

Conference Program

16th IIAI International Congress on Advanced Applied Informatics

July 6-12, 2024, Takamatsu Japan



Venue: Sunport Takamatsu & Kawata International Conference Center, Takamatsu, Japan

July 6 (Sat) 1:30PM-5:00PM

Room Foyer

Registration and Welcome Beverage

July 6 (Sat) 2:30PM-5:00PM

Room International Conference Center SCAI-SS1-1

Session Co-Chairs: Masanori Hirano (Preferred Networks, Inc.), Kei Nakagawa (Nomura Asset Management Co, Ltd.), Yoshiyuki Suimon (Nomura Securities Co., Ltd.), Hiroki Sakaji (Hokkaido University)

Automatic generation of patent maps by estimating technical problems and solutions using T5

Yuki Kobori, Hiroyuki Sakai and Kengo Enami

Does executive compensation with ESG target improve firm's ESG performance?

-Evidence from Japan

Dai Yamawaki, Kaito Takano and Kei Nakagawa

Construction of Domain-specified Japanese Large Language Model for Finance through Continual Pre-training

Masanori Hirano and Kentaro Imajo

DDSTM:Dynamic Dual Sparse Topic Model using Spike and Slab priors

Tatsuki Masuda, Kei Nakagawa and Takahiro Hoshino

Bayesian Analysis of Stochastic Conditional Duration Models with Intraday and Intra-deferred Future Seasonalities in High-frequency Commodity Market

Tomoki Toyabe, Makoto Nakakita and Teruo Nakatsuma

Room 64 DSIR 1

Session Chair: Naruhiko Shiratori (Tokyo City University)

Evaluating the Effects of Pre-University Education Using Propensity Score Matching

Keita Nishiyama

Assessment of Study Abroad Programs as Co-Curricular Program: A Case Study of Measuring Global Competency with the MGUDS-S

Soichiro Aihara

Understanding ORCID Adoption Among Academic Researchers

Stephen Porter, Paul Umbach and Chris Willis

Current Status and Issues Concerning the Formulation and Operation of Mid-Term Plans for Japanese National Universities - Based on the Results of a Questionnaire Survey

Tetsuya Oishi, Eiichi Takata, Masao Mori, Kunihiko Takamatsu, Takahiro Seki and Kahori Ogashiwa

Room 65 LTLE 1 + LTLE-SS2

Session Co-Chairs: Kouseke Mouri (Hiroshima City University) and Yin Chengjiu (Kyushu University)

Detecting outliers from quiz response times and scores by classifying weekly learning patterns in a blended learning course

Konomu Dobashi

4:45PM-5:45PM Ice-cold Beer and Beverage Greeting at Foyer

July 7 (Sun) 9:45AM-11:50AM

Room International Conference Center SCAI-SS1-2

Session Co-Chairs: Masanori Hirano (Preferred Networks, Inc.), Kei Nakagawa (Nomura Asset Management Co, Ltd.), Yoshiyuki Suimon (Nomura Securities Co., Ltd.), Hiroki Sakaji (Hokkaido University)

Analysis of the Temporal Structure in Economic Condition Assessments

Masahiro Kato

Error Analysis of Option Pricing via Deep PDE Solvers: Empirical Study

Rawin Assabumrungrat, Kentaro Minami and Masanori Hirano

Analysis of investment behavior of individual investors in the FX market: Influence of FOMC and Beige Book information

Moeko Asano, Yoshihiko Ichikawa, Kei Nakagawa and Kaito Takano

Optimal execution strategy using Deep Q-Network with heuristics policy

Tatsuyoshi Ogawa, Kei Nakagawa and Kokoro Ikeda

Measuring Semantic Similarity in Japanese Key Audit Matters

Nobushige Doi, Yusuke Nobuta and Takeshi Mizuno

Room 62 DSTM 1 + DSTM-SS2

Session Co-Chairs: Morihiko Ikemizu (Advanced Institute for Industrial Technology) and Takaaki Hosoda (Advanced Institute of Industrial Technology)

A Study of the Effect of Age on Employee Engagement

Morihiko Ikemizu and Takaaki Hosoda

I Can See Your Voice! Analyzing Public Opinions on Urban Issues in Thailand's Khon Kaen Municipality Through Social Media

Prasongchai Setthasuravich, Grichawat Lowatcharin, Pakpoom Phonsungnoen, Kasipat Thonmanee, Pathompohn Mangma, Krisada Prachumrasee and Panpun Ronghanam

Extracting Impression from the Low-Rated Statements Posted at EC Sites

Yuya Yokoyama, Takaaki Hosoda and Tokuro Matsuo

Data Usage Prediction with LSTM on Customized Firmware 5G OpenWRT Modem Router

Alexander Nurenje, Widodo Budiharto, Ford Lumban Gaol and Aditya Kurniawan

Research on Behavioral Characteristics of Entrepreneurs

Katsuki Yasuoka, Takaaki Hosoda, Kiyomi Miyoshi, Takuro Matsuo and Qiang Ma

Room 63 DSIR-SS2 + DSIR-SS4

Session Co-Chairs: Naruhiko Shiratori (Tokyo City University) and Shuntaro Iseri (Kanda University of International Studies) and Shintaro Tajiri (Hokuriku University)

A Study on Real-Time Prediction of Course Dropout Students Using LMS Logs

Takaaki Ohkawauchi and Eriko Tanaka

Identifying the high risk duration to the semester to drop out of college using dropout probability

Naruhiko Shiratori

Analysis of Discrepancies in Learning Awareness of Data Science Across Disciplines - a Case Study of Nihon University, College of Humanities and Sciences –

Eriko Tanaka and Takaaki Ohkawauchi

Designing Data Science Courses to Support Non-STEM Undergraduate Students -
Insights Based on Expectancy-Value Theory

Mio Tsubakimoto

Integrating Tableau into a First-Year Information Literacy Course: A Practical
Approach to Enhancing Data Science Education

*Shintaro Tajiri, Kunihiko Takamatsu, Naruhiko Shiartori, Tetsuya Oishi, Masao Mori
and Masao Murota*

Room 64 DSTM-SS1

Session Chair: Takaaki Hosoda (Advanced Institute of Industrial Technology)

Community Settlement of Migrant Entrepreneurs: Case study of "Sakawa Invention
Lab"

Osamu Nakajima

Analysis of Factors Influencing the Decision-Making of the Elderly

Eriko Musashi, Takaaki Hosoda and Daisuke Ikeda

July 7 (Sun) 1:15PM-2:30PM

Room International Conference Center SCAI 1 and SCAI-SS1-3

Session Co-Chairs: Masanori Hirano (Preferred Networks, Inc.), Kei Nakagawa
(Nomura Asset Management Co, Ltd.), Yoshiyuki Suimon (Nomura Securities Co.,
Ltd.), Hiroki Sakaji (Hokkaido University)

Bayesian Portfolio Optimization by Predictive Synthesis

Masahiro Kato, Hibiki Kaibuchi, Kentaro Baba and Ryo Inokuchi

Integrating Textual and Financial Time Series Data for Enhanced Forecasting

*Shangyang Mou, Qiang Xue, Wenting Zhang, Takuji Kinkyō, Shigeyuki Hamori, Jinhui
Chen, Tetsuya Takiguchi and Yasuo Ariki*

Game Recommendation based on Reviews and Neighbor Interaction with Generative
Adversarial Networks

Duen-Ren Liu, Bo-Yi Pei and Jian-Heng Chen

Room 62 BMOT 1

Session Chair: Shimpei Matsumoto (Hiroshima Institute of Technology)

Proposal of a Tourist Attractions' Introduction Creating Tool using Deep *Learning*
Takashi Hasuike, Youheng Liang, Hideki Katagiri and Hiroshi Tsuda

Research on the Color Schemes of Event Announcement Images Using GMM
Kayu Morishige and Shimpei Matsumoto

Predicting Success Factors in Social Issue Crowdfunding Projects Using A Logistic
Regression Analysis

Kazuki Munehisa and Shimpei Matsumoto

Room 63 DSIR 2

Session Chair: Naruhiko Shiratori (Tokyo City University)

Enhancing Moodle Insights: Leveraging Time Tracking Data Beyond Access Counts
Yuji Kobayashi and Takashi Miyaura

A Survey on Self-Perception of Institutional Research Skills and Knowledge by
Focusing on the Gap with the Participants Needs of Training Courses

Tetsuya Oishi and Takashi Nishide

July 7 (Sun) 2:45PM-4:50PM

Room International Conference Center SCAI 2

Session Chair: Takafumi Nakanishi (Musashino University)

Dataset Construction and Verification for Detecting Factual Inconsistency in Japanese
Summarization

Keisuke Iwamoto and Kazutaka Shimada

A Simple Method to Improve Contrastive Learning for Defect Recognition with a Small
Dataset

Hirohisa Kato and Fusaomi Nagata

Cloud-based Acute Kidney Injury and Mortality Prediction System with Machine
Learning Hyperparameter Tuning Service

Kai-Ching Chen, Mei-Ya Nian, Hsin-Yu Lee, Yi-Lun Pan and Kai-Chih Pai

Model for Trust and Reliance on Technology: Exploring the Relationship between
Trustor, Trustee, and Context

Takashi Matsuura and Seiko Shirasaka

Room 62 BMOT2

Session Chair: Hidekazu Iwamoto (Josai International University)

Research on Improving Usability of Smartphone Applications through User Interface Design Theory and Eye Tracking

Nozomi Fujiwara and Shimpei Matsumoto

Numerical computation of the SEIR model taking into account variations in contact rates due to diurnal human mobility

Hiroyoshi Matsumoto, Yusuke Yamauchi and Shimpei Matsumoto

Research on Improving Usability of Smartphone Applications through User Interface Design Theory and Eye Tracking

Nozomi Fujiwara and Shimpei Matsumoto

Room 63 ESKM 1

Session Chair: Daisuke Ikeda (Kyushu University)

A Social Recommendation Mechanism for Esports Team up

Chin-Yu Hsieh, Jyh-Hwa Liou and Yung-Ming Li

Designing a Probability Disclosure Mechanism for Loot Boxes Based on Consortium Blockchain2

Yu-Hsi Ni and Yung-Ming Li

Retrieval Augmented Generation on Hybrid Cloud: A New Architecture for Knowledge Base Systems

Chia-Chuan Chuang and Kai-Ching Chen

5:00PM-6:00PM Welcome Beverage & Cocktail at Foyer

July 8 (Mon) 9:45AM-11:50AM

Room International Conference Center SCAI 3

Session Chair: Takafumi Nakanishi (Musashino University)

Ray-Transformer Neural Radiance Field for Novel 3D View Synthesis from Single Image

Tsung-Min Yu and Yi-Leh Wu

Gated Convolutional Attention Networks for Predicting Adverse Birth Outcomes

Daniel Asfaw, Ivan Jordanov, Lawrence Impey, Ana Namburete, Raymond Lee and Antoniya Georgieva

Utilizing SAX for Enhanced Recognition of Finger Characters: A Continuous and Transitional Approach in Sign Language

Shinpei Hagimoto, Virach Sornlertlamvanich and Takafumi Nakanishi

Toward an Acceptable Dynamic Allocation Considering Fairness on Autonomous Car Parking

Suma Saathvika Duddela and Naoki Fukuta

Room 62 BMOT 3

Session Chair: Shimpei Matsumoto (Hiroshima Institute of Technology)

Empirical Analysis on the Interaction between Corporate Dynamics, Cultural Context and Economic Growth

Yuji Tou and Akira Nagamatsu

Understanding Convention Attendees' motivations in the Post-COVID Era: A Comparative Study of Foreign and Japanese Participants

Hidekazu Iwamoto and Tokuro Matsuo

Visualizing Network Relationships in Tourism: A Methodological Approach to Value Creation with Practical Application

Nozomi Saito, Lisa Ruhanen, Koki Kusano and Seiko Shirasaka

Room 63 IDDC 1

Session Co-Chairs: Taishi Nemoto (University of Kochi)

Proposal of Food Design Methods in the Age of Recipe 3.0

Mutsumi Kodama and Taishi Nemoto

An Analysis of Changes in the Awareness of the Teacher Who Supported to Elementary School Students the Utilization for the First Time of 1:1 Information Devices

Mitsuhiro Watanabe and Tatsuya Horita

Room 64 DSIR-SS1

Session Chair: Yoshikazu Asada (Jichi Medical University)

A Trial to Convert Graduation Competency Questionnaire Data into Key Performance Index in Japanese Medical Schools

Koji Tsunekawa, Masako Kakizaki and Osamu Takakuwa

Learning objectives from the syllabus and Model Core Curriculum for medical education in Japan: A case report of mapping

Yoshikazu Asada

1:15PM- 1:40PM Opening Ceremony at Int'l Conf. Center

1:40PM-2:20PM Ice-Break Talk & Welcome Attraction

July 8 (Mon) 2:30PM-4:10PM

Room International Conference Center SCAI 4

Session Chair: Takafumi Nakanishi (Musashino University)

Investigation of the Diversity of News Reading Articles and Browsing Trends Using Sentence-BERT

Akihisa Takiguchi, Tsunenori Mine and Yutaka Arakawa

Application of Skeleton Image Detection in Basketball Free Throw Posture Research

Jui-Che Hsu and Ming-Hsiang Su

Evaluating Patient Satisfaction Through Validated Predictive Classification Models

Nittaya Chemkomnerd, Warut Pannakkong, Van-Nam Huynh and Tanatorn Tanantong

Room 62 BMOT 4

Session Chair: Hidekazu Iwamoto (Josai International University)

Decoding Scheme Considering Differences in Operator Ability for Dual Resource-Constrained Scheduling Problem

Makoto Kimura, Aya Ishigaki and Nari Tanabe

Dynamic Capability of SMEs under Exogenous Crises: A Case Study of SMEs Faced with COVID-19

Kazuhisa Nakano and Naoshi Uchihira

Room 63 SBIT-SS1

Session Chair: Hiroyuki Ono (Chiba Institute of Technology)

Statistical Analysis of the Influence of Service Quality on Customer Satisfaction of Information System Development

Atsushi Shimoda and Kentaro Ichimura

A Study on Station Power Model Index Utilizing Train Conversion Factors for Lines Serving Tokyo Prefecture.

Yohei Hara and Hiroyuki Ono

Changes that basic income can produce depending on economic conditions

Kosei Takashima and Isao Yagi

A Consideration of Analyzing the Impact of Influencer Flames

Masaki Shibuya, Motoi Iwashita and Ken Nishimatsu

4:10PM-4:40PM Keynote Address

Room International Conference Center

Session Chair: Naruhiko Shiratori (Tokyo City University) and Kunihiro Takamatsu (Tokyo Institute of Technology)

Institutional Research in UK Higher Education: Insights from the HEIR Network and the University of St Andrews

Gerald Prescott (University of St. Andrews)

Abstract

Institutional Research (IR) has evolved into a recognised practice over the last 60 years, with its foundations reaching far back into the histories of European Universities. IR as a discipline originates from institutions in the United States and Canada and at its core involves objective, systematic and thorough research that supports institutional, planning, policy formation, and decision making. IR is now playing an increasingly important role within many Higher Education institutions, enhancing learning and teaching practice and providing timely and relevant evidence to aid management decision making.

During this lecture, we will explore the IR approach through the lens of the UK and Ireland Higher Education Institutional Research (HEIR) network and by reflecting upon current IR priorities within the UK Higher Education sector. Using case studies from the University of St Andrews we will explore how IR permits us to understand and make decisions on institution-wide education practice in the context of local, national and international drivers for change. The case studies presented will demonstrate how institutional evidence has enabled us, to understand the relationship between an increase in the cost of living and student engagement, mental health and academic integrity and, to identify attainment gaps across student cohorts of different demographics, including gender, disability and social background.

Bio

Gerald Prescott is the Associate Dean for Education (Science) at the University of St Andrews, Scotland and a member of the Planning Group for the UK & Ireland Higher Education Institutional Research (HEIR) network. Gerald is an experienced educator and strategic leader in teaching and learning change and enhancement nationally and internationally. He leads strategic change as well as serving on senior institutional committees and national and international groups, including representing Universities Scotland on strategic, sector-wide, assessment groups, leading a sector-wide thematic group on Generative AI in the curriculum and undertaking work on institutional wellbeing for the European University Association.

5:00PM-7:00PM Welcome Reception and Poster Session at #61

July 8 (Mon) 5:00PM-7:00PM

Room 61 Welcome Reception and Poster Session

Session Co-Chairs: Daisuke Ikeda (Kyushu University), Yuichi Ono (University of Tsukuba), Naruhiko Shiratori (Tokyo City University), Takafumi Nakanishi (Musashino University), Shimpei Matsumoto (Hiroshima Institute of Technology), Hidekazu Iwamoto (Josai International University), Yukihiro Shintani (Chiba Institute of Technology), Taishi Nemoto (University of Kochi) and Takaaki Hosoda (Advanced Institute of Industrial Technology)

ESKM Posters

Investigating Smart Retail Stores Adoption: An MOA Theoretical Perspective

Chih-Jou Chen, Ju-Chuan Wu and Cheng-You Tsai

A System for Exploring People on the Web Using Subject Headings

Yoshitaka Shirakawa, Masayuki Shimokura, Takashi Hirata and Harumi Murakami

LTLE Posters

Development of virtual space for individualized and optimal learning

Keiya Maruko, Shengkai Lin, Kousuke Mouri, Masaru Okamoto and Yukihiro Matubara

Investigating the Influence of Competencies and Attitudes Nurtured through K-12 Education on Student Performance in Scrum-based System Development of Project Based Learning

Shun Sato and Hiroto Yamakawa

Preliminary Evaluation of a Hotel English Virtual Reality Educational Game with Scenario-based Audio Feedback

Yu-Ching Kao and Huei Tse Hou

Changes and Trends in High School Students' Awareness of Information Ethics Following a Lecture on Information Ethics

Sakiko Sumai, Norio Ishii, Yuri Suzuki and Ryo Miyazaki

Design and Preliminary Evaluation of a Simulated Interview Educational Game Combined with Dynamic Situation Path Mechanisms

Yen-Ting Ho, Yu-Cheng Lin, Pei-Ching Ngu and Huei-Tse Hou

The Effects of Non-Violent Communication-based Emotional Education using a Digital Storytelling Platform on Adolescents' Emotional Learning: Gender differences

Hsiu-Ling Chen and Szu-Yu Chen

A Preliminary Study of Augmented Reality Educational Board Game Integrated with Sequence-based Cognitive Scaffolding for Learning Occupational Characteristics and Evolution

Cheng-Tai Li, Yu-Ju Huang, Chia-Hsuan Huang, Chi-Chin Hsueh, Chieh-Yu Li and Huei Tse Hou

Game-Based Learning in Taiwanese Science Education: Current Practices and Future Potentials

Mingfong Jan, Tieh-Huai Chang and Kuo-Yang Chiu

Impression Evaluation of Instructor Placement in Online Lecture Screen Displays

Kaili Zhu, Katsumi Sato and Yoko Usui

The Impact of Avatar Customization Flexibility on Conversational Satisfaction

Katsumi Sato and Yoko Usui

Using an online knowledge-construction platform to explore Collaborative inquiry activities of problem-based learning

Yenlin Chiu

Development of a Learning Advising System using Generative AI

Haruki Ueno, Yasuomi Takano, Kana Sunahara, Ginji Someya, Taketo Tsurube and Hiroshi Komatsugawa

Design a hierarchy Contextual Clue Scaffolding oriented Educational Board Game with Mobile Technology for Understanding Basic Health Care Knowledge

Cheng-Tai Li, Chih-Yung Chien, Lu-An Chen, Li-Fang Yin, Jie-Yun Cheng, Zhuang-Hua Gan and Huei Tse Hou

Building Cloud Base Cyber Range by Designing an Efficient Container Distribution API Using Docker

Sanggyu Shin

Preservice Teachers' Design Experiences of Educational Game

Wan-Lin Yang

An Interactive Picture Storybook Scheme for Lower-Grade Elementary Students to Learn Music and Computational Thinking

Jun-Ming Su

A Virtual 3D Chemistry Laboratory with an Enhanced AI Chatbot to Facilitate Learning Effectiveness

Bo-Jing Chen, Chih-Ming Chen and Chieh-Ling Huang

Design and Evaluation of the Framework of ChatGPT-based situational non-player character scaffolding for educational games

Yu-Chi Chen and Huei Tse Hou

Design of Creative Thinking Skills Training Activity using Board Game with Mobile technology

Shi-Chian Wang, Yu-Chi Chen, Pei-Chun Chung and Huei Tse Hou

An Educational Simulation Game Integrated with Generative AI as Conversational Contextual Scaffolding for Tourism English: A Preliminary Analysis of Learning Achievement, Self-Efficacy and Cognitive Load

Cheng-Tai Li, Liang-Hsuan Lee and Huei Tse Hou

DSIR Posters

Context-sensitive Classification for Scientific Keywords in Grant Reports

Michiko Yasukawa and Koichi Yamazaki

Consistency of the I-E-O-L Model and the Guidelines for Academic Management -
Revisiting the Extended I-E-O Model for Student Survey Management -

Sayaka Matsumoto, Kunihiko Takamatsu, Shotaro Imai, Tsunenori Inakura and Masao Mori

Development of a convenient hearing test system for the prevention of frailty

Mari Ueda, Kodai Odagiri and Testuo Tanaka

Comparative analysis of high and low performers' behavior from research topic exploration to research outreach

Kaoru Matsumoto and Masao Mori

SCAI Posters

Toward an Efficient And Resilient Electric Vehicle Charging Place Allocation Using Multiagent Approach

Iftekhhar Ahamad and Naoki Fukuta

Simulation of pedestrian crowds using probability value cellular automata

Yasuki Iizuka

Enhance the Image Recognition Capabilities of Drones in Low-Light Environments

Ching-Min Lee, Yan-Liang Pan, Chun-Hsiang Chuang and Sheng-Guan Zhang

Multiparty Quantum Key Agreement Protocol Based on 2-qubit Grover Search with swapping

Tzung-Her Chen

Machine Learning Detection of Hemodialysis Arteriovenous Graft Stenosis Using Bilateral Pulse Oximetry

Jeen-Shing Wang, Yen-Lung Tsai and Jui-Chih Chang

Extraction of emotional patterns in novels and analysis of their transitions

Masako Furukawa and Yoshitomo Yaginuma

Development of an Indigenous Language Collaborative Platform for Establishing Truku Language Corpus in Taiwan

Yihao Hsiao, Liangyu Chen, Chenyu Chiang and Mengchi Huang

Research on Feature Selection Techniques for Support Vector Regression-based State of Health Estimation of Lithium-Ion Batteries

Jia-Hong Fang, Yu-Shan Cheng, Yi-Hua Liu and Bo-Jhih Chen

Automated School Lunch Menu Planning with Machine Learning Algorithms

Hao-Yu Lin, Jeen-Shing Wang and Ya-Ting C. Yang

A Space-Saving Algorithm for Enumerating Minimal Generators in Negative Rule Mining

Shogo Mochizuki and Koji Iwanuma

Predicting Length of Hospital Stay using Machine Learning

Mari Ito, Kanade Takeuchi, Masaaki Suzuki, Aaron Aurelius, Masaki Koizumi, Akemi Yano and Sadaki Inokuchi

Toward Parallel Task Allocation in Multi-robot Environment based on Auction Mechanism with Deadlock Constrains

Md Sabbir Hossain and Naoki Fukuta

Research on Pain Detection Using OpenFace

Shota Ando, Nobuyuki Somekawa, Yoko Tsukamoto, Haruki Ueno and Hiroshi Komatsugawa

Construction and Examination of an Emotional Speech Synthesis System Using a CNN Image Classification Model

Sanggyu Shin

Inverse Reinforcement Learning via Variational Attention Bottleneck

Kao-Shing Hwang, Jin-Ling Lin and Ting-Yin Chen

Parameter identification of the parameters of lithium-ion battery model based on metaheuristic algorithms

Bo-Jhih Chen, Yi-Hua Liu, Yu-Shan Cheng and Jia-Hong Fang

The Trajectory Tracking of the Quadrotor based on Backstepping Sliding Mode Control

Shun-Hung Tsai, Pin-Yi Song, Hsuan-An Lin and Hung-Yi Lin

BMOT Poster

Digital Business Model Analysis Using Natural Language Processing

Masahiro Watanabe and Naoshi Uchihira

SBIT Posters

Study of Modified DANP Model and System Simulation Method in E-commerce

Logistics: Taking AMR Autonomous Mobile Robot Pickup Solution Selection as an Example

Teng-Sheng Su, Shan-Ru Hu, Hui-Ting Liang, Qi-Chang Zhuang, Yi-Qing Xu, Xuan-Wei Hong and Shan-Ting Zhang

Influence sources of Wearable Healthcare Devices Adoption and Diffusion

Ying-Hsuan Chao and Hersen Doong

Utilizing Social Trust Mechanisms to Minimize the Influence of False Ratings on Recommendation Systems

Sin-Hua Wu and Lien-Fa Lin

IDDC Poster

A Preliminary Implementation of an Explanation Mechanism for One's Own Curiosity by using Ontology and Knowledge Graph

Tomoaki Ishiguro and Naoki Fukuta

DSTM Posters

The Effect of Digital Workflows on Revenue Collection: The Case of Hotel Tax in Thailand

Grichawat Lowatcharin, Prasongchai Setthasuravich, Pakpoom Phonsungnoen, Kasipat Thonmanee, Pathompohn Mangma, Krisada Prachumrasee and Panpun Ronghanam

A Study on Classification of Word-of-Mouth Information Using BERT

Takaaki Hosoda, Yuya Yokoyama and Tokuro Matsuo

DH Dilemma: Analyzing Moral Hazard in MLB Pitching Decisions

Wen-Jhan Jane

Proposal of a Dual System Model for the Consensus Building Process in the Problem Formulation Process in Groups

Hiroyuki Furuya, Takaaki Hosoda and Tokuro Matsuo

July 9 (Tue) 9:45AM-11:50AM

Room International Conference Center SCAI 5

Session Chair: Takafumi Nakanishi (Musashino University)

Noh's choreography systematization and diversity strategy for Service Robots

Masahiko Narita

Reducing Redundant Computation in Multi-Agent Coordination through Locally Centralized Execution

Yidong Bai and Toshiharu Sugawara

Cascading Taxonomic Attention Networks for Hierarchical Text Classification

Koichi Tanigaki, Koji Cho and Shuichi Tokumoto

Consumer Price Index Dynamics Unveiled: Approximate Inverse Model Explanations (AIME) of News Text Data and Consumer Price Index data

Kunihiko Hayashi and Takafumi Nakanishi

Room 62 SBIT 1

Session Chair: Yukihiro Shintani (Chiba Institute of Technology)

Jumpstarting and Evolving a Software Quality Management Initiative: From Pre-Web to DevOps

James Cusick

Development of Teaching Methods in Basic Nursing Education Using Process Flow Diagram

Hanae Okamoto, Kiyoko Tokunaga, Katsuaki Suzuki and Hideto Ogasawara

A case study on the internal process re-engineering of traditional industry from a resource-based perspective

Che-Yu Hung, Sheng-Pin Wu, Chien-Chih Wang and Tai-Yu Lin

Room 63 ESKM-SS3-1

Session Chair: Kouichi Hirata (Kyushu Institute of Technology)

Improving Interpretability in Document-Level Polarity Classification by Applying Attention

Shingo Kato and Daisuke Ikeda

Extracting Long COVID Knowledge from LitCovid: A Glossary-Based Approach

Atsuko Yamaguchi, Reo Takeda and Yuka Tateisi

Comparison with Detection of Bacteria from Gram Stained Smears Images by Various Object Detectors

Tsubasa Tanaka and Kouichi Hirata

Room 64 LTLE 2

Session Chair: Khan M.Fahim Ferdous (Toyo University)

A Study on Analysis of Learning Process in Programming Learning Support System by Card Operation

Natsumi Tanabe and Shimpei Matsumoto

A Study on Quantitative Quality Evaluation of the Impact of Indentation in Source Code Using Eye-Tracking

Kou Yorimoto and Shimpei Matsumoto

Cultivating Effective Classroom Management: The Implementation of an Adaptive Gamification Platform

Chi-Fang Chang, Tsung-Yen Chuang, Wei-Fan Chen and Yen-Ning Su

July 9 (Tue) 1:00PM-2:15PM

Room International Conference Center SCAI 6

Session Chair: Katsuhide Fujita (Tokyo University of Agriculture and Technology)

Almost Order Preserving Matching

Wen-Wen Liao and Chang-Biau Yang

A Method for Determining Utterance-Response Relationships between Japanese Novel Lines for Constructing a Daily Dialogue Corpus

Kazuma Iwamoto and Kazuaki Ando

Time Scale Analysis of Long Sequential Robot Behavior Generated by gMLP

Koki Sato, Ryo Kobayashi, Sho Yamauchi and Keiji Suzuki

Room 61 LTLE 3

Session Chair: Chengjiu Yin (Kobe University)

Subject Relevance Visualization using Word2Box

Youji Ochi and Nanako Hashimoto

Towards Human-Level Evaluation: Assessing the Potential of GPT-4 in Automated Evaluation and Feedback Generation on Japanese Essays

Sayaka Nakamoto, Yoshiaki Okamoto, Takashi Nakakouchi and Kazutaka Shimada

AIME Image Insights: Transforming Image Recognition with Approximate Inverse Model Explanations

Takafumi Nakanishi

Room 62 BMOT 5

Session Chair: Hidefumi Kawakatsu (Onomichi City University)

Dynamic subscription pricing for digital service platform

Cheng-Han Wu and Ling-Ya Huang

Application of Analytic Hierarchy Process for Order Assignment to Affiliated Stores

Takaki Kawamoto and Takashi Hasuike

Room 63 LTLE 4

Session Chair: Chih-Ming Chen (National Chengchi University)

The Impact of Collaborative Digital Reading Annotation System on Learning Performance and Motivation in Solving Mathematical Application Problems

Shu-Hsuan Chiu, Ming-Chaun Li, Chih-Ming Chen and Fu-Hsiu Kuo

Developing a Meso-Viewpoint Discussion System to Promote Online Learning Performance

Ling-En Chien, Ming-Chaun Li, Chih-Ming Chen and Huei-Chun Huang

Empowering Elementary Students' Scratch Programming Skills through a Jigsaw Collaborative Learning Method in a Metaverse Virtual Space

Wan-Juan Dai, Ming-Chaun Li, Chih-Ming Chen and Ming-Yan Huang

July 9 (Tue) 2:45PM-4:50PM

Room International Conference Center SCAI 7

Session Chair: Naoki Fukuta (Shizuoka University)

Orthogonal vector projection method for medical diagnosis

Irosh Fernando

Estimating the Impact of Classroom Speech Using a Large Language Model

Sakuei Onishi, Syosei Kojima, Hiromitsu Shiina and Tomohiko Yasumori

Simulation of Classroom Speech by Elementary School Teachers Using a Large Language Model with LoRA Hyperparameter

Syosei Kojima, Sakuei Onishi, Hiromitsu Shiina and Tomohiko Yasumori

Room 61 LTLE 5

Session Chair: Yuichi Ono (University of Tsukuba)

Development and implementation results of a DX literacy standard skills survey using generative AI

Masahiro Sakamoto, Yukihiro Matsubara and Kousuke Mouri

Parent-Child Interaction in Game-Based Learning

Ming-Chaun Li, Chin-Chung Tsai and Huei Tse Hou

Humor, mankind's greatest blessing: Exploring the relationship between sense of humor and psychological well-being among high school students in Taiwan

Chih-An Lin

Improvement of Argumentation Structure Visualization for Feedback on Students' Reports

Sora Toyama, Satoru Kogure, Yasuhiro Noguchi, Koichi Yamashita and Tatsuhiko Konishi

Room 62 DSIR 3 + DSIR-SS3

Session Co-Chairs: Kenjiro Sakaki (Tenshi college), Kunihiko Takamatsu (Tokyo Institute of Technology) and Naruhiko Shiratori (Tokyo City University)

Beyond Silos: Eduinformatics as a Catalyst for Dissolving Faculty and Staff Boundaries in Higher Education

Kunihiko Takamatsu, Sayaka Matsumoto, Naruhiko Shiratori, Ikuhiro Noda, Shintaro Tajiri, Kenya Bannaka, Yasuhiro Kozaki, Hibiki Ito, Shotaro Imai, Yasuo Nakata and Masao Mori

Effects and Limitations of University Information Disclosure: A Study on the Impact on University Choice

Nozomi Yoshida and Rie Mori

A Study on the Influence of Community-Based Education on Post-University Workers and Its Time Dependence

Tatsuya Tsumagari, Yoko Nakazato and Takashi Tsumagari

Room 63 ESKM-SS3-2

Session Chair: Kouichi Hirata (Kyushu Institute of Technology)

Activation Functions for Detection of Bacteria from Gram Stained Smears Images by YOLOv8

Kouya Kagemoto and Kouichi Hirata

Annotation along Arranged Bacteria to Detect Gram Positive Cocci from Gram Stained Smears Images

Ukyo Kashino, Mayu Yoshida and Kouichi Hirata

Data Augmentation for Detection of Bacteria from Gram Stained Smears Images by YOLOv8

Ryunosuke Nakajo, Minori Tsutsui and Kouichi Hirata

5:30PM-6:15PM Bus Departure

6:30PM-8:00PM Conference Banquet

July 10 (Wed) 9:45AM-11:50AM

Room International Conference Center SCAI 8

Session Chair: Hisashi Hayashi (Advanced Institute of Industrial Technology)

Adding Gaussian Noise to Sparse Frames from a mmWave Radar for Improving HAR

Taku Watanabe and Runhe Huang

Investigating Nonparametric Testing in Event Detection for Non-intrusive Load Monitoring

Men Shen Tsai and Yen-Kuang Lin

Detection of pre shoplifting suspicious behavior using deep learning

Sujan Shrestha, Yoji Taniguchi and Tetsuo Tanaka

Room 61 LTLE 6

Session Chair: Session Chair: Khan M.Fahim Ferdous (Toyo University)

Programming Education Methods for Elementary School Students and Their Relation with Personal Preferences

Emi Ichimura and Tomonari Kamba

Development of a Learning Support System for Improving Metacognition in Programming Exercises

Tepei Oyama and Koji Kagawa

A Cooperative Card Game for Learning Social Media Etiquette

Toshiki Katanosaka, Fahim Khan and Ken Sakamura

Preliminary Study of Teachers' Opinions on the Effective Use of Digital Textbooks

Fumiko Yagisawa, Motoko Asato and Tatsuya Horita

Visualization for easier recognition of low-risk and successful passes in a Basketball match

Taketo Shibasaki, Kenji Matsuura, Hironori Takeuchi and Tetsushi Ueta

Room 62 IDDC 2 + IDDC-SS1

Session Chair: Min Song (Yonsei University) and Taishi Nemoto (University of Kochi)

Development and Proposal of an Interactive Educational Platform Based on the Concept of Augmented Intelligence

Kazuya Murata and Taishi Nemoto

P Analyzing User Behavior in Scenario-based Virtual Reality Environments using Knowledge Graphs

Kensuke Taninaka, Yoshiki Furuya, Keigo Sakamoto, Tsunenori Mine and Shogo Fukushima

Improving Text Generation on Images with Synthetic Captions

Junyoung Koh, Sanghyun Park and Joy Song

Exploring the Potential of Novel Image-to-Text Generators as Prompt Engineers for CivitAI Models

Sophia Song, Joy Song, Junha Lee, Younah Kang and Hoyeon Moon

Room 63 ESKM 2

Session Chair: Daisuke Ikeda (Kyushu University)

Defect Detection and Visualization of Understanding Using Fully Convolutional Data Description Models

Fusaomi Nagata, Shingo Sakata, Hirohisa Kato, Keigo Watanabe and Maki K. Habib

A time-dependent Markov GWR model of the flow of people in Kyoto City

Hiroshi Tsuda and Yu Ichifuji

Table-To-Text Using Pretrained Large Language Model and LoR

Hidekazu Yanagimoto, Iroha Kisaku and Kiyota Hashimoto

Uncovering the Critical Traits of Sustainable Brand Success in the Attention Economy from Social Media

Shih-Ya Liao and Yung-Ming Li

July 10 (Wed) 1:00PM-2:15PM

Room International Conference Center SCAI 9

Session Chair: Tenda Okimoto (Kobe University)

Enhancing Book Discovery: A Personalized Recommender System Powered by Large Language Models

Te-Chuan Lin and Yung-Ming Li

A Fast Season Length Estimation using Sliding Discrete Fourier Transform for Time Series Streaming Data

Thanapol Phungtua-Eng and Yoshitaka Yamamoto

Room 61 LTLE 7

Session Chair: Kousuke Mouri (Hiroshima City University)

Book Title Recognition on 360VR Images for VR Tour of Library Building

Yoshihiro Okada, Wei Shi and Kosuke Kaneko

Construction of Comprehensive Student Support Using Metaverse Platforms in a Distance Learning University

Keisuke Misono and Kazuya Murata

Room 62 SBIT 2

Session Chair: Yukihiro Shintani (Chiba Institute of Technology)

Distributed hierarchical AI architecture for meta-described local dynamic maps in autonomous driving

Hiroshi Miyata, Masatoshi Saitoh, Kazutami Arimoto, Atsushi Hayami, Hisayoshi Mizuno, Yukihiro Shimazu and Tomoyuki Yokogawa

Analysis of Consumers' Willingness to Pay for Eco-Friendly Insulation Tape and Its Influencing Factors

Chien-Chih Wang, Bo-Yi He and Che-Yu Hung

Room 63 ESKM-SS1 + ESKM-SS2

Session Co-Chairs: Yao Hu (Keio University) and Daisuke Ikeda (Kyushu University)

Global-Local Consistency for Cost-Effective Anomaly Localization with Point Annotations

Keiichi Nakanishi, Ryoya Katafuchi and Terumasa Tokunaga

Ancestral-Path Descendant-Labels Histogram Distance for Rooted Labeled Trees

Daisuke Abe and Kouichi Hirata

July 10 (Wed) 2:45PM-4:50PM

Room International Conference Center SCAI 10

Session Chair: Katsuhide Fujita (Tokyo University of Agriculture and Technology)

An Active Listening Dialogue Model Focused on “Open Questions” using Reinforcement Learning

Nana Matsumoto and Kazuaki Ando

Surface Defect Detection in Industrial Parts Using the YOLO-based Method with Enhanced Spatial Features and Attention Mechanism

Zhi-Juan Jian and Ming-Hsiang Su

No-code/low-code ophthalmic lens design using a genetic algorithm that simplifies optical design simulation

Shin Kubota, Kenichi Tabei, Kazuhiko Oonuma and Hisashi Hayashi

Greenwashing Detection Mechanism based on Multimodal Analysis and Social Intelligence

Shih-Yuan Huang and Yung-Ming Li

Room 61 LTLE 8

Session Chair: Chengjiu Yin (Kobe University)

Development of Score Measurement and Attack Functions in a Security Exercise System Enable Trial-and-Error

Ichitoshi Takehara, Yuki Kami, Hitoshi Kamei, Koji Kida and Keizo Saisho

A teaching materials recommendation system considering individual characteristics

Chengjiu Yin, Ryoya Shiroki, Huiyong Li and Lin Lin

The Development of Robot-embedded Cyber-Physical Learning Environment for Enhancing Learners' STEM Competencies

Chih-Chien Hu, Imam Yuadi, Ming-Hsien Chen and Hsieh-Chang Huang

Room 62 SBIT 3

Session Chair: Yukihiko Shintani (Chiba Institute of Technology)

Development of a Communication Analysis System for Detecting Isolated Users in Slack

Ryosuke Takizawa, Isshin Nakao, Kensuke Taninaka, Akihisa Takiguchi, Toshiki Hayashida, Hiromu Motomatsu and Yutaka Arakawa

Personalized E-shopping Recommendations for Sustainable Consumption

Chin-Hsuan Lo and Lien-Fa Lin

Room 63 ESKM 3

Session Chair: Daisuke Ikeda (Kyushu University)

Generating High-Quality Distributed Representations of Words Using Wiktionary and Sentence-BERT

Ryota Nishiura, Seiji Tsuchiya and Hirokazu Watabe

NLPDedup: Using Natural Language Processing for Data Deduplication

Hinata Yokoyama, Kazuma Iwamoto, Ichitoshi Takehara, Kazuaki Ando and Hitoshi Kamei

Metaphor detection with additional auxiliary context

Takuya Hayashi and Minoru Sasaki

A Drug Abuse Detection Based on User Behavior and Linguistic Style

Tian-Jyun Tseng and Yung-Ming Li

Sense Tagged Example Generation Using BERTScore

Hyuga Nagatomo and Minoru Sasaki

**5:00PM-6:30PM Farewell Reception & Wine, Beer, and Beverages
at Foyer**

July 11 (Thu) 9:45AM-11:50AM

Room International Conference Center SCAI 11

Session Chair: Takafumi Nakanishi (Musashino University)

Multimodal Adaptive Structural Deep Belief Network for Emotion Recognition on
RAVDESS Dataset

Shin Kamada and Takumi Ichimura

Implementation Method of an Autonomous Art Exhibition System with Open-Source
Hardware

Yosuke Tsuchiya and Naoki Ishibashi

Room 61 LTLE 9

Session Chair: Yuichi Ono (University of Tsukuba)

Examining Critical Thinking Skills in Game-Based Learning: A Behavioral Analysis
Approach

Tsung-Yen Chuang, Yu-Hsuan Lu, Szu-Kai Tsai and Wei-Fan Chen

Optimizing an Automatic Text Analysis Model with Generative Artificial Intelligence
System for Gaming Strategic Behaviors

Geng-De Hong, Ju-Ling Shih, George Ghinea, Yu-Hao Lu and Hsuan-Wen Chen

The Learning Effectiveness of IoT-enhanced Historical Role-Play Educational Game <
Unveil Dutch Times >

Hsuan-Wen Chen, Ju-Ling Shih, Yueh-Chi Wang, Geng-De Hong and Yu-Hao Lu

Exploring Relationships Between People and Organizations: A Digital Humanities
Research Tool Based on AI Technology for Knowledge Graph Analysis

Chien-Yun Liang, Ming-Chaun Li, Chih-Ming Chen and Chun-Yu Lin

Room 62 ESKM 4

Session Chair: Daisuke Ikeda (Kyushu University)

Virtual Drum System Development using Motion Detection

Soonmin Hong, Stephen Karungaru and Kenji Terada

Automatic Few-shot Selection on In-Context Learning for Aspect Term Extraction

Koki Imazato and Kazutaka Shimada

A tool for associative text analysis to enhance efficiency in exploring historical texts

Tien-Fu Chang, Ming-Chaun Li, Chih-Ming Chen and Xian-Xu Chen

Room 63 SCAI 12 + SCAI-SS2 (Onsite + Online)

Session Chair: Jaouhar Fattahi (Associate professor at Laval University)

Minimizing Model Misclassification using Regularized Loss Interpretability

Elyes Manai, Mohamed Mejri and Jaouhar Fattahi

Relationship between qualitative expressions in MD&A and managements' forecast
accuracy

Yutaka Kuroki, Kei Nakagawa and Kiyoshi Yakabi

Classification of Capacitor Bank Switching using Fuzzy Interference Systems in 230
kV Substation

*Theerasak Patcharoen, Chaichan Pothisarn, Atthapol Ngaopitakkul, Santipont
Ananwattanaporn, Praikanok Lertwanitrot and Suntiti Yoomak*

Comparative Study for Discrete Wavelet Transform between Single and Double
Detection Approach to Fault Classification on Transmission Line

Praikanok Lertwanitrot, Atthapol Ngaopitakkul and Santipont Ananwattanaporn

July 11 (Thu) 1:00PM-2:15PM

Room International Conference Center SCAI 13

Session Chair: Hisashi Hayashi (Advanced Institute of Industrial Technology)
Congestion Alleviation and Efficiency Improvement in Large-Scale Pedestrian
Facilities through Optimization of Pre-Evacuation Times

Junyu Li, Go Inoue, Rie Sato, Atsushi Shibata, Jun Ito and Hisashi Hayashi

Wavelet coherence of COVID-19 pandemic variables in Japan

Goizalde Badiola and Manuel Graña

Room 61 BMOT 6

Session Chair: Antonio Oliveira Nzinga Rene (Toyama Prefectural University)
What Triggers Migrant Entrepreneurs to Move to Depopulated Areas?

Osamu Nakajima and Hidekazu Iwamoto

Improvement of Examining method with Construal Level Theory Perspective for
Reward-Based Crowdfunding Performance

Lei Zhou, Fuminori Kimura and Hersen Doong

Room 62 ESKM 5

Session Chair: Yuya Yokoyama (Advanced Institute of Industrial Technology)

YODA: Middleware of Static Analysis Tools for IoT Firmware - Proposal and
Evaluation of Time Reducing Mechanisms for Setup, Preprocessing, and Analysis

*Minami Yoda, Shigeo Nakamura, Yuichi Sei, Yutaka Matsuno, Yasuyuki Tahara and
Akihiko Ohsuga*

4-gram Applied to English Q&A Statements to Obtain Factor Scores

Yuya Yokoyama

Room 63 LTLE 10 and IDDC (Onsite + Online)

Session Chair: Yuichi Ono (University of Tsukuba)

Effectiveness of Pitch Discrimination Practice Using a Method of Listening for Pitch in
a Learner's Own Voice Quality

Kazuki Sato, Katsumi Sato, Yoko Usui, Yoshikazu Watarai and Junya Oikawa

Building Cloud Base Cyber Range by Designing an Efficient Container Distribution
API Using Docker

Sanggyu Shin

Exploring Perceptions & Reactions to Digital Humans

Edward Abel and Anne Dorthé Larsen

July 11 (Thu) 2:45PM-4:00PM

Room International Conference Center SCAI 14

Session Chair: Tenda Okimoto (Kobe University)

Skeleton Detection Using Dual Radars with Integration of Dual-View CNN Models and mmPose

Masaharu Kodama and Runhe Huang

Application of Yolov5-based Image Recognition Model in Product Categorization

Chun-Yu Lin and Ming-Hsiang Su

Room 61 LTLE 11 + LTLE-SS1

Session Co-Chairs: Michiyo Oda (Reitaku University) and Yuichi Ono (University of Tsukuba)

Confidence effects in an EMI classroom about using transcription tools for Chinese-speaking students

Wen-Chun Lin, Yan-Yi Chen, Yu-Chi Yeh and Chih-Kai Chang

Exploring Elementary School Students' Perceptions Towards Socioscientific Issues Through the Role-Playing Game Perceptions

Yu-Hao Lu, Ju-Ling Shih, Pin-Chen Chen, Geng-De Hong and Hsuan-Wen Chen

Experiments of Automatic Scoring Using Generative AI in a Summary Essay Learning System

Takahiro Yamasaki and Ayako Hiramatsu

Room 62 BMOT 7 + BMOT-SS1

Session Chair: Hidekazu Iwamoto (Josai International University)

Influences of Prolonged Internships on University Students' Attitudinal Shifts within the Hospitality and Tourism Sectors - Insights and Implications from Survey Data –

Masashi Ishitani

ABM Demonstrates New Successful Diversity Approach for Team Building and Outcomes

Junji Ochi, Jun-Ichi Asaka, Kenta Abe, Kentaro Iwata and Hisashi Hayashi

Proposed Analytical Process for More Convenient Utilization of Open Data - Verification Using Tourist Number Data –

Soh Sakurai, Noriko Shibata and Akira Nagamatsu

Room 63 SCAI 15 (Onsite + Online)

Session Chair: Takafumi Nakanishi (Musashino University)

Forced and Natural Creative-Prototype Learning for Interpreting Multi-Layered Neural Networks

Ryotaro Kamimura

Association Rule Breaking Based Diversity for Recommender Systems

Edward Abel and Andrew Goddard

Construction and Examination of an Emotional Speech Synthesis System Using a CNN Image Classification Model

Sanggyu Shin

5:00PM-6:30PM Ice-cold beer Networking Reception & Conference Adjournment at Foyer