

CISIM 2023 (ICBAKE Workshop 2023)

*22nd International Conference on Computer Information
Systems and Industrial Management Applications*

Tokyo, September 22-24, 2023



The conference program shows the times in Japan Standard Time (JST).

Friday, 22nd September -----

10:00

Registration

13:00-13:30

Conference Opening (Room A)

Chair: Nobuyuki Nishiuchi

13:30-14:20

Keynote Speech 1 (Room A)

Chair: Khalid Saeed

Prof. Marina L Gavrilova

-----10 minutes break-----

14:30-15:20

Keynote Speech 2 (Room A)

Chair: Khalid Saeed

Prof. Nabendu Chaki

-----Coffee break (15 minutes) -----

15:35-16:20

Session 1A: Online presentation (Room A)

Chair: Vibol Yem

1A-1	Insect detection on high-resolution images using Deep Learning	Mateusz Choiński (Białystok University of Technology)*
1A-2	Neural Networks and Saliency Maps in Diabetic Retinopathy Diagnosis	Maciej Szymkowski (Białystok University of Technology)*
1A-3	Finger minutiae extraction based on the use of YOLO-V5	Krzysztof Trusiak (Białystok University of Technology)*; Khalid Saeed (Politechnika Białostocka)

Session 1B: Oral presentation (Room B)

Chair: José Escorcía-Gutierrez

1B-1	Towards a Blockchain, smart contract, and NFT based medical waste classification system: a case study in Vietnam	Ha Xuan Son (Insubria University)*; Huong Hoang Luong (Can Tho University); Khanh Vo Hong (FPT University); Phuc Nguyen Trong (FPT University); Khiem Huynh Gia (FPT University); Khoa Trang Dang (FPT University); Trong Nguyen Duong Phu (FPT University); Bao Tran Quoc (FPT University)
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		University); Hieu Doan Minh (FPT University); Duy Nguyen Tran Quoc (FPT University); Anh Nguyen The (FPT University); Nghia Huynh Huu (FPT University); Ngan Nguyen Thi Kim (FPT Polytechnic); Loc Van Cao Phu (FPT University)
1B-2	Towards a Blockchain, smart contract, and NFT based waste treatment system for developing countries: a case study in Vietnam	Ha Xuan Son (Insubria University)*; Huong Hoang Luong (Can Tho University); Khanh Vo Hong (FPT University); Khoa Tran Dang (FPT University); Khiem Huynh Gia (FPT University); Phuc Nguyen Trong (FPT University)
1B-3	Towards Rough Set Theory for Outliers Detection in Questionnaire Data	Vojtech Uher (VSB-TUO)*; Pavla Drazdilova (VSB-TUO)

—————15 minutes break—————

16:35-17:35

Session 2A: Online presentation (Room A)

Chair: Nabendu Chaki

2A-1	Fault detection of Moore finite state machines by structural models	Valery Salauyou (Bialystok University of Technology)*
2A-2	Biometric gait analysis using wrist-mounted wearable sensors	Aleksander Sawicki (BUT)*
2A-3	An Ecological Unmanned Hot-Air Balloon for the Agricultural Lands' Inspection	Boucetta Rahma (Faculty of sciences of Sfax)*

Session 2B: Oral presentation (Room B)

Chair: Anita Pal

2B-1	How to boost Machine Learning Network Intrusion Detection Performance with Encoding Schemes	Marek Pawlicki (Politechnika Bydgoska); Aleksandra Pawlicka (ITTI); Rafal Kozik (PBS); Michal Choras (Bydgoszcz University of Science and Technology)*
2B-2	Grading diabetic retinopathy using transfer learning-based convolutional neural networks	José Escorcía-Gutiérrez (Universidad de la Costa)*; Jose Cuello (Universidad Autónoma del Caribe); Margarita Gamarra (Universidad del Norte); Pedro Romero-Aroca (Hospital Universitari Sant Joan Reus); Eduardo Caicedo-

		Bravo (Universidad del Valle); Aida Valls (Universitat Rovira i Virgili); Domenech Puig (Rovira i Virgili University)
2B-3	SE-Coins System: Software for Supporting Gamification-based Educational Processes	Margarita Gamarra (Universidad del Norte); Jan Charris (Universidad de la Costa); Asly Cantillo (Universidad de la Costa); Jaime D Daza Tovar (Universidad de la Costa); Brandon Llamas (Universidad de la Costa); Mauricio Vásquez-Carbonell (Universidad Simón Bolívar); Anderson Dominguez (Universidad del Norte); José Escorcia-Gutierrez (Universidad de la Costa)*
2B-4	A new approach to the architecture of hybrid and multilayer steganographic methods	Łukasz Cierocki (West Pomeranian University of Technology)*; Jerzy JP Pejaś (West Pomeranian University of Technology in Szczecin)

-----25 minutes break-----

18:00-20:00

Welcome party: TMU University Cafeteria

Saturday, 23rd September -----

9:15-9:45

Chair: Khalid Saeed

Invited Lecture (Room A)

Prof. Anita Pal

-----15 minutes break-----

10:00-11:00

Session 3A: Oral presentation (Room A)

Chair: Yoshiko Hanada

3A-1	Proposal of an algorithm for solving the component assignment problem of an adjacent triangle-(m, n):F triangular lattice system	Taishin Nakamura (Tokai University)*
3A-2	Implicit Attitude of Human Behavior: A Review	Dian Christy Silpani (Kyushu Institute of Technology)*; Kaori Yoshida

		(Kyushu Institute of Technology)
3A-3	Investigation of Subjective Impression Perceived from Agent that Expresses Multiple Opinions Simultaneously	Rin Takenowaki (Chiba Institute of Technology); Jun-ichi Imai (Chiba Institute of Technology)*

Session 3B: Oral presentation (Room B)

Chair: Eri Sato Shimokawara

3B-1	A Novel Self-Supervised Representation Learning Model for an Open-set Speaker Recognition	Abu Quwsar Ohi (University of Calgary)*; Marina Gavrilova (University of Calgary)
3B-2	Performance Improvement of Person Verification Using Evoked EEG by Imperceptible Vibratory Stimulation	Hiroki Kobayashi (Tottori University)*; Isao Nakanishi (Tottori University)
3B-3	A new file format for binarized images	Patryk Milewski (Politechnika Białostocka)*; Khalid Saeed (Politechnika Białostocka)
3B-4	An Aerial Virtual Dialing PIN Code Input Authentication System Design via Infrared-based Hand Tracking Device	Bo Wu (Tokyo University of Technology)*; Hiroki Sato (Tokyo University of Technology); Kiminori Sato (Tokyo University of Technology)

————Coffee break (15 minutes) ————

11:15-12:15

Poster session (Room C)

Chair: Jun-ichi Imai

P-1	Improvements in Writer Verification Based on Finger-Writing of a Simple Symbol	Isao Nakanishi (Tottori University)*; Yohei Masegi (Tottori University); Kazuki Matsuura (Tottori University); Takahiro Horiuchi (Tottori University)
P-2	Proposal of Earprint Authentication System Considering Pressing Force	Nen Hirai (Tokyo Metropolitan University)*; Vibol Yem (Tokyo Metropolitan University); Lukasz Hamera (University of Bielsko-Biala); Lukasz Wieclaw (University of Bielsko-Biala); Pawel Krzempek (University of Bielsko-Biala); Nobuyuki Nishiuchi (Tokyo Metropolitan University)
P-3	Prediction of Final User Satisfaction Using Machine Learning Techniques when Watching Randomly Ordered Emotional Movies	Tamaki Fujii (Tokyo Metropolitan University); Kitti Koonsanit (Tokyo Metropolitan University); Kitti Koonsanit (Tokyo Metropolitan University)

		University); Vibol Yem (University of Tsukuba)*; Nobuyuki Nishiuchi (Tokyo Metropolitan University)
P-4	Effect of Additional Training Images Collected from Actual Nursery Scenes for Enhanced Performance in Image Captioning with Attention Mechanism	Supri Bin Amir (Kyushu Institute of Technology)*; Keiichi Horio ("KyuTech, JP")
P-5	Optimization of Bread Production using Neuro-Fuzzy Modelling	Julian Szymanski (Gdansk University of Technology)*
P-6	A study on color design of control panel of semiconductor manufacturing equipment (SME) considering color constancy	Hidetsugu Suto (Kindai University)*; Makiba Sakamoto (Hokkaido Information University); Yoshitada Honda (Tokyo Electron Device Limited.)
P-7	Prototyping and Evaluation for Requirements Extraction in Industrial Design Education	Takeo Aino (Tokyo University of Technology)*
P-8	Consideration on Nudge Information Using Sensory Stimuli to Trigger Task Switches in Activity Based Working	Keiko Kasamatsu (Tokyo Metropolitan University)*; Shin'ichi Fukuzumi (RIKEN Center for Advanced Intelligence Project)
P-9	Virtual Objects Placement in Mixed-Reality Scenes in Applications to Escape Room Games	Pawel Ruszlewski (EscapeReality Sp. Z o.o); Michal Kowalski (EscapeReality Sp. Z o.o); Tomasz Rutkowski (EscapeReality Sp. Z o.o)

12:15-13:30

Lunch

13:30-14:00

Invited Lecture (Room A)

Prof. Tetsuo Hattori

Chair: Makoto Fukumoto

—————30 minutes break—————

14:30-

Excursion: Mt. TAKAO

18:00-20:00

Banquet: UKAI TORIYAMA

Sunday, 24th September

9:00-9:50

Keynote Speech 3 (Online) (Room A)
Prof. Witold Pedrycz

Chair: Khalid Saeed

-----10 minutes break-----

10:00-11:15

Session 4A: Online presentation (Room A)

Chair: Kimihiro Yamanaka

4A-1	The Effects Of Buyer-Supplier Collaboration On Supply Chain Performance: A Study In The Brazilian Electronics Sector	Danielle Pozzo (CUC)*; Alexandre Vargas Duarte (Universidade de Sao Paulo); Isamar Gutierrez Roa (Institución Universitaria de Barranquilla); Carlos Alfonso Gonzalez Beleño (Corporación Universitaria Americana); Hussein Serjan Jaafar Orfale (Institución Universitaria de Barranquilla); Aydaluz Villanueva Vazquez (Institución Universitaria de Barranquilla); Lainet Maria Nieto Ramos (Institución Universitaria de Barranquilla)
4A-2	Hybrid Recommender System Model for Tourism Industry Competitiveness Increment	Andres Solano-Barliza (Universidad de La Costa-CUC)*; Melisa Acosta-Coll (Universidad de La Costa-CUC); Jose Escorcia-Gutierrez (Universidad de La Costa-CUC); Isabel Arregocés-Julio (Universidad de La Costa-CUC)
4A-3	Dynamic Adaptive Capacity of metalworking companies in Barranquilla - Colombia: analysis from the export process in the 4.0 era	Osvaldo Arevalo (CUC); Javier A Ramirez (Corpoación Universitaria Taller Cinco)*; Johny García Tirado (Corpoación Universitaria Taller Cinco); Margel Parra (Corporación Universitaria Reformada); Marlene Parra (IUB); Carlos Rondon (CUC)
4A-4	Relationship between degree of appropriation of ICT and learning styles of teachers in training	Olga Martinez Palmera (Universidad de la Costa); Ever Mejía Leguía

		(Universidad de la Costa); Hilda Guerrero Cuentas (Universidad de la Costa); Yuneidis Morales Ortega (Universidad de la Costa)*; Gilma Camargo Romero (Universidad de la Costa); Carmen Imitola (Escuela Normal Superior del Distrito de Barranquilla); Estella Imitola (Institución Educativa Distrital para el Desarrollo del Talento Humano)
4A-5	Evaluating techniques based on supervised learning methods in Casas Kyoto dataset for Human Activity Recognition	Paola Patricia Ariza Colpas (Universidad de la Costa CUC)*; Johanna Karinna García Restrepo (Universidad de la Costa); Shariq Aziz Butt (The University of Lahore); Marlon Alberto Piñeres Melo (Universidad del Norte); De la Hoz-Franco Emiro (Universidad De La Costa, CUC)

Session 4B: ICBAKE Special Session 1-1 (Session Title: Wellbeing and Affective Engineering) (Room B)

Chair: T. Hochin & M. Fukumoto

4B-1	Two-Step Classification Method for Sadness and Fear Facial Expression Classification Using Facial Feature Points and FACS	Mao Segawa (Kyoto Institute of Technology)*; Hiroki Nomiya (Kyoto Institute of Technology)
4B-2	Positiveness calculation of Japanese POPS using music features extracted from acoustic data	Ryosuke Toi (Kyoto Institute of Technology)*; Teruhisa Hochin (Kyoto Institute of Technology)
4B-3	The Effect of Combining Music and Animated Videos on Heart Rate Variability and EEG Signals: Some Preliminary Findings	Thunrada Thaiwong (Fukuoka Institute of Technology)*; Makoto Fukumoto (Fukuoka Institute of Technology)
4B-4	Facial Expression Estimation Using Convolutional Neural Network with Upper and Lower Segmented Face Images	Koichi Mitsumura (Kyoto Institute of Technology)*; Hiroki Nomiya (Kyoto Institute of Technology)
4B-5	Positive Computing Using Pictures and Sound Clips	Shunya Nakamura (Kyoto Institute of Technology)*; Teruhisa Hochin (Kyoto Institute of Technology)

————Coffee break (15 minutes) ————

11:30-12:30

Session 5A: Oral presentation (Room A)

Chair: Isao Nakanishi

5A-1	Evaluation of attention prompt methods based on eye tracking for virtual driving	Jinwei Liang (Fukuoka Institute of Technology)*; Makio Ishihara (Fukuoka Institute of Technology)
5A-2	Music Recommender System Considering the Variations in Music Selection Criterion Using an Interactive Genetic Algorithm	Tairyu Saito (Tokyo Metropolitan University)*; Eri Sato Shimokawara (Tokyo Metropolitan University)
5A-3	Efficacy of Flipped Learning in Engineering Education of India	Soumyabrata Saha (JIS College of Engineering)*; Suparna DasGupta (JIS College of Engineering)

Session 5B: ICBAKE Special Session 1-2 (Session Title: Wellbeing and Affective Engineering) (Room B)

Chair: T. Hochin & M. Fukumoto

5B-1	Clarification of Expectation-Based Deep Impression Mechanisms Considering Physiological Indicators and Empathy	Tatsunori Jinno (Kyoto Institute of Technology); Teruhisa Hochin (Kyoto Institute of Technology)*
5B-2	Investigation of the Effect of Subtitles in Videos on Video Evaluations Using Smile Intensity	Ichika Kobayashi (Kyoto Institute of Technology)*; Hiroki Nomiyama (Kyoto Institute of Technology)
5B-3	Development of an automatic composition system based on video color	Musashi Imai (Kyoto Institute of Technology)*; Teruhisa Hochin (Kyoto Institute of Technology)
5B-4	Effects of Difference in Singing Voice Volume on Linguistic Tasks and Feelings	Makoto Fukumoto (Fukuoka Institute of Technology)*; Marin Nakamura (Fukuoka Institute of Technology)

12:30-13:30

Lunch

13:30-14:45

Session 6A: Online presentation (Room A)

Chair: Soumyabrata Saha

6A-1	A Game-based Approach for Mitigating the Sybil Attacks on Blockchain Applications	Ashis Kumar Samanta (University of Calcutta)*; Nabendu Chaki (University of Calcutta)
6A-2	Application of Graph topology in manufacturing of anti cancer drugs	PROSANTA SARKAR (Ramgarh Engineering College)*; Debasis Chanda (MDI Murshidabad); ANITA

		PAL (NIT Durgapur)
6A-3	An approach toward Congestion management for Improved Emergency Vehicle Management in Intelligent Urban Traffic Network	Suparna DasGupta (JIS College of Engineering)*; Abantika Choudhury (RCC Institute of Information Technology); Rituparna Chaki (University of Calcutta)
6A-4	A Study on the Production of Animated Pictograms for Foreign Tourists in Kagawa Prefecture	Chiharu Tada (Kagawa University); Saerom Lee (Kagawa University)*

Session 6B: ICBAKE Special Session 2 (Session Title: Machine Learning Using Biometric Data and Kansei Data) (Room B)

Chair: N. Nishiuchi & M. Fukumoto

6B-1	Adjustment of Number of Sources in Creation of Mixed ASMR Sound based on Interactive Genetic Algorithm	Makoto Fukumoto (Fukuoka Institute of Technology)*; ZHEN NAN (Fukuoka Institute of Technology)
6B-2	Creation of Complicated Blended Juices with Interactive Genetic Algorithm and its Search Analysis	Miko Yokoi (Kansai University); Yuki Fujioka (Kansai University); Yoshiko Hanada (Kansai University)*; Makoto Fukumoto (Fukuoka Institute of Technology)
6B-3	Classification of Programming Logic Understanding Level using Mouse Tracking Heatmaps and Machine Learning Techniques	Attaporn Khaesawad (Tokyo Metropolitan University); Vibol Yem (University of Tsukuba); Nobuyuki Nishiuchi (Tokyo Metropolitan University)*
6B-4	Investigating the Use of Machine Learning Methods for Levels of Sense of Presence Classification based on Eye Tracking Data	Peerawat Pannattee (Tokyo Metropolitan University)*; Shogo Shimada (Tokyo Metropolitan University); Vibol Yem (University of Tsukuba); Nobuyuki Nishiuchi (Tokyo Metropolitan University)
6B-5	Classification of Surprise Emotion Using Support Vector Machine with Facial Expression Parameters	Kimihiro Yamanaka (Konan University)*

—————10 minutes break—————

14:55-

Conference closing (Room A)

Chair: Nobuyuki Nishiuchi