Makoto J. Hirayama
LBP-27	Modulated Reality Using Depth Fusion: Proposal of a New Type of Extended Reality
	Hideaki Takada, Masahiro Suzuki and Kazutake Uehira
LBP-28	3D Pose Estimation Using Time Series Data in Event-Based Video
	Kakeru Koizumi and Hiroshi Watanabe
LBP-29	Data Augmentation with 3D-Rendered Models for Livestock Recognition Using Drone Footage
L DD 20	Kein Yamada, Takahiro Shindo, Taiju Watanabe and Hiroshi Watanabe
LBP-30	ISEM: Information Sharing System for Evacuation Center Management

13:15-1	8:00	Excursion
13:15-1	8:00	Excursion

18:30-20:00 Banquet

Nong Yuan Man Han Restaurant (濃園滿漢餐廳)

Address: No.248, Section 2, Changrong Rd, East District, Tainan City

Osamu Uchida, Yoshihide Nakagawa, Wataru Noguchi and Kenji Okami

Tel: +886 6-235-1133 or 6-237-6999

Thursd	lay, N	larch	14
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F. C. Room

Session 8A: Virtual, Augmented, and Mixed Reality (3)

09:00-10:20

Chair: Takashi Ohta (Tokyo University of Technology) 8A-1 Combination of Environmental Coefficients and Pedestrian Behavior toward Autonomous Vehicles Kenji Mizutani, Ryuto Masuda and Kouu You A Verification Experiment Whether Overlaying a CG Image Can Enhance the Illusion of Taste Induced by Food 8A-2 **Pairing** Taiyo Taguchi and Tomokazu Ishikawa 8A-3 An Examination of the Effects of Font Size on Reading in VR and on a Display Shogo Nishida, Kei Kanari and Mie Sato 8A-4 Analysis of Moving Single Pictures to Improve the Sense of Presence Mio Yamada and Takafumi Koike 09:00-10:20 Session 8B: Medical Image Processing ATI Room Chair: Tomoko Ozeki (Tokai University) 8B-1 2D-3D Registration Method for X-Ray Image Using 3D Reconstruction Based on Deep Neural Network Pragyan Shrestha, Chun Xie, Hidehiko Shishido, Yuichi Yoshii and Itaru Kitahara 8B-2 White Blood Cells Classification with YOLOv7: Single and Cascade Classification Aproaches for Images **Segmented by Cellavision DM96** Thalita Munique Costa, Yoko Usami, Mai Iwaya, Yuka Takezawa, Yuika Natori, Hernan Aguirre and Kiyoshi Tanaka 8B-3 A Real-Time Polyp Detection Method Based on GhostAtt-YOLOv8 Phuong Thao Nguyen and Hiroshi Watanabe 8B-4 A Computer-Aided-Diagnosis System for Hallux Valgus Ayumu Kubota, Hiroshi Hanaizumi, Yoshiteru Watanabe, Shungo Murai, Ryo Tohara and Nobuhide Kawabe 10:35-11:35 Keynote #3 F. C. Room Chair: Gwo Giun Lee (National Cheng Kung University) **Bringing Generative AI to Your Fingertips** TY Lin (MediaTek Inc.) 13:20-17:00 F. C. Room Special Session: Industry Forum Organizers: Gwo Giun Lee (National Cheng Kung University) and Seishi Takamura (Hosei University) 13:20-14:00 Session 9: Multimedia ATI Room Chair: Kiyoshi Tanaka (Otsuma Women's University) 9-1 Creation of a Digital Literary Map of Kawakami Village, Yoshino Gun, Nara Prefecture for Regional Revitalization Eri Yokoyama, Hiroshi Sunaga and Makoto J Hirayama 9-2 Smartphone-Based Continuous Authentication Based on Flick Input Features Using Japanese Free Text Shuto Kinoshita and Yasushi Yamazaki 14:15-15:15 Session 10: Image Recognition & Detection (3) ATI Room Chair: Makoto Hirayama (Osaka Institute of Technology) 10-1 Jewelry Image-to-Image Translation with Consistency Regularization and Data Augmentations Taiyo Nakagawa and Tomoko Ozeki 10-2 Effect of visual saliency on emotions while viewing paintings Yuma Sasaki, Mie Sato and Kei Kanari 10-3 **Deformation Invariant Palmprint Recognition with Multiple-Resolution Feature Matching** Mika Sakuma and Satoru Fujita 17:00-17:20 F. C. Room Closing

Special session: Industry Forum Al and the Era of Smart Semiconductors

Program

13:20-13:30	Opening Remarks
	Dr. Shoou-Jinn Chang (Distinguished Professor College of Electrical and Computer Engineering, NCKU, Taiwan)
13:30-16:30	Algorithm/Architecture Co-Design: From Algorithm to Architecture, and below
13:30	Chair: Seishi Takamura (Hosei University, Visiting Senior Distinguished Scientist, NTT Corporation, Japan) Invited Talk: SoC VLSI Physical Layouts and EDA Solutions to Enable Single-Digit Nanometer Semiconductor Volume Production for the Upcoming Artificial Intelligence Dr. Keh-Jeng Chang, Deputy Director (Taiwan Semiconductor Manufacturing Company (TSMC), Hsinchu, Taiwan)
14:00	Distinguished Lecture Host: Prof. Cheng-Ta Chiang (Chapter Chair IEEE CAS Society, Tainan Chapter, National Chia Yi University, Taiwan) IEEE CASS Tainan Chapter, Distinguished Lecture: Designing a Hardware Solution for Deep Neural Network Training Prof. Dongsuk Jeon (Seoul National University, Korea)
15:15	Break
15:30	Invited Talk: MediaGnosis: Towards Building Multimodal Foundation Model Dr. Ryo Masumura (NTT Corporation, Japan)
16:00	Invited Talk: Algorithm-Architecture Co-design for 4K HDR Video Applications in IC Design Industry Dr. He Yuan Lin (MediaTek, Taiwan)
16:30-17:00	Panel Discussion: Emerging trends in Algorithm/Architecture Co-Design for Al & Young Professions/Students in this New Era
	Chair: Cwo Giun Loo (National Chang Kung University)

Chair: Gwo Giun Lee (National Cheng Kung University)

Dr. Keh-Jeng Chang (TSMC), Prof. Dongsuk Jeon (SNU), Dr. He Yuan Lin, Eden Tsai (MediaTek)

Organizers

Chris Gwo Giun Lee (Professor, National Cheng Kung University, Taiwan)
Seishi Takamura (Professor, Hosei University; Visiting Senior Distinguished Scientist, NTT Corporation, Japan)

Co-sponsors

College of Electrical Engineering and Computer Science, NCKU

Academy of Innovative Semiconductor and Sustainable Manufacturing, NCKU

APSIPA Industry Relations and Development

IEEE Signal Processing Society, Tainan Chapter, IEEE CASS Society, Tainan Chapter, Taipei Chapter: IEEE Solid-State Circuits Society, Tainan Chapter

Maps

Electrical Engineering Bldg. I (1F)



Chi Duan Bldg.



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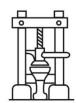
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