2020 Joint 11th International Conference on Soft Computing and Intelligent Systems and 21st International Symposium on Advanced Intelligent Systems (SCIS-ISIS 2020)

Hachijo Island, Japan 5 – 8 December 2020



IEEE Catalog Number: ISBN: CFP2064T-POD 978-1-7281-9733-3

Copyright © 2020 by the Institute of Electrical and Electronics Engineers, Inc. All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

*** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.

IEEE Catalog Number:	CFP2064T-POD
ISBN (Print-On-Demand):	978-1-7281-9733-3
ISBN (Online):	978-1-7218-9732-6

Additional Copies of This Publication Are Available From:

Curran Associates, Inc 57 Morehouse Lane Red Hook, NY 12571 USA Phone: (845) 758-0400 Fax: (845) 758-2633 E-mail: curran@proceedings.com Web: www.proceedings.com



Program 2020 Joint 11th International Conference on Soft Computing and Intelligent Systems and 21st International Symposium on Advanced Intelligent Systems (SCIS-ISIS)

OS: Interactive Systems (1)

Serendipity Recommender System for Academic Disciplines	
Satoko Inoue (Graduate School of Kansai University, Japan), Masataka Tokumaru (Kansai University, Japan)	
A Study on Coordination of Exercise Difficulty in Cognitive Training System for Older Adults	
Daisuke Kitakoshi (National Institute of Technology, Tokyo College, Japan), Kentarou Suzuki (Kyorin University, Japan), Masato Suzuki (National Institute of Technology, Tokyo College, Japan)	5
Social Skills Training System in Social Settings Using Multiple Animated Characters	
Masahide Yuasa (Shonan Institute of Technology, Japan)	11

OS: Data Science for Human-oriented Systems Design (1)

Design of the Convolution Layer Using SoC FPGA and Evaluation of Latency Using a Camera Signal	
Ryoki Kamesaka (Kochi University of Technology, Japan), Yukinobu Hoshino (Kochi University of Technology, Japan)	
Automatic Acquisition of Immune Cells Location Using Deep Learning for Automated Analysis	
Shoya Kusunose (Kochi University of Technology, Japan), Yuki Shinomiya (Kochi University of Technology, Japan), Yukinobu Hoshino (Kochi University of Technology, Japan), Takashi Ushiwaka (Kagoshima University, Japan), Nagamasa Maeda (Kochi Medical School, Japan)	
Directed Graph-Based Researcher Recommendation by Random Walk with Restart and Cosine Similarity	
Kanta Nakamura (The University of Electro-Communications, Japan), Kazushi Okamoto (The University of Electro- Communications, Japan)	

GS: Robocup

Team Classification with Tactical Analysis Using Fuzzy Inference in RoboCup Soccer	
Takuya Fukushima (Osaka Prefecture University, Japan), Tomoharu Nakashima (Osaka Prefecture University, Japan), Vicenc Torra (University of Skovde, Sweden)	29
An Experience System of Soccer Referee Using Immersive Virtual Reality	
Hidehisa Akiyama (Fukuoka University, Japan), Yudai Tanaka (Fukuoka University, Japan), Ryota Saito (Fukuoka University, Japan), Shigeto Aramaki (Fukuoka University, Japan)	35
An Automatic Team Evaluation System for RoboCup Soccer Simulation 2D	
Ryota Kuga (Osaka Prefecture University, Japan), Yudai Suzuki (Osaka Prefecture University, Japan), Tomoharu Nakashima (Osaka Prefecture University, Japan)	

GS: Decision Making (1)

Rough Set Logic for Kleene's Three-Valued Logic	
Yotaro Nakayama (Nihon Unisys, Ltd., Japan), Seiki Akama (C-Republic, Inc., Japan), Tetsuya Murai (Chitose Institute	
of Science and Technology, Japan)	43
Real-Time Collision Risk Assessment System Based on the Fuzzy Theory in Accordance with Collision Avoidance Rules	
Ho Namgung (Mokpo National Maritime University, Korea (South)), Jung Sik Jeong (Mokpo Maritime National	
University, Korea (South)), Joo-Sung Kim (Mokpo National Maritime University & None, Korea (South))	48

Multiobjective Two-Level Simple Recourse Programming Problems with Discrete-Type Fuzzy Random Variables and	
Optimistic and Pessimistic Pareto Stackelberg Solutions	
Hitoshi Yano (Nagoya City University, Japan)	. 52

OS: Interactive Systems (2)

Acceptability of a Decision Maker to Handle Multi-Objective Optimization on Design Space	
Makoto Inoue (National Institute of Technology, Akita College, Japan), Hibiki Matsumoto (TAK-QS Co., Lt Hideyuki Takagi (Kyushu University, Japan)	:d., Japan),
Verification of Performance of Multi-Parental Real-Valued Crossover in Interactive Genetic Algorithm	
Yusuke Yabuzaki (Graduate School of Science and Engineering, Kansai University, Japan), Yoshiko Hanada University, Japan), Makoto Fukumoto (Fukuoka Institute of Technology, Japan)	
Peripheral Notification That Does Not Interfere with User's Concentration by Interactive Projection	
Tomoya Ishige (Chiba Institute of Technology, Japan), Jun-ichi Imai (Chiba Institute of Technology, Japan) Optimization of Sound of Autonomous Sensory Meridian Response with Interactive Genetic Algorithm	
Makoto Fukumoto (Fukuoka Institute of Technology, Japan), Koki Hijikuro (Fukuoka Institute of Technolog Japan)	gy,

OS: Data Science for Human-oriented Systems Design (2)

Development and Evaluation of Identification Devices for Vermin Capture System	
Junsuke Yokoseki (Kochi University of Technology, Japan), Yukinobu Hoshino (Kochi University of Technology, Japan)	81
A 3D-CNN Classifier for Gender Discrimination from Diffusion Tensor Imaging of Human Brain	
Yuichiro Nitta (Kochi University of Technology, Japan), Yuki Shinomiya (Kochi University of Technology, Japan), Kaechang Park (Kochi University of Technology, Japan), Shinichi Yoshida (Kochi University of Technology, Japan)	87
Experimental Verification of Control Rules for A Lane-Keeping Controller Using Similarity Fuzzy Reasoning	
Yuka Nishiyama (Kochi University of Technology, Japan), Yuki Shinomiya (Kochi University of Technology, Japan), Toshimi Yamamoto (Kochi University of Technology, Japan), Yukinobu Hoshino (Kochi University of Technology, Japan)	
Experimental Verification of Control Rules for A Lane-Keeping Controller Using Similarity Fuzzy Reasoning Yuka Nishiyama (Kochi University of Technology, Japan), Yuki Shinomiya (Kochi University of Technology, Japan),	91

OS: Fusion Technologies of Theory and Science for Data Utilization (1)

Adapting the Learning Rate of the Learning Rate in Hypergradient Descent	
Kazuma Itakura (Hokkaido University, Japan), Kyohei Atarashi (Hokkaido University, Japan), Satoshi Oyama (Hokkaido University, Japan), Masahito Kurihara (Hokkaido University, Japan)	
Model Construction Based on Variable Selection of Indicators and Alternative Data in Market Forecasting	
Domoto Eri (Hiroshima University of Economics, Japan), Junko Shibata (Kobe Gakuin University, Japan), Itaru Aso (YKK Corporation, Japan), Koji Okuhara (Toyama Prefectural University, Japan)	101
A Pervasive Community Detection Method Through Modular Decomposition of Markov Chain for Social Media Analysis	
Takeshi Matsui (Gunma University, Japan), Antonio O. N. Rene (Toyama Prefectural University, Japan)	107
Development of Creative Thinking Support Method Through Text Mining for Inspiration	
Koji Okuhara (Tovama Prefectural University, Japan), Takeshi Matsui (Gunma University, Japan), Yuki Yamamoto (Toyama Prefectural University, Japan)	110

GS: Decision Making (2)

Stochastic Unit Commitment Problem in Electricity Market	
Ryusei Mikami (Waseda University, Japan), Takayuki Shiina (Waseda University, Japan), Ken-ichi Tokoro (Central	
Research Institute of Electric Power Industry, Japan)	114
Solution Algorithm for the Vehicle Routing Problem with Stochastic Demands	
Ryota Omori (Waseda University, Japan), Takayuki Shiina (Waseda University, Japan)	120

The Facility Location Problem with Probabilistic Constraints
Atsuya Suzuki (University of Waseda, Japan), Tomoki Fukuba (University of Waseda, Japan), Takayuki Shiina
(Waseda University, Japan)

OS: Robot Systems Cooperate with Human

132
137
143
149
1

OS: Soft Computing in Urban and Transport Planning

The Optimal Toll Determination of Urban Expressway with Deep Learning Method	
Hiroaki Inokuchi (Kansai University, Japan), Takamasa Akiyama (Kansai University, Japan)	154
Modeling for Residence Preference in Local City Considering Heterogeneous Households	
Masashi Okushima (Tokushima University, Japan), Hideo Yamanaka (Tokushima University, Japan), Kojiro Watanabe	
(Tokushima University, Japan)	160
Visualizing the Importance of Floor-Plan Image Features in Rent-Prediction Models	
Ryosuke Hattori (The University of Electro-Communications, Japan), Kazushi Okamoto (The University of Electro- Communications, Japan), Atsushi Shibata (Advanced Institute of Industrial Technology, Japan)	166

OS: Fusion technologies of theory and science for data utilization (2) / **GS:** Natural Language Processing

Creation of Intellectual Property Based on Natural Language Generation Model	
Antonio O. N. Rene (Toyama Prefectural University, Japan), Takeshi Matsui (Gunma University, Japan), Shigeaki Onoda (SoftBank Corp., Japan), Koji Okuhara (Toyama Prefectural University, Japan)	169
Simultaneous Visualization of Documents, Words and Topics by Tensor Self-Organizing Map and Non-Negative Matrix Factorization	
Kazuki Noguchi (Kyushu Institute of Technology, Japan), Takuro Ishida (Kyushu Institute of Technology, Japan), Tetsuo Furukawa (Kyushu Institute of Technology, Japan)	175
Salient Feature Extraction in Japanese Metaphor Generation	
Asuka Terai (Future University Hakodate, Japan)	
An Algorithm for the Automatic Precisiation of the Meaning of Adjectives	
Moreno Colombo (University of Fribourg, Switzerland), Edy Portmann (University of Fribourg & Swiss Post, Switzerland)	185

GS: Social Systems

Development of Sightseeing Spot Recommendation System Considering Users' Visit Frequency	
Yudai Kato (The University of Electro-Communications, Japan), Kayoko Yamamoto (The University of Electro-	
Communications, Japan)	. 191
Agent-Based Approach to Resolve the Conflicting Observations of Online Echo Chamber	
Muhammad Al Atiqi (Tokyo Institute of Technology, Japan), Shuang Chang (Tokyo Institute of Technology, Japan),	100
Hiroshi Deguchi (Tokyo Institute of Technology, Japan)	. 199

High-Degree Noise Addition Method for the k-Degree Anonymization Algorithm	
Jana Medková (University of Hradec Králové, Czech Republic)	205

OS: Human Symbiotic Systems (1)

Human-Robot Interaction Based on Facial Expression Recognition Using Deep Learning	
Yoichiro Maeda (Ritsumeikan University, Japan), Tensei Sakai (Takano Co., Ltd., Japan), Katsuari Kamei (Ritsumeikan University, Spain), Eric Cooper (Ritsumeikan University, Japan)	211
Deep Learning Method for Estimating Perplexion in Learners by Educational Support Robots	
Ryo Yoshizawa (Aichi Prefectural University, Japan), Felix Jimenez (Aichi Prefectural University, Japan), Kazuhito Murakami (Aichi Prefectural University, Japan)	217
Reward Function Using Inverse Reinforcement Learning and Fuzzy Reasoning	
Yuta Kato (Chukyo University, Japan), Masayoshi Kanoh (Chukyo University, Japan), Tsuyoshi Nakamura (Nagoya Institute of Technology, Japan)	222
Effect of Humanoid Robot's Reaction on Human Touch to Robot	
Mariko Okuda (University of Fukui, Japan), Yasutake Takahashi (University of Fukui, Japan), Satoki Tsuichihara (University of Fukui, Japan)	228

OS: Recent Trends of Clustering Methodologies

On Fuzzy Clustering Algorithms for Nominal Data	
Yuchi Kanzawa (Shibaura Institute of Technology, Japan)	234
Basic Consideration of Rough C-Medoids Clustering with Minkowski Distance	
Seiki Ubukata (Osaka Prefecture University, Japan), Atsushi Suqimoto (Osaka Prefecture University, Japan), Akira Notsu (Osaka Prefecture University, Japan), Katsuhiro Honda (Osaka Prefecture University, Japan)	239
Controlled-Sized Clustering for Time-Series Data	
Nobuhiko Tsuda (Kindai University, Japan), Yukihiro Hamasuna (Kindai University, Japan)	245
Basic Consideration of Collaborative Filtering Based on Rough C-Means Clustering	
Seiki Ubukata (Osaka Prefecture University, Japan), Shu Takahashi (Osaka Prefecture University, Japan), Akira Notsu (Osaka Prefecture University, Japan), Katsuhiro Honda (Osaka Prefecture University, Japan)	250

GS: Evolutionary Computing (1)

Adaptive Directional Mutation for an Adaptive Differential Evolution Algorithm	
Tetsuyuki Takahama (Hiroshima City University, Japan), Setsuko Sakai (Hiroshima Shudo University, Japan)	
Parametric Genetic Programming	
Adam Kotaro Pindur (University of Tokyo, Japan), Takahiro Horiba (University of Tokyo, Japan), Hitoshi Iba (University of Tokyo, Japan)	
Accelerating Fireworks Algorithm with Dynamic Population Size Strategy	
Jun Yu (Niigata University, Japan), Hideyuki Takagi (Kyushu University, Japan)	

OS: High Performance Knowledge Management and Its Application to Intelligent System

Integrative Meta-Analysis of Transcriptome Data for Unmasking Biological Mechanism of Idiopathic Pulmonary Fibrosis Sungmin Park (Dongguk University, Korea (South)), Junghyun Jung (Dongguk University, Korea (South)), Jong Wha Joanne Joo (Dongguk University, Korea (South))	276
Lightweight Real-Time Fall Detection Using Bidirectional Recurrent Neural Network	270
Sanqyeon Kim (Donqquk University, Korea (South)), Gawon Lee (Dongguk University, Korea (South)), Jihie Kim (Dongguk University, Korea (South))	279

A Study on the Evaluation System Through Software Weakness Analysis	
Kyung-won Kim (Dongquk University, Korea (South)), Seokmin Chang (Dongguk University, Korea (South)), Yunsik Son (Dongguk University, Korea (South))	
Real-Time Motion Feedback System Based on Smart Mirror Vision	
Seoungtak Kim (Dongguk University, Korea (South)), Dasol Seo (Dongguk University, Korea (South)), Sangyong Lee (Dongguk University, Korea (South)), Yeonjun Kim (Dongguk University, Korea (South)), Hyun Wook Kang (Dongguk University, Korea (South)), Yong-Sik Choi (Dongguk University, Korea (South)), Jin-Woo Jung (Dongguk University, Korea (South))	
OS: Human Symbiotic Systems (2) / GS: Speech Recognition	
Impression Investigation of a Robot's Learning by Observing the Learner	
Impression Investigation of a Robot's Learning by Observing the Learner Chihiro Arai (Aichi Prefectural University, Japan), Felix Jimenez (Aichi Prefectural University, Japan), Kazuhito	
Impression Investigation of a Robot's Learning by Observing the Learner	
Impression Investigation of a Robot's Learning by Observing the Learner Chihiro Arai (Aichi Prefectural University, Japan), Felix Jimenez (Aichi Prefectural University, Japan), Kazuhito Murakami (Aichi Prefectural University, Japan)	292

resconing reacher outputs with Decouca otterances for knowledge Distillation any atomatic specier necognition	
Henning M Holen (Sungkyunkwan University, Korea (South)), Jee-Hyong Lee (Sungkyunkwan University, Korea (South))	302
A Study on Feature Values as a Speaker Identification Method	
Etsuro Nakamura (Akita University, Japan), Yoichi Kageyama (Akita University, Japan), Motonari Shirasu (Japan	
Business Systems, Inc., Japan)	308

OS: Advanced Human Sensing and Intelligent Support Systems

Effectiveness of Feature-Selected LBP-TOP for Emotional Estimation by Micro-Expression	
Koki Kato (Toyama Prefectural University, Japan), Hironobu Takano (Toyama Prefectural University, Japan), Masahiro Saiko (NEC, Japan), Ryuichi Hiraike (NEC, Japan), Hitoshi Imaoka (NEC Corporation, Japan)	310
Method for Generating Captions for Clothing Images to Support Visually Impaired People	
Kiri Tateno (Toyama Prefectural University, Japan), Noboru Takaqi (Toyama Prefectural University, Japan), Kei Sawai (Toyama Prefectural University, Japan), Hiroyuki Masuta (Toyama Prefectural University, Japan), Tatsuo Motoyoshi (Toyama Prefectural University, Japan)	315
A Pattern Recognition Method for Scene Sketch Images Using Deep Learning and Its Evaluation	
Kengo Oshima (Toyama Prefecture University, Japan), Noboru Takagi (Toyama Prefectural University, Japan), Kei Sawai (Toyama Prefectural University, Japan), Hiroyuki Masuta (Toyama Prefectural University, Japan), Tatsuo Motoyoshi (Toyama Prefectural University, Japan)	320

GS: Evolutionary Computing (2)

rerse Model Optimization by Differential Evolution to Improve Neural Predictive Control Edgar Ademir Morales-Perez (The University of Tokyo, Japan), Hitoshi Iba (University of Tokyo, Japan)	325
netic Algorithms Using Neural Network Regression and Group Lasso for Dynamic Selection of Crossover Operators	
Masava Kato (Kyushu Institute of Technology, Japan), Miho Ohsaki (Doshisha University, Japan), Kei Ohnishi Kyushu Institute of Technology, Japan)	333
Evolutionary Algorithm Inspired by Evolution of Birdsong Grammars to Quickly Obtain Practical Solutions to Large- Iled Problems	
Naomichi Tabata (Kyushu Institute of Technology, Japan), Kei Ohnishi (Kyushu Institute of Technology, Japan)	339
ndomness Selection in Differential Evolution Using Thompson Sampling	
Akira Notsu (Osaka Prefecture University, Japan), Junya Tsubamoto (Osaka Prefecture University, Japan), Yuichi Miyahira (Osaka Prefecture University, Japan), Seiki Ubukata (Osaka Prefecture University, Japan), Katsuhiro Honda Osaka Prefecture University, Japan)	345
	idgar Ademir Morales-Perez (The University of Tokyo, Japan), Hitoshi Iba (University of Tokyo, Japan) netic Algorithms Using Neural Network Regression and Group Lasso for Dynamic Selection of Crossover Operators Masava Kato (Kyushu Institute of Technology, Japan), Miho Ohsaki (Doshisha University, Japan), Kei Ohnishi Kyushu Institute of Technology, Japan) Evolutionary Algorithm Inspired by Evolution of Birdsong Grammars to Quickly Obtain Practical Solutions to Large- led Problems Naomichi Tabata (Kyushu Institute of Technology, Japan), Kei Ohnishi (Kyushu Institute of Technology, Japan) ndomness Selection in Differential Evolution Using Thompson Sampling Akira Notsu (Osaka Prefecture University, Japan), Seiki Ubukata (Osaka Prefecture University, Japan), Katsuhiro Honda

GS: Medical Informatics

Hand Frame Extraction in Surgical Video Images Using Convolutional Neural Network	
Shadman Sakib (University of Hyogo & International University of Business Agriculture and Technology, Japan), Belayat Hossain (University of Hyogo, Japan), Takafumi Hiranaka (Takatsuki General Hospital, Japan), Syoji Kobashi (University of Hyogo, Japan)	
Automatic Teeth Recognition Method from Dental Panoramic Images Using Faster R-CNN and Prior Knowledge Model	
Kota Motoki (University of Hyogo, Japan)	
Analysis of Local Cerebral Blood Flow During Exposure to Bone Conduction Sound	
Yuki Mukumoto (Toyama Prefectural University Graduate School, Japan), Fumiya Kinoshita (Toyama Prefectural University, Japan), Hideaki Touyama (Toyama Prefectural University, Japan)	

OS: Intelligent Media and New-Generation Software

363
369
379

GS: Neural Network

Column-Based Decoder of Internal Prediction Representation in Cortical Learning Algorithms	
Takeru Aoki (The University of Electro-Communications, Japan), Keiki Takadama (The University of Electro- Communications, Japan), Hiroyuki Sato (The University of Electro-Communications, Japan)	385
Three-Stream Graph Convolutional Networks for Zero-Shot Action Recognition	
Wu Nan (Chiba University, Japan), Kazuhiko Kawamoto (Chiba University, Japan)	392
A Two-Stage Deep Learning-Based Approach for Automatic Reading of Analog Meters	
Shohei Ueda (The University of Aizu, Japan), Kaito Suzuki (The University of Aizu, Japan), Jumpei Kanno (The University of Aizu, Japan), Zhao Qiangfu (The University of Aizu, Japan)	397

OS: Affective/Kansei Information Processing and its Interactive Approach (1)

l	nteractive Apparel Coordination Recommendation System Reflecting Situation and Preference	
	Munevuki Unehara (Nagaoka University of Technology, Japan), Yui Hasegawa (Nagaoka University of Technology, Japan), Koichi Yamada (Nagaoka University of Technology, Japan), Izumi Suzuki (Nagaoka University of Technology, Japan)	403
C	Classification of Worries and Consultations with School Refusal Students Using Machine Learning	
	Rikuto Ishikura (Tokyo University of Technology, Japan), Masahiro Takeda (Tokyo University of Technology, Japan), Shino Iwashita (Tokyo University of Technology, Japan)	407
A	A Study on Reinforcement-Learning Agents with Personality Through the Implementation of Character Parameters	
	Daichi Ando (Tokyo University of Technology, Japan), Shino Iwashita (Tokyo University of Technology, Japan)	410
	nvestigation of Factors Related to the Impression of Clips Used for Automatic Generation of Accompaniment Intended by the User	
	Kaito Terachi (Advanced Institute of Industrial Technology, Japan), Mio Suzuki (National Institute of Technology, Kushiro College, Japan)	414

OS: Modern Applications of Clifford Algebra (1)

Experiments with Clifford Geometric Algebra Applied to Cryptography	
David W. H. A. da Silva (University of Colorado at Colorado Springs & Symetrix / X-Logos, USA), Marcelo A. Xavier	
(Ford Motor Company, USA), C. Edward Chow (University of Colorado at Colorado Springs, USA), Carlos Paz de	
Araujo (University of Colorado Colorado Springs, USA)	420
Fundamental Structure of Orthogonal Variable Commutative Quaternion Neurons	
Tohru Nitta (National Institute of Advanced Industrial Science and Technology, Japan), Hui Hu Gan (Malaysia-Japan	
International Institute of Technology, Malaysia)	428

GS: Intelligent Control

Control System Based on Affine T-S Fuzzy Model with Uncertainty	
Hugang Han (Prefectural University of Hiroshima, Japan)	
Reinforcement Learning with Randomized Physical Parameters for Fault-Tolerant Robots	
Wataru Okamoto (Graduate School of Science and Engineering Chiba University, Japan), Kazuhiko Kawamoto (Chiba University, Japan)	

GS: Machine Learning Application

Utilizing Timed Petri Nets to Guide Data-Driven Fault Diagnosis of PLC-Timed Event Systems	
Joseph Cohen (University of Michigan, USA), Baoyang Jiang (Foxconn Industrial Internet, China), Jun Ni (University of Michigan, USA)	441
Frost Prediction for Vineyard Using Machine Learning	
Yosuke Tamura (Meiji University, Japan), Liya Ding (Meiji University, Japan), Kosuke Noborio (Meiji University, Japan), Kazuki Shibuya (Meiji University, Japan)	447
Variable Importance Measures Based on Ensemble Learning Methods for Convective Storm Tracking	
Hansoo Lee (Pusan National University, Korea (South)), Jonggeun Kim (Pusan National University, Korea (South)), Seunghwan Jung (Pusan National University, Korea (South)), Minseok Kim (Pusan National University, Korea (South)), Baekcheon Kim (Pusan National University, Korea (South)), Sungshin Kim (Pusan National University,	
Korea (South))	451

OS: Affective/Kansei Information Processing and its Interactive Approach (2)

Proposal of a Computer-Reproducible Model of Consciousness Toshiki Watanabe (Tokyo University of Technology, Japan), Hiroyuki Kameda (Tokyo University of Technology, Japan)	457
Response Generation Reflecting the Personality of a Chat Dialogue System	
Toru Sugimoto (Shibaura Institute of Technology, Japan), Yusuke Temmanya (Shibaura Institute of Technology, Japan)	461
Automatic Detection of Beginner's Welding Joint	
Shiqeru Kato (Niihama College, National Institute of Technology, Japan), Takanori Hino (Niihama College, National Institute of Technology, Japan), Hironori Kumeno (Niihama Collage, National Institute of Technology, Japan), Tomomichi Kagawa (Niihama College, National Institute of Technology, Japan), Hajime Nobuhara (Tsukuba University, Japan)	465

OS: Modern Applications of Clifford Algebra (2)

Strip Adjustment of Airborne Laserscanning Data with Conformal Geometric Algebra

Eckhard Hitzer (International Christian University, Japan), Werner Benger (Louisiana State University, USA), Manfred Niederwieser (Airborne Hydroapping GmbH, Austria), Ramona Baran (Airborne HydroMapping GmbH, Austria), Frank Steinbacher (Airborne HydroMapping GmbH, Austria) 468

GS: Computer Vision

Learning Data Conditions for Resolution Improvement Using UAV Data	
Kai Matsui (Akita University, Japan), Hikaru Shirai (Akita University, Japan), Yoichi Kageyama (Akita University,	
Japan), Hiroshi Yokoyama (Akita University, Japan)	474

GS: Decision Making (3)

Individual Decision Support Reflecting Relations to Others	
Tomoe Entani (University of Hyogo, Japan)	476
Aggregations of Subjective Probabilities Based on Logical Information Source Model and of Possibilistic CFs Using Dempster's Rule	
Koichi Yamada (Nagaoka University of Technology, Japan)	482
Two Confirmation Bias Models for Analyzing Biased Pattern Classification Processes	
Kazunori Fujimoto (Kindai University, Japan)	488