

# **2019 IEEE 11th International Workshop on Computational Intelligence and Applications (IWCIA 2019)**

**Hiroshima, Japan  
9 – 10 November 2019**



**IEEE Catalog Number: CFP1961U-POD  
ISBN: 978-1-7281-2430-8**

**Copyright © 2019 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:	CFP1961U-POD
ISBN (Print-On-Demand):	978-1-7281-2430-8
ISBN (Online):	978-1-7281-2429-2
ISSN:	1883-3977

**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](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

CURRAN ASSOCIATES INC.  
**proceedings**  
.com

## Table of Contents

<b>[Invited Special Talk] Acquiring Multiagent Cooperative Behavior in the RoboCup Soccer Simulation</b>	
Hidehisa Akiyama.....	1
<b>Neurosynaptic Computational Elements for Adaptive Transient Synchrony: Biophysical Accuracy versus Hardware Complexity</b>	
Amir Zjajo .....	3
<b>Estimation of Hydrodynamic Coefficients using Unscented Kalman Filter and Recursive Least Square</b>	
Subchan Subchan, Rachmat Wahyudi Ismail, Tahiyatul Asfihani, Dieky Adzkiya .....	9
<b>Re-learning of Child Model for Misclassified data by using KL Divergence in AffectNet: A Database for Facial Expression</b>	
Takumi Ichimura, Shin Kamada.....	15
<b>A Video Recognition Method by using Adaptive Structural Learning of Long Short Term Memory based Deep Belief Network</b>	
Shin Kamada, Takumi Ichimura.....	21
<b>Improved Binarization Using Morphology-driven Image Resizing and Decomposition</b>	
Chang-Te Lin, Jung-Hua Wang, Chun-Shun Tseng, Shan-Chun Tsai, Chiao-Wei Lin, Ren-Jie Huang.....	27
<b>Multi-objective Optimization of Allocations and Locations of Incineration Facilities with Voronoi Diagram and Genetic Algorithm: Case Study of Northwest Bay Area in Chiba Prefecture</b>	
Taketo Kamikawa, Takashi Hasuike .....	35
<b>Construction of a Corpus-Based Metaphor Generation Support System Built on Japanese Literature</b>	
Asuka Terai, Taiki Sugyo.....	41
<b>Diversifying Experiences in Multi Agent Reinforcement Learning</b>	
Suryanarayanan N.A.V, Hitoshi Iba.....	47
<b>On Term Similarity Measures for Short Text Classification</b>	
Hirohisa Seki, Shuhei Toriyama.....	53
<b>Image-based Kinship Verification using Fusion Convolutional Neural Network</b>	
Reza Fuad Rachmadi, I Ketut Eddy Purnama, Supeno Mardi Susiki Nugroho, Yoyon Kusnendar Suprpto .....	59

<b>Multi-Channel MHLF: LSTM-FCN using MACD-Histogram with Multi-Channel Input for Time Series Classification</b>	
Shuichi Hashida, Keiichi Tamura .....	67
<b>Statistical Power Analysis for IoT Device Oriented Encryption with Glitch Cancellor</b>	
Shu Takemoto, Yusuke Nozaki, Masaya Yoshikawa .....	73
<b>Feature extraction and Classification of Learners using Multi-Context Recurrent Neural Networks</b>	
Yusuke Tanimoto, Tomohiro Hayashida, Toru Yamamoto, Shin Wakitani, Takuya Kinoshita, Ichiro Nishizaki, Shinya Sekizaki .....	77
<b>Online Signature Verification Using a Single-template Strategy with Mean Templates and Local Stability-weighted Dynamic Time Warping</b>	
Manabu Okawa .....	83
<b>Multi Instance Learning via Deep CNN for Multi-Class Recognition of Alzheimer’s Disease</b>	
Muthusubash Kavitha, Novanto Yudistira, Takio Kurita .....	89
<b>Using Label Information in a Genetic Programming Based Method for Acquiring Block Preserving Outerplanar Graph Patterns with Wildcards</b>	
Fumiya Tokuhara, Shiho Okinaga, Tetsuhiro Miyahara, Yusuke Suzuki, Tetsuji Kuboyama, Tomoyuki Uchida .....	95
<b>Improvement of Two-swarm Cooperative Particle Swarm Optimization Using Immune Algorithms and Swarm Clustering</b>	
Tomohiro Hayashida, Ichiro Nishizaki, Shinya Sekizaki, Yuki Takamori .....	101
<b>Code Completion for Programming Education based on Recurrent Neural Network</b>	
Kenta Terada, Yutaka Watanobe .....	109
<b>Novel Defense Method against Audio Adversarial Example for Speech-to-Text Transcription Neural Networks</b>	
Keiichi Tamura, Akitada Omagari, Shuichi Hashida .....	115
<b>Efficient Constraint Handling Based on The Adaptive Penalty Method with Balancing The Objective Function Value and The Constraint Violation</b>	
Takeshi Kawachi, Jun-ichi Kushida, Akira Hara, Tetsuyuki Takahama .....	121
<b>Author Index</b> .....	129