

Conference Program

13th IIAI International Congress on Advanced Applied Informatics



**IIAI AAI 2022-Winter Congress
December 12-14, 2022, Phuket, Thailand**

Day 1 (Onsite Sessions)

December 12 (Mon) 9:30AM-10:30AM

Foyer Registration and Welcome Coffee

December 12 (Mon) 10:30AM-11:00AM

Room 1 Opening Ceremony

Welcome address by Congress General Chair

Yuichi Ono, University of Tsukuba, Japan

Welcome address by Program Chair

Kunihiko Takamatsu, Tokyo Institute of Technology, Japan

Welcome address by Steering Committee Chair

Kiyota Hashimoto, Prince of Songkla University, Phuket, Thailand

Congratulation address by IEEE Indonesia CS Chapter Chair

Ford Lumban Gaol, Bina Nusantara University, Indonesia

Introduction of Organizing Committee & Announcement Social Events

Tokuro Matsuo, Advanced Institute of Industrial Technology, Japan

December 12 (Mon) 11:00AM-12:00PM

Room 1 Keynote Address 1

Keynote Session Chair

Kiyota Hashimoto (Prince of Songkla University, Phuket, Thailand)

Renewable Energy and Fault Detection in Wind Turbines using Machine Learning

Prof. Dr. Yuncheol Byun (Professor, Jeju National University, South Korea)



December 12 (Mon) 12:00PM-1:20PM

Foyer Lunch break

December 12 (Mon) 1:20PM-3:00PM

Room 1 SCAI-1

Session Chair

Naoki Mori (Osaka Metropolitan University, Japan)

Speed of Concept Drift

Kenichi Yoshida

Evaluation of Questionnaires for Measuring The Learning Outcomes of Educational Activities

Maya Iwano and Kazuhiko Tsuda

Neural Ranking Strategy for Portfolio Construction Using Transformers

Shosuke Sakagawa and Naoki Mori

Phuket Landmark Recognition using Fine-Tuning Convolutional Neural Network

Kullawat Chaowanawatee, Kittasil Silanon and Thitinan Kliangsuwan

Automatic Astrophotography Editing Method Using Deep Learning

Sayaka Nadamoto, Naoki Mori and Makoto Okada

Room 2 LTLE 1

Session Chair

Yuichi Ono (University of Tsukuba, Japan)

Video Technology Implications on the Learning Process on the Laboratory Activities

Ford Lumban Gaol, Tanty Oktavia, Tokuro Matsuo, Febryan Danuaji, Andi Muzzakir and Steffany Steffany

Using Framework of Software Lifecycle Process in Preparing and Improving Remote Class Materials

Shigeru Kusakabe

Teacher-oriented Source Code Similarity Detection and Visualization for Programming Assignments

Maxim Mozgovoy, Evgeny Pyshkin, John Blake, Marina Purgina and Agnes Leung

The Implications of Learning Technology on the College Students Performance

Ford Lumban Gaol, Tanty Oktavia, Tokuro Matsuo, Nikita Emilyn and Nicholas Leonardo

Room 3 ESKM 1

Session Chair

Daisuke Ikeda (Kyushu University, Japan)

Metaverse conversion method of existing SNS using Bot mechanism

Toru Kobayashi, Atsushi Isozaki, Kazuki Fukae, Kenichi Arai and Masahide Nakamura

Using 4-gram to Obtain Factor Scores of Japanese Statements Posted at Q&A Sites

Yuya Yokoyama, Teruhisa Hochin and Hiroki Nomiya

Automatic Interface Design Testing Application : Case Study Mobile Chat Room

Interface for Eldery

Stephanie Nadia Carrisa, Danny Sebastian, Restyandito and Kristian Adi Nugraha

Multi-objective Searching on Multimodal Transportation Networks

Yuta Hatano and Satoshi Takahashi

December 12 (Mon) 3:00PM-3:30PM

Foyer

Coffee break

December 12 (Mon) 3:30PM-5:10PM

Room 1

SCAI-2

Session Chair

Hisashi Hayashi (Advanced Institute of Industrial Technology, Japan)

Affective Computing in Computer Vision: A Study on Facial Expression Recognition

Jordan J. Bird, Azhar Aulia Saputra, Naoyuki Kubota and Ahmad Lotfi

Examination of the relation between affective content of images and gaze behavior

Terumi Kasahara, Parisa Supitayakul, Zeynep Yucel and Akito Monden

Evolutionary Acquisition of CNN Architecture by Thermodynamic Genetic Algorithm

Ryoma Okamoto, Naoki Mori and Makoto Okada

Automatic Design of CAE Architecture Using Genetic Algorithms for Diagnosis of

Crop Diseases

Takuya Kishimoto, Nobutada Fujii, Ruriko Watanabe, Daisuke Kokuryo, Toshiya Kaihara, Shinichi Nakano and Shinji Nishigichi

Room 3 ESKM 2

Session Chair

Daisuke Ikeda (Kyushu University, Japan)

Performance Comparison of Topic-bound Caption Generation Regarding Object Recognition and Tokenizer

Hidekazu Yanagimoto and Kiyota Hashimoto

A Study on Artificial Intelligence and Human Decision-Making

Takaaki Hosoda

Thai Emotion Corpus Creation: A Study on Simultaneous Verbal and Nonverbal Annotation

Suthasinee Piyapasuntra, Jantima Angkapanichkit, Thatsanee Charoenporn, Auttapon Chookeaw, Kamolrat Suebsor, Wiyada Sirichanasub and Janyamon Khamlord

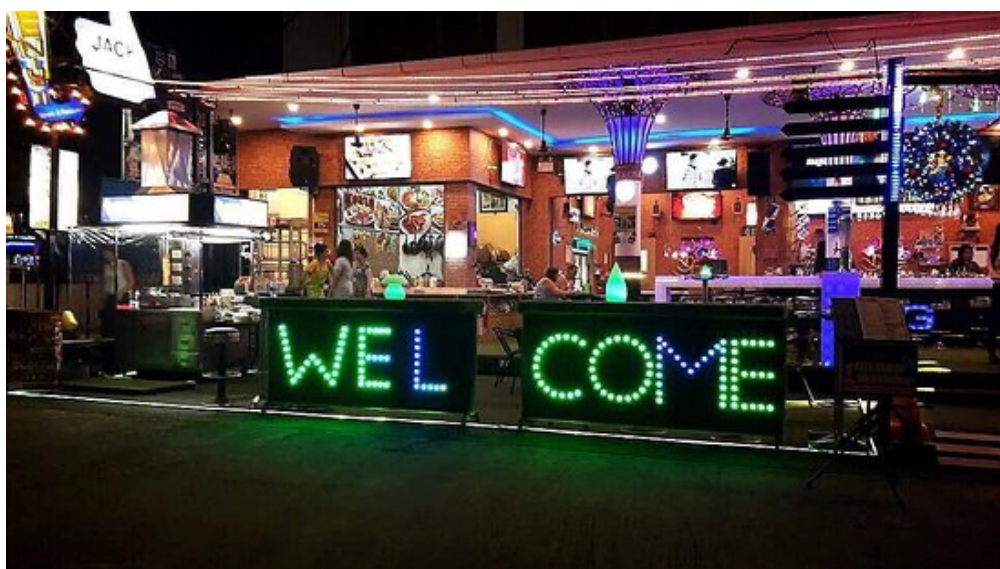
Developing a web application for RBSC-based solution of the subset selection problem

Chigusa Ikeda, Parisa Supitayakul, Zeynep Yucel and Akito Monden

December 12 (Mon) 6:30PM-8:00PM

Welcome Reception

Venue: The Genius II Garden & Restaurant



Day 2 (Onsite Sessions)

December 13 (Tue) 9:30AM-10:30AM

Room 1 **Int'l Workshop on Data Science: Challenges for Better Living 1**

Session Chair

Thatsanee Charoenporn

Facilities Utilization Framework for Universal Design in Tourism

Nattapong Tongtep and Thatsanee Charoenporn

A Dinner Menu & Recipe Recommendation System with Food Expiration-date

Notification functions

Otowa Takahashi and Shiori Sasaki

December 13 (Tue) 10:30AM-11:00AM

Foyer **Coffee break**

December 13 (Tue) 11:00AM-12:00PM

Room 1 **Keynote Address 2**

Keynote Session Chair

Nattapong Tongtep (Prince of Songkla University, Phuket, Thailand)

Harmonization of Humanitarianism and AI — A Case of Thammasat AI City —

Prof. Dr. Virach Sornlertlamvanich (Thammasat Univ, Thailand & Musashino University, Japan)



December 13 (Tue) 12:00PM-1:20PM

Foyer

Lunch break

December 13 (Tue) 1:20PM-3:00PM

Room 1

Int'l Workshop on Data Science: Challenges for Better Living 2

Session Chair

Nattapong Tongtep

A Semantic Similarity Measurement Integration Method for Posture Feature Evaluation in Time Series Data

Natsuki Kamada, Shogo Shibahara and Yasuhiro Hayashi

A Body Motion Comparison Method by Combining Posture Evaluation Operators

Shogo Shibahara, Natsuki Kamada and Yasuhiro Hayashi

A Simulation Model for Robot System Selection using Task Primitives for Expressing Actions and Data Structures

Kota Itoda, Norifumi Watanabe and Yasushi Kiyoki

A Framework for Developing Social Awareness of the Effect of Plastic Waste on the Environment

Virach Sornlertlamvanich, Thatsanee Charoenporn, Shiori Sasaki and Yasushi Kiyoki

Emotion Estimation Method by Convolutional Neural Network for Heartbeat Vital Data

Miyu Iwamoto, Keiko Ojima, Ryotaro Okada, Takafumi Nakanishi

Room 2 LTLE 2

Session Chair

Ford Lumban Gaol (Bina Nusantara University, Indonesia)

A Jupyter Notebook Based Tool to Make Screening and Primary Evaluations of Students' Spreadsheet Files Submitted on Learning Management Systems

Toshihiro Kita, Kahori Ogashiwa and Noriko Asamoto

Attitude toward the use of dual subtitles by Japanese English learners

Yuki Hoshi and Yuichi Ono

The Implications of Service Engineering on Customer Satisfaction and Brand Trust Towards Customer Loyalty on the e-Marketplace

Ford Lumban Gaol, Tanty Oktavia, Tokuro Matsuo, Andrian Liusinardy, Jonathan Christopher, Reynaldy Laiiji and Stephen Tanjiri

A Case Study on the Effective Use of Applications in Class for Deaf and Hard-of-Hearing Students

Miki Namatame

Procrastination Awareness and Learning Behavioral Types in an Online Learning Environment

Rika Yaguchi and Yuichi Ono

Room 3 SCAI-3

Session Chair

Satoshi Takahashi (University of Electro-Communications, Japan)

Efficient Parameter Tuning for Multi-agent Simulation Using Deep Reinforcement Learning

Masanori Hirano and Kiyoshi Izumi

Reinforcement Learning Approach to Forex Trading using Price Changes Trend

Sakulpetch Buaphan, Luepol Pipanmaekaporn and Suwatchai Kamonsantiroj

Biomarker discovery using contaminated mixed tumor samples

Katsuhiko Murakami

Towards Strong Psychological Equivalence in Natural Language Understanding

Masao Yokota and Rojane Khummongkol

December 13 (Tue) 3:00PM-3:30PM

Foyer

Coffee break

December 13 (Tue) 3:30PM-5:10PM

Room 1

Int'l Workshop on Data Science: Challenges for Better Living 3

Session Chair

Naoki Ishibashi

Automatic stage illumination control system by impression of the lyrics and music tune

Marina Kanno and Yoshihisa Fukuhara

A Dynamic Finger Character Recognition Method Using Landmark Behavior Rule Base

Shinpei Hagimoto, Takuma Nitta, Ryotaro Okada, Takafumi Nakanishi

A Method for Predicting Sudden/Cyclic Stress Using Vital Data and the Realization of a Tracking Mental Management Robo

Koharu Sano, Keiko Ojima, Ryotaro Okada, Takafumi Nakanishi

Obstacles Detection and Motion Estimation by Using Multiple Lidar Sensors Data

Shiying Liu and Takafumi Nakanishi

Room 2 DSIR

Session Chair

Kunihiko Takamatsu (Tokyo Institute of Technology, Japan)

An Analysis of Chronological Changes Based on Feature Words Using the Cross-Tabulation Search Engine - Case Study for Self-Assessment Documents in Japanese University –

Kahori Ogashiwa, Kumiko Kanekawa, Toru Sugihara, Soichiro Aihara, Masao Mori and Sachio Hirokawa

Combining Key Performance Indicators and Signs of Changes in Students to improve the quality of education in Institutional Research based on Eduinformatics

Kunihiko Takamatsu, Tetsuhiro Gozu, Ryosuke Kozaki, Sayaka Matsumoto, Mizuki Kondoh, Keita Nishiyama, Nao Ichikawa, Katsuhiko Murakami, Yasuhiro Kozaki, Masao Mori, Shotaro Imai, Ikuhiro Noda, Kenya Bannaka, Kenichiro Mitsunari and Yasuo Nakata

Class Assignment Problem Considering Time Relationship

Hiroyuki Maruyama, Takaaki Hosoda and Tokuro Matsuo

Room 3 SCAI 4

Session Chair

Satoshi Takahashi (University of Electro-Communications, Japan)

A Variant of Knapsack Problem Efficient for Benders Decomposition

Kosuke Aratani and Masakazu Muramatsu

Investigation of the relation between task engagement and eye gaze

Shogo Hamachi, Parisa Supitayakul, Zeynep Yucel and Akito Monden

Fake News Detection Using Transformer and Ensemble Learning Models

Raquiba Sultana and Tetsuro Nishino

Tracking of Surgical Instrument Based on Neural Network and Optical Flow for Videos of Simulated Intrasccleral Intraocular Lens Fixation

Naotake Kamiura, Shoji Morita, Tejiro Isokawa, Masahiro Akada and Hitoshi Tabuchi

December 13 (Tue) 6:00PM-8:00PM

Room 1 (Duangjitt Spa & Resort, Phuket)

Venue: Banquet and Award Presentation



Day 3 (Online Sessions)

December 14 (Wed) 10:00AM-10:20AM

Online Opening Ceremony

Welcome address by Congress General Chair

Yuichi Ono, University of Tsukuba, Japan

Welcome address by Program Chair

Kunihiko Takamatsu, Tokyo Institute of Technology, Japan

Welcome address by Steering Committee Chair

Kiyota Hashimoto, Prince of Songkla University, Phuket, Thailand

Congratulation address by IEEE Indonesia CS Chapter Chair

Ford Lumban Gaol, Bina Nusantara University, Indonesia

Introduction of Organizing Committee

Tokuro Matsuo, Advanced Institute of Industrial Technology, Japan

December 14 (Wed) 10:20AM-12:00PM

Online Session 1

Session Chair

Hisashi Hayashi (Advanced Institute of Industrial Technology, Japan)

Examination of required functions in the PBNM Scheme for Multiple Domains as

Cyber Physical System that utilizes data science and AI

Kazuya Odagiri, Shogo Shimizu, Naohiro Ishii

An extension on the choreography systematization using “Associate Model” for Service

Robots with Referencing Traditional Japanese Performing arts

Masahiko Narita

Development of real-time temperature measurement system for facial landmarks to estimate learner's emotions

Toyohisa Nakada, Motoki Miura, Eisuke Chikayama

Toward Visualizing Others' Preferences for Good Encounters in A Virtual Space System

Yuto Kuguminato, Naoki Fukuta

Automatic extension of editing rules for program analysis during creation process

Wakana Hashimoto, Yo Amano, Kazuhiro Takeuchi

December 14 (Wed) 12:00PM-1:00PM

Break

December 14 (Wed) 1:00PM-2:40PM

Online

Session 2

Session Chair

Naoki Fukuta (Shizuoka University, Japan)

Estimation of Pharmacological Activity by Combining Molecular Fingerprints and Skeletal Formula Images

Satoshi Ito, Takafumi Nakanishi, Masatsugu Hashimoto

Design Balancing Control of Two-Wheel Electric Vehicle Using Optimal Control

Rewat Bunchan, Athasit Wongcharoen

Combining Pre-Trained Language Models and Features for Offensive Language Detection

Zhenming Li, Kazutaka Shimada

Data Processing Tools for Graph Data Modelling Big Data Analytics

Konstantinos Voulgaris, Athanasios Kiourtis, Panagiotis Karamolegkos, Andreas Karabetian, Yannis Poulakis, Argyro Mavrogiorgou, Dimosthenis Kyriazis

Hybrid Weighted Retrieval of Twitter Users for Temporally Relevant Full-Text
Querying in the Media Industry

Ryan Hodgson, Jingyun Wang, Alexandra Cristea, John Graham

December 14 (Wed) 2:40PM-2:50PM

Congress Adjournment

13th International Congress on Advanced Applied Informatics (IIAI AAI 2022-Winter)
December 12 – 14, 2022, Duangjitt Spa & Resort, Phuket, Thailand

Each paper has 15 minutes for presentation and 5 minutes for Q&A.

December 12: Onsite Conference

	Room 1	Room 2	Room 3
9:30-10:30	Registration & Welcome Coffee		
10:30-11:00	Opening Ceremony		
11:00-12:00	Keynote 1 (Prof. Yung-Cheol Byun)		
12:00-13:20	Lunch		
13:20-15:00	SCAI 1	LTLE 1	ESKM 1
15:00-15:30	Coffee Break		
15:30-17:10	SCAI 2		ESKM 2
18:30-20:00	Welcome Reception		

December 13: Onsite Conference

	Room 1	Room 2	Room 3
9:30-10:30	WS1		
10:30-11:00	Coffee Break		
11:00-12:00	Keynote 2 (Prof. Virach Somlertjanwanich)		
12:00-13:20	Lunch		
13:20-15:00	WS 2	LTLE 2	SCAI 3
15:00-15:30	Coffee Break		
15:30-17:10	WS 3	DSIR	SCAI 4
18:00-20:00	Banquet & Award Presentation		

December 14: Online Conference

	Online Sessions
10:00-10:20	Online Opening Ceremony
10:20-12:00	Online Session 1
12:00-13:00	Break
13:00-14:20	Online Session 2
14:20-14:30	Congress Adjournment