PROGRAM GUIDE

AINA-2019

The 33^{rd} International Conference on
Advanced Information Networking and Applications

March 27-29, 2019
Kunibiki Messe, Matsue, Japan

Supported by:
Matsue City, Shimane Prefecture

松江市 島根県 Shimane Prefectural Government

The Telecommunications Advancement Foundation (TAF)

公益財団法人
電気通信普及財団

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Alireza Shahrabi, Glasgow Caledonian University, United Kingdom

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Leonard Barolli, Fukuoka Institute of Technology, Japan

Message from AINA-2019 Steering Committee Co-Chairs

Welcome to the 33-rd International Conference on Advanced Information Networking and Applications (AINA-2019). It is our great pleasure and honor to held AINA-2019 at Kunibiki Messe, Matsue, Japan from March 27 to March 29, 2019. On behalf of the AINA Steering Committee and AINA-2019 Organizing Committee, we would like to express to all participants our cordial welcome and high respect.

AINA is an International Forum, where scientists and researchers from academia and industry working in various scientific and technical areas of networking and distributed computing systems can demonstrate new ideas and solutions in distributed computing systems.

AINA was born in Asia, but it is now an International Conference with high quality thanks to the great help and cooperation of many international friendly volunteers. AINA is a very open society and is always welcoming international volunteers from any country and any area in the world. In conjunction with AINA-2019 main conference, we have also 14 International Workshops.

An international conference can be organized by support and great voluntary efforts of many people and organizations. Our main responsibility is to coordinate various tasks carried out with other willing and talented volunteers.

We would like to thank AINA-2019 General Co-Chairs, PC Co-Chairs, Workshops Co-Chairs, Track Area Chairs, PC Members, and Workshops Organizers for their great efforts to make AINA-2019 a very successful event. We have special thanks to the Finance Chair, and Web Administrator Co-Chairs.

We would like to take opportunity to thank all members of the organization committee and program committee as well as all reviewers for their hard work to make the reviews on time and authors for submitting the papers. We would like to thank Local Arrangement Team for the technical support and good local arrangement for the conference.

Finally, we would like to thank: Matsue City, Shimane Prefecture, The Telecommunications Advancement Foundation (TAF), Japan, for their financial support.

We do hope that you will have a great time in Matsue, Japan.

AINA Steering Committee Co-Chairs

Makoto Takizawa, Hosei University, Japan
Leonard Barolli, Fukuoka Institute of Technology, Japan

Message from AINA-2019 General Co-Chairs

It is our great pleasure to welcome you all at the 33-rd International Conference on Advanced Information Networking and Applications (AINA-2019), which will be held at Kunibiki Messe, Matsue, Japan from March 27 to March 29, 2019.

AINA International Conference is a forum for sharing ideas and research work in the emerging areas of information networking and their applications. The area of advanced networking has grown very rapidly and the applications around it have experienced an explosive growth especially in the area of pervasive and mobile applications, sensor networks, ad-hoc networks, vehicular networks, multimedia computing and social networking, semantic collaborative systems, as well as Grid, P2P, IoT and Cloud Computing. This advanced networking revolution is transforming the way people live, work, and interact with each other, and is impacting the way business, education, entertainment, and health care are operating. The papers included in the proceedings covers theory, design and application of computer networks, distributed computing and information systems.

Each year AINA receives a lot of paper submissions from all around the world. It has maintained high quality accepted papers and is aspiring to be one of the main international conferences on the Information Networking in the world. In conjunction with AINA-2019 conference there are 14 workshops, which also accepted good quality papers.

An international conference of this size requires the support and help of many people. A lot of people have helped and worked hard to produce a successful AINA-2019 technical program and conference proceedings. First, we would like to thank all authors for submitting their papers, the session chairs and distinguished keynote speakers. We are indebted to Program Area Chairs, Program Committee Members and reviewers, who carried out the most difficult work of carefully evaluating the submitted papers.

We would like to give our special thanks to Prof. Makoto Takizawa and Prof. Leonard Barolli, the Co-Chairs of the Steering Committee for their strong encouragement, guidance and insights, and for spending a lot of energy for conference organization and shaping the conference program. We would like to thank PC Co-Chairs and Workshops Co-Chairs of AINA-2019 for their great contribution to the success of the conference. Our special thanks go to the Finance Chair and Web Administrator Co-Chairs.

Finally, we would like to thank the Local Arrangement Team for the support and good local arrangement for the conference. We do hope that you will have a great time in Matsue, Japan.

AINA-2019 General Co-Chairs

Tomoya Enokido, Rissho University, Japan
Farookh Hussain, University of Technology, Sydney, Australia
Alireza Shahrabi, Glasgow Caledonian University, United Kingdom

Message from AINA-2019 Program Committee Co-Chairs

Welcome to the 33-rd International Conference on Advanced Information Networking and Applications (AINA-2019), which will be held at Kunibiki Messe, Matsue, Japan from March 27 to March 29, 2019.

The purpose of AINA conference is to bring together researchers, developers, and industrial experts to share new ideas and recent research results in the emerging areas of information networking and their applications. The papers included in the proceedings cover all aspects of theory, design, and application of computer networks and distributed computing systems. Most of the papers deal with new trends in information networking, such as wireless sensor networks, ad-hoc networks, cloud computing, peer-to-peer systems, grid computing, pervasive and ubiquitous systems, multimedia systems, security, multi-agent systems, IoT and web-based systems.

This edition AINA received many paper submissions from all over the world. Each submission was peer-reviewed by program committee members and invited external reviewers. Finally, the program committee accepted 112 papers (about 25% acceptance ratio), which will be presented during the conference days. Unfortunately, many interesting and good papers could not be accepted in AINA-2019 due to the limited number of time slots allocated for presentations at the conference.

We are very proud and honored to have two distinguished keynote talks by Dr. Markus Aleksy, ABB AG, Germany and Naohiro Hayashibara, Kyoto Sangyo University, Japan, who will present their recent work and will give new insights and ideas to the conference participants.

Organizing an international conference of this size is of course a team effort. Therefore, we gladly admit that we had the help of many very professional people. First of all, we would like to thank all the authors for their interesting contributions since they shape the program and make it interesting for the audience. Moreover, we would like to express our thankfulness to all program-vice chairs for their great efforts. Additionally, we would like to thank all program committee members and reviewers who carried out the most important work to evaluate the submitted papers. We also thank the Workshops Co-Chairs for organizing many excellent workshops and symposiums, which enrich the conference and provide additional opportunities for discussions and future co-operations.

The great success of the AINA conference series would not be possible without the enormous commitment and support of the steering committee co-chairs Prof. Makoto Takizawa and Prof. Leonard Barolli. Therefore, we would like to thank them for their strong encouragement and guidance.

The general coordination of an event such as AINA conference requires a lot of coordination effort as well as many other activities related to the conference organization. Here, we thank the General Co-Chairs for their great support and invaluable suggestions. We give special thanks to the Finance Chair and Web Administrator Co-Chairs for their great efforts and efficient work to deal with many conference matters.

We hope you will enjoy the conference and readings and have a great time in Matsue, Japan.

AINA-2019 Program Committee Co-Chairs

Akimitsu Kanzaki, Shimane University, Japan
Flora Amato, University of Naples Federico II, Italy
Omar Hussain, University of New South Wales, Australia

Message from AINA-2019 Workshops Co-Chairs

Welcome to AINA-2019 Workshops to be held in conjunction with the 33-rd International Conference on Advanced Information Networking and Applications (AINA-2019) at Kunibiki Messe, Matsue, Japan from March 27 to March 29, 2019. The goal of AINA workshops is to provide a forum for international researchers and practitioners to exchange and share their new ideas, research results, and ongoing work on leading-edge topics in the different fields of information networks and their applications. Some of the accepted workshops deal with topics that open up perspectives beyond the ordinary, thus, enriching the topics usually addressed by the AINA conference.

For this edition, the following 14 symposiums and workshops will be held with AINA-2019.

- The 15-th International Symposium on Frontiers of Information Systems and Network Applications (FINA-2019)
- The 15-th International Workshop on Heterogeneous Wireless Networks (HWISE-2019)
- The 12-th International Symposium on Mining and Web (MAW-2019)
- The 12-th International Workshop on Bio and Intelligent Computing (BICom-2019)
- The 12-th International Workshop on Telecommunication Networking, Applications and Systems (TeNAS-2019)
- The 10-th International Workshop on Disaster and Emergency Information Network Systems (IWDENS-2019)
- The 7-th International Workshop on Collaborative Emerging Systems (COLLABES-2019)
- The 6-th International Workshop on Security Intricacies in Cyber-Physical Systems and Services (INTRICATE-SEC-2019)
- The 5-th International Workshop on Engineering Energy Efficient InternetWorked Smart seNsors (E3WSN-2019)
- The 4-th International Workshop on Innovative Technologies in Informatics and Networking (WITIN-2019)
- The 4-th International Workshop on Big Data Processing in Online Social Network (BOSON-2019)
- The 2-nd International Workshop on Internet of Everything and Machine Learning Applications (IOEMLA-2019)
- The 1-st International Workshop on Multi-Clouds and Mobile Edge Computing (M2EC-2019)
- The 1-st International Workshop on Artificial Intelligence and Machine Learning (AIMAL-2019)

We would like to thank the community for their great response to AINA-2019 workshops. The excellent technical program of the workshops was the result of a professional work from workshop chairs, workshop program committees, reviewers, and authors.

We would like to give our special thanks to Prof. Makoto Takizawa and Prof. Leonard Barolli, the Steering Committee Chairs of AINA International Conference for their strong encouragement and guidance to organize the AINA-2019 workshops and symposiums. We would like to thank AINA-2019 General Co-Chairs their advices to make possible organization of AINA-2019 workshops and symposiums. We are thankful to AINA-2019 Program Co-Chairs for their support and help to prepare the technical program of AINA-2019 workshops and symposiums.

We wish all of you entertaining and rewarding experience in all workshops and AINA-2019 International Conference.

AINA 2019 Workshops Co-Chairs

Hui-Huang Hsu, Tamkang University, Taiwan
Omid Ameri Sianaki, Victoria University, Australia
Rubem Pereira, Liverpool John Moores University, UK

AINA-2019 Keynote Talk I

Dr. Markus Aleksy, ABB AG Corporate Research Center, Ladenburg, Germany

Utilizing Wireless Comunication to Enable New Types of Industrial Applications

Abstract: The recent progress in the development of wireless communication technologies enables new types of industrial applications. Traditional industrial systems usually rely on wired communication technologies to connect sensors and actuators. However, these type of communication needs to be replaced by wireless technologies in future to address new developments, such as mixed reality applications, automated guided vehicles, moving robots and drones or achieving higher flexibility required by increasing demand for highly customized products and adaptable production facilities. In this talk, we will address and discuss representative use cases and concepts focusing on the usage of wireless technologies in an industrial setting. Moreover, we will present the related challenges and requirements of communication networks in such environments and discuss the applicability of 5th generation wireless communication systems.

AINA-2019 Keynote Talk II

Dr. Naohiro Hayashibara, Kyoto Sangyo University, Japan

Lévy Walk on Graphs: Message Dissemination and Uninformed Search

Abstract: Random walks play an important role in computer science, spreading a wide range of topics in theory and practice, including networking, distributed systems, and optimization. Particularly, Lévy walk, a family of random walks, has attracted attention in recent years in the context of mobile ad-hoc networks, delay-tolerant networks, opportunistic communication, and global optimization problems. It is also used as a model of various things not only in informatics but also in biology and environmental science. Lévy walk is a mathematical fractal which is characterized by long segments followed by shorter hops in random directions. More precisely, the step distance obeys the power law distribution. The pattern has been found by Paul Lévy, but the similar pattern has also been evolved as a naturally selected strategy that gives animals and insects an edge in the search for sparse targets to survive. In fact, this movement pattern has been observed in the molecular machinery operating in cells, bacteria, the behavior of honeybees, mussels, mud snails, wandering albatross and shearwaters. In the area of computer science, it is most likely to be used as the mobility model in mobile ad-hoc networks because of the statistical similarity of human mobility. Most of the research work, however, assumes a continuous plane and hardly any results on graphs are available. The goal of this keynote is introducing Lévy walk and its variants and presenting the challenge on Geometric graphs, especially Unit disk graphs, regarding message dissemination and uninformed search by using Lévy walk. The results on both message dissemination and uninformed search show that Lévy walk is quite efficient compared to random walks because of its ballistic trajectory. They also clarify the relationship between the efficiency of message dissemination and uninformed search, and the average degree/the diameter of the graphs.

AINA-2019 Main Conference and Workshops Program

Wednesday, March 27, 2019

08:00 Registration

09:00-10:00 Single Session: Opening and Keynote Talk I

AINA-2019 Keynote Talk I (Plenary Room)

Dr. Markus Aleksy, ABB AG Corporate Research Center, Ladenburg, Germany
Title: Utilizing Wireless Comunication to Enable New Types of Industrial Applications

10:00-10:30 Coffee Break

10:30-12:30 Parallel Sessions

AINA-S1: Network Protocols and Network Monitoring

Chair: Naohiro Hayashibara, Kyoto Sangyo University, Japan

1. Predicting Elephant Flows in Internet Exchange Point Programmable Networks
   Marcus Vinicius Brito da Silva, Arthur Selle Jacobs, Ricardo Jose Pfitscher, Lisandro Zambenedetti Granville
2. Angular Histogram-Based Visualisation of Network Traffic Flow Measurement Data
   Adrian Pekar, Mona B.H. Ruan, Winston K.G. Seah
3. A Self Healing Microservices Architecture: A Case Study in Docker Swarm Cluster
   Basel Magableh, Luca Longo, Muder Almiani
4. AXARPS: Scalable ARP Snooping Using Policy-Based Mirroring of Core Switches
   Motoyuki Ohmori, Naoki Miyata, Ichiroh Suzuta
5. Gossip Message Dissemination Protocols in the Presence of Link Instability
   Takumu Hirooka and Naohiro Hayashibara
6. Reducing the IEEE 802.11 Beacon Overhead in Low Mobility Networks
   Gabriel de Carvalho Ferreira, Priscila Solis Barreto, Eduardo Alchieri

AINA-S2: VANETs and WMNs

Chair: Shinji Sakamoto, Sekei University, Japan

1. An Active Signaling Mechanism to Reduce Access Collisions in a Distributed TDMA based MAC Protocol for Vehicular Networks
   Fouzi Boukhalfa, Mohamed Hadded, Paul Muhlethaler, Oyunchimeg Shagda
2. A New Fuzzy Logic based Model for Location Trust Estimation in Electric Vehicular Networks
   Ilhem Souissi, Nadia Ben Azzouna, Tahar Berradia, Lamjed Ben Said
3. A Roadside unit Placement Scheme for Vehicular Ad-hoc Networks
   Seif Ben Chaabene, Taoufik Yeferny, Sadok ben Yahia
4. A Secure and Trustworthy Intelligent System for Clustering in VANETs Using Fuzzy Logic
   Kevin Bylykbashi, Yi Liu, Donald Elmazi, Keita Matsuo, Makoto Ikeda, Leonard Barolli
5. Performance Analysis of WMNs by WMN-PSODGA Simulation System Considering Weibull and Chi-square Client Distributions
   Admir Barolli, Shinji Sakamoto, Leonard Barolli, Makoto Takizawa
6. Performance Evaluation of WMNs by WMN-PSOSA System Considering Chi-square and Exponential Client Distributions
   Shinji Sakamoto, Leonard Barolli, Shusuke Okamoto

AINA-S3: Secure Schemes and Algorithms

Chair: Lidia Ogiela, Pedagogical University of Cracow, Poland

1. Access Control based Dynamic Path Establishment for Securing Flows from the User Devices with different Security Clearance
   Uday Tupakula, Vijay Varadharajan, Kallol Karmakar
2. Biometric-based Linguistic Solutions for Data Encryption and Sharing
   Urszula Ogiela, Makoto Takizawa, Lidia Ogiela
3. Basic Study on Targeted E-mail Attack Method Using OSINT
   Kota Uehara, Kohei Mukaiyama, Masahiro Fujita, Hiroki Nishikawa, Takumi Yamamoto, Kiyoto Kawauchi, Masakatsu Nishigaki
4. Interactive Aggregate Message Authentication Scheme with Detecting Functionality
   Shingo Sato and Junji Shikata
5. How Important Are Logs of Ordinary Operations? Empirical Investigation of Anomaly Detection
   Akinori Muramatsu and Masayoshi Aritsugi

FINA-S1: IoT, Cloud and Mobile Computing

Chair: Makoto Takizawa, Hosei University, Japan

1. Design and Implementation of IoT based Automatic Class Attendance Monitoring System using Computer Vision and Embedded Linux Platform
   Hasan Salman, Md Nasir Uddin, Samuel Acheampong, He Xu
2. An Indoor 3D Positioning Technology based on NB-IoT
   Donghui Xue, He Xu, Peng Li
3. Adaptive Waveform Design of Polarimetric Radar for Extended Targets in Signal-Dependent Clutter
   Mengxin Yuan, Xu Cheng, Jing Zhang, Xiaodong Tan
4. Consideration of Implementation Method for the Cloud Type Virtual Policy Based Network Management Scheme for the Specific Domain
   Kazuya Odagiri, Shogo Shimizu, Naohiro Ishii, Makoto Takizawa
5. NADEEM: A Novel Reliable Data Delivery Routing Protocol for Underwater WSNs
   Nadeem Javaid

6. An Architecture for Distributed Ledger-based M2M Auditing for Electric Autonomous Vehicles
Dragos Strugar, Rasheed Hussain, Manuel Mazzara, Victor Rivera, Ilya Afanasyev, JooYoung Lee

HWISE-S1: Mobile Communication Systems and Networking

Chair: Keita Matsuo, Fukuoka Institute of Technology

1. An Analysis on Recent Mobile Application Trend in Bangladesh
Md Anik Hasan, Nazifa Tasneem, Sumaiya Binte Akther, Koushiq Das, Ashik Mostafa Alvi
2. Numerical Simulation of Glide Slope Signal Interferences by Irregular Ground
Junichi Honda, Hirohisa Tajima, Hisashi Yokoyama
3. Effect of Client Priority in the Performance of a Fuzzy-based WLAN Triage System
Kosuke Ozera, Yi Liu, Leonard Barolli, Makoto Takizawa
4. Energy Saving in HetNet Network using eNB Parameters Tuning
Narjes Lassoued, Noureddine Boujnah, Ridha Bouallegue
5. Cycle Interference Alignment for the Full Duplex Communication System based on User Virtual Splitting Thought
Haiying Ren, Di Wu, Man Li, Tianyi Feng

M2EC-S1: Cloud and Edge Computing

Chair: Thomas Dreibholz, Simula@OsloMet –Simula Metropolitan Centre for Digital Engineering, Norway

1. Situation Detection on the Edge
Nikos Papageorgiou, Dimitris Apostolou, Yiannis Verginadis, Andreas Tsagkaropoulos, Gregoris Mentzas
2. Data Center Clustering for Geographically Distributed Cloud Deployments
Dipesh Pradhan and Feroz Zahid
3. A Real-Time Video Streaming System over IPv6+MPTCP Technology
Yu Luo, Xing Zhou, Thomas Dreibholz, Hanbao Kuang

INTRICATE-SEC-S1: Trust Computing and Authentication Methods

Chair: Anne V. D. M. Kayem, Hasso-Plattner-Institute, University of Potsdam, Germany

1. Design and Research of Trusted Acquisition Terminals Based on Domestic Password
Yun Feng, Xiaobing Liang, Feng Zhai, Meng Xu
2. Trust-Based Security Mechanism for Detecting Clusters of Fake Users in Social Networks
Davinder Kaur, Suleyman Uslu, Arjan Durresi
3. App-Collusion Detection Using a Two-Stage Classifier
Md Faiz Iqbal Faiz,Md Anwar Hussain, and Ningrinla Marchang
4. Introduction of Fingerspelling for Realizing a User Authentication Method Using s-EMG
Hisaaki Yamaba, Shimpei Inotani, Shotaro Usuzaki, Kayoko Takatsuka, Kentaro Aburada, Tetsuro Katayama, Mirang Park, Naonobu Okazaki
5. Proposal of Ad-hoc Secure Device Pairing Method Using Similarity between Marker Movement and Acceleration
Makoto Nagatomo, Kentaro Aburada, Hisaaki Yamaba, Naonobu Okazaki, Mirang Park

12:30-14:00 Lunch Break

14:00-16:00 Parallel Sessions

AINA-S4: Parallel and Distributed Systems

Chair: Chung-Ming Huang, National Cheng Kung University, Taiwan

1. A MEC-assisted Method for Early Handover using the Fully Distributed Mobility Management (MEC-F-DMM) Architecture
   Chung-Ming Huang, Duy-Tuan Dao, Meng-Shu Chiang
2. Detection of Algorithmically Generated Domain Names in Botnets
   Deepak Kumar Vishvakarma, Ashutosh Bhatia, Zdenek Riha
3. Efficient Information Flow Control by Reducing Meaningless Messages in P2PPSO Systems
   Shigenari Nakamura, Tomoya Enokido, Leonard Barolli, Makoto Takizawa
4. MVMM: Data Center Scheduler Algorithm for Virtual Machine Migration
   Nawel Kortas and Habib Youssef
5. An NSH-Enabled Architecture for Virtualized Network Function Platforms
   Vinıcius F. Garcia, Leonardo C. Marcuzzo, Giovanni V. Souza, Lucas Bondan, Jeferson C. Nobre, Alberto E. Schaeffer-Filho, Carlos R. P. dos Santos, Lisandro Z.Granville, Elias P. Duarte Jr.
6. On the Weakest Failure Detector For Read/Write-Based Mutual Exclusion
   Carole Delporte-Gallet, Hugues Fauconnier, Michel Raynal

AINA-S5: Wireless Sensor Networks

Chair: Donald Elmazi, Fukuoka Institute of Technology, Japan

1. Combined Methods based Outlier Detection for Water Pipeline in Wireless Sensor Networks
   Oussama Ghorbel, Aya Ayadi, Rami Ayadi, Mohammed Aseeri, Mohamed Abid
2. An MQTT-SN-Based QoS Dynamic Adaptation Method for Wireless Sensor Networks
   Helbert da Rocha, Tania L. Monteiro, Marcelo E. Pellez, Manuel C. Penna, Joilson Alvez Junior
3. A Hybrid Cross-Layer Protocol for Wireless Sensor Networks Based on Backbone
   Piercarlo Fermino Soares, Joao Carlos Giacomin, Tales Heimfarth
4. A Fuzzy-based System for Actor Node Selection in WSANs Considering Level of Received Signal
   Donald Elmazi, Miralda Cuka, Makoto Ikeda, Leonard Barolli, Makoto Takizawa
5. DCS-MAC: A Distributed Cross-layer Communication Protocol for Directional Sensor Networks
   Shamanth Nagaraju, Sreejith V., Nipun Sood, Lucy J. Gudino, Mehul Kasliwal, Rajas Kejriwal

AINA-S6: Blockchain and Privacy Protection

Chair: Marek R. Ogiela, AGH University of Science and Technology, Poland

1. Analysis of Ethereum Smart Contracts and Opcodes
   Stefano Bistarelli, Gianmarco Mazzante, Matteo Micheletti, Leonardo Mostarda, Francesco Tiezzi
2. Personal Book Management Application on Blockchain
   Hiryu Kawaguchi, Yasunao Takano, Hiroshi Sakuta
3. Simulation of Secure Volunteer Computing by Using Blockchain
   Johjima Shota, Kaneko Kosuke, Subodh Sharma, Sakurai Kouichi
4. Challenges and Strategies for Developing Decentralized Applications based on Blockchain Technology
   Thanh Chung Dao, Binh Minh Nguyen, Ba Lam Do
5. Network Location Privacy Protection with Multi-access Edge Computing
   Ping Zhang, Mimoza Durresi, Arjan Durresi

FINA-S2: Distributed Systems and Parallel Computing

Chair: Tomoya Enokido, Rissho University, Japan

1. A Model of Virtual Machines to Support Storage Processes
   Naohiro Ogura, Dilawaer Duolikun, Tomoya Enokido, Makoto Takizawa
2. Is QUIC Quicker Than TCP? A Performance Evaluation
   Saurabh, Satya Prakash, Pranav Kumar Singh, Sunit Kumar Nandi, Sukumar Nandi
3. Novel Interestingness Measures for Mining Significant Association Rules from Imbalanced Data
   Safa Abdellatif, Mohamed Ali Ben Hassine, Sadok Ben Yahia
4. The Deepest Vertex First Reboot: Rebooting Network Edge Switches in a Campus Network
   Motoyuki Ohmori, Satoshi Fujio, Masayuki Higashino
5. CRAWL: A Trace Routing Algorithm based on Hybrid Two-layer Topology
   Li-Ming Zheng, Wen-Feng Long, Yu-Jia Liu, Wei-Dong Sun
6. Extended Scheme Mediation Integration Model for Information Systems Project Proposal
   William Chaves de Souza Carvalho, Pedro Frosi Rosa, Flavio de Oliveira Silva

HWISE-S2: Next Generation Networks

Chair: Evjola Spaho, Polytechnic University of Tirana, Albania

1. Performance Evaluation of Routing Protocols in DTNs Considering Different Mobility Models
   Evjola Spaho, Klodian Dhoska, Kevin Bylykbashi, Leonard Barolli, Vladi Kolici, Makoto Takizawa
2. A Distance-Based Advertisement-Delivery Method for Vehicular DTN
   Shogo Nakasaki, Yu Yoshino, Makoto Ikeda, Leonard Barolli
3. Robust Road Lane Detection for High Speed Driving of Autonomous Vehicles
   Hyunhee Park
4. Study of Beam Power Control of Ka-band Multi-beam Broadcasting Satellite Using Meteorological Data
   Takumi Iwamoto and Kiyotaka Fujisaki
5. Numerical Analysis of Optical Duplexer Composed of Dispersive and Nonlinear Dielectric in Two-Dimensional Photonic Crystal Waveguide with Square Lattice
   Keisuke Haari, Naoki Higashinaka, Xiang Zheng Meng, Hiroshi Maeda

M2EC-S2: Multi-Clouds

Chair: Feroz Zahid, Simula Research Laboratory, Norway

1. A Context-aware Service for Authorizing Multi-Cloud Deployments
   Yiannis Verginadis, Ioannis Patiniotakis, Gregoris Mentzas
2. Towards Realistic Simulations of Arbitrary Cross-Cloud Workloads
   Nicolay Mohebi and Feroz Zahid
3. Cost Benefits of Multi-Cloud Deployment of Dynamic Computational Intelligence Applications
   Geir Horn and Paweł Skrzypek and Katarzyna Materka and Tomasz Przeździęk
4. An Overview of Multi-Cloud Computing
   Jiangshui Hong, Thomas Dreibholz, Joseph Adam Schenkel, and Jiaxi Alessia Hu

INTRICATE-SEC-S2: Secure Systems and Tools

Chair: Anne V. D. M. Kayem, Hasso-Plattner-Institute, University of Potsdam, Germany

1. Stochastic Methods to Find Maximum Likelihood for Spam E-mail Classification
   Seyed M-H Mansourbeigi
2. Machine Learning Based Approach to Detect Wormhole Attack in VANETs
   Pranav Kumar Singh, Rahul Raj Gupta, Sunit Kumar Nandi, Sukumar Nandi

3. Secure Peer-to-Peer communication based on Blockchain
   Kahina Khacef and Guy Pujolle
4. Developing the Analysis Tool of Cyber-attacks by Using CTI and Attributes of Organization
   Yusuke Kambara, Yoshinori Katayama, Takanori Oikawa, Kazuyoshi Furukawa, Satoru Torii, Tetsuya Izu

16:00-16:30 Coffee Break

16:30-18:30 Parallel Sessions

AINA-S7: Power and Energy Management Algorithms

Chair: Dilawaer Duolikun, Hosei University, Japan

1. Optimal Power Flow with Uncertain Renewable Energy Sources using Flower Pollination Algorithm
   Muhammad Abdullah, Nadeem Javaid, Inam Ullah Khan, Zahoor Ali khan, Annas Chand, Noman Ahma
2. Comparison of Intelligent Algorithms with FACTS Devices for Minimization of Total Power Losses
   S. Monshizadeh, G. J. Hegglid, S. T. Hagen
3. Energy-efficient Recovery Algorithm in the Fault-tolerant Tree-based Fog Computing (FTBFC) Model
   Ryuji Oma, Shigenari Nakamura, Dilawaer Duolikun, Tomoya Enokido, Makoto Takizawa
4. A Large-Scale Wired Network Energy Model for Flow-Level Simulations
   Loic Guegan, Betsegaw Lemma Amersho, Anne-Cécile Orgerie, Martin Quinson
5. Towards Efficient Scheduling of Smart Appliances for Energy Management by Candidate Solution Updation Algorithm in Smart Grid
   Sahibzada Muhammad Shuja, Nadeem Javaid, Muhammad Zeeshan Rafique, Umar Qasim, Raja Farhat Makhdoom Khan, Ayesha Anjum Butt, Murtaza Hanif

AINA-S8: IoT Applications and Opportunistic Networks

Chair: Wenny Rahayu, La Trobe University, Australia

1. Selection of IoT Devices in Opportunistic Networks: A Fuzzy-based Approach Considering IoT Device's Selfish Behaviour
   Miralda Cuka, Donald Elmazi, Makoto Ikeda, Keita Matsuo, Leonard Barolli, Makoto Takizawa
2. Centrality based Geocasting for Opportunistic Networks
   Jagdeep Singh, Sanjay K. Dhurandher, Isaac Woungang, Makoto Takizawa
3. IoT Based Wide Area Road Surface State Sensing and Communication System for Future Safety Driving
   Yoshitaka Shibata, Akira Sakuraba, Goshi Sato, Noriki Uchida
4. A Scheme to Improve Stream Transaction Rates for Real-time IoT Applications
   Chaxiong Yukonhiatou, Tomoki Yoshihisa, Tomoya Kawakami, Yuuichi Teranishi, Shinji Shimojo
5. ISDI: A New Window-Based Framework for Integrating IoT Streaming Data from Multiple Sources
   Doan Quang Tu, A. S. M. Kayes, Wenny Rahayu, Kinh Nguyen

AINA-S9: Trust Computing

Chair: Ramesh C. Hansdah, Indian Institute of Science, Bangalore, India

1. Decision Support System Using Trust Planning Among Food-Energy-Water Actors
   Suleyman Uslu, Davinder Kaur, Samuel J Rivera, Arjan Durresi, Meghna Babbar-Sebens

2. Expressing Trust with Temporal Frequency of User Interaction in Online Communities
   Ekaterina Yashkina, Arseny Pinigin, JooYoung Lee, Manuel Mazzara, Akinlolu Solomon Adekotujo, Adam Zubair, Luca Longo
3. Design of Robot Service Functions for a Framework Establishing Human-Machine Trust
   Fumi Ito, Eri Ozawa, Yuka Kato
4. Exploiting Multiple Paths in Multi-Hop Co-operative Ad-hoc Networks for Providing Security without Trusted Third Party
   T Dinesh Ram Kumar, Ashutosh Bhatia, R. C. Hansdah
5. A Comparative Analysis of Trust Requirements in Decentralized Identity Management
   Andreas Gruner, Alexander Muhle, Tatiana Gayvoronskaya, Christoph Meinel
6. A Fuzzy Logic based Trust-ABAC Model for the Internet of Things
   Hamdi Ouechtati, Nadia Ben Azzouna, Lamjed Ben Said

FINA-S3: Intelligent Computing and Secure Systems

Chair: Leonard Barolli, Fukuoka Institute of Technology, Japan

1. Analyzing and Recognizing Pedestrian Motion using 3D Sensor Network and Machine Learning
   Ningping Sun, Toru Tsuruoka, Shunsuke Murakami, Takuma Sakamoto
2. Energy Efficient Scheduling of Smart Home
   Sajjad Khan, Zahoor Ali khan, Nadeem Javaid, Sahibzada Muhammad Shuja, Muhammad Abdullah, Annas Chand
3. Minimizing Daily Cost and Maximizing User Comfort using a New Metaheuristic Technique
   Raza Abid Abbasi, Nadeem Javaid, Sajjad Khan, Shujat ur Rehman, Amanullah, Rana Muhammad Asif, Waleed Ahmad
4. PRAN: A Provenance Based Model and Prototype to Strengthen Authentication
   Rajidi Satish Chandra Reddy, Srinivas Reddy Gopu
5. Efficiency Analysis of TFHE Fully Homomorphic Encryption Software Library Based on GPU
   Yang Hai-bin, Yao Wu-jun, Liu Wen-chao, Wei Bin

COLLABES-S1: Collaborative Systems and Applications

Chair: Keita Matsuo, Fukuoka Institute of Technology, Japan

1. Design of Modern Logistics Management System based on RFID and NB-IoT
   Jiayi Pang, Leixian Shen, Qingyun Zhang, He Xu, Peng Li
2. Evaluation of TBC and OBC Precedent Relations among Messages in P2P Type of Topic-based Publish/Subscribe System
   Takumi Saito, Shigenari Nakamura, Dilawaer Duolikun, Tomoya Enokido, Makoto Takizawa
3. Data Analytics for Electricity Load and Price Forecasting in the Smart Grid
   Syeda Aimal, Nadeem Javaid, Amjad Khan, Nasir Ayub, Tanzeela Sultana, Aroosa Tahir
4. An Efficient CNN and KNN Data Analytics for Electricity Load Forecasting in the Smart Grid
   Syeda Aimal, Nadeem Javaid, Tahir Islam, Wazir Zada Khan, Mohammed Y Aalsalem, Hassan Sajjad
5. A New System for Management of IoT Sensors Considering Agile-Kanban
   Keita Matsuo, Takeru Kurita, Leonard Barolli
6. A Two-way Flow Model for Fog Computing
   Yinzhe Guo, Ryuji Oma, Shigenari Nakamura, Dilawaer Duolikun, Tomoya Enokido, Makoto Takizawa

TeNAS-S1: Web-based Systems and Network Applications

Chair: Teh-Sheng Huang, ChungHwa Telecom, Taiwan

1. Implementation of a Transnational Testbed and Web UI System with Layer3 SDX
   Wun-Yuan Huang, Hui-Lan Lee, Ta-Yuan Chou, Te-Lung Liu, Fei Yeh, Jim Hao Chen, Joe Mambretti
2. The Case Study of Software Build-in Design based on Quality Factors and FMEA
   Meng-Ling Hsieh, Wei-Tsen Lin, Suhan Yu, Yi-Chi Chen, Jung-Shan Lin, Lin-Hui Nung
3. A Novel Sharing M-Coupons with Lightweight Computations Via Cloud Computing
   Iuon-Chang Lin, Hsiao-Chi Chiang
4. A Smart Roadside Parking System using Bluetooth Low Energy Beacons
   Hui-Tzu Chen, Pei-Yu Lin, and Chi-Yi Lin
5. A Light Weight Stream Cypher Mechanism for Visible Light Communication
   Shih-Hao Chang, Ted Huang, Mei-Lan Chen

MAW-S1: Web Computing and Social Networks

Chair: Kin Fun Li, University of Victoria, Canada

1. Proposal of Web API Architecture for Smart Community: A Case Study of Japan
   Kanae Matsui
2. Evaluation Measures for Extended Association Rules based on Distributed Representations
   Tomonobu Ozaki
3. Estimation of Emotion Type and Intensity in Japanese Tweets using Multi-task Deep Learning
   Kazuki Sato and Tomonobu Ozaki
4. A Method for Extracting Influential People for the Improvement of Contents
   Hayato Tsukiji and Kosuke Takano
5. Sentiment Analysis of Arabic and English Tweets
   Mohamed K. Elhadad, Kin Fun Li, Fayez Gebali

19:00-21:00 Welcome Reception Party

- Location: Kunibiki Messe.
- Address: 1-2-1 Gakuenminami, Matsue 690-0826, Japan.

Thursday, March 28, 2019

08:00 Registration

09:00-10:00 Single Session: Keynote Talk II

AINA-2019 Keynote Talk II (Plenary Room)

Dr. Naohiro Hayashibara, Kyoto Sangyo University, Japan
Lévy Walk on Graphs: Message Dissemination and Uninformed Search

10:00-10:30 Coffee Break

10:30-12:30 Parallel Sessions

AINA-S10: Multimedia Systems and Applications

Chair: Tomoki Yoshihisa, Osaka University, Japan

1. Accelerating the Digital Transformation of Business and Society through Composite Business Ecosystems
   Shridhar Choudhary, Ian Thomas, Mehdi Bahrami, Motoshi Sumioka
2. Evaluating DASH Player QoE with MPTCP in Presence of Packet Loss
   Sunit Kumar Nandi, Pranav Kumar Singh, Sukumar Nandi
3. Multilingual Entity Matching
   Ilgiz Mustafin, Marius-Cristian Frunza, JooYoung Lee
4. A Video Data Distribution Method for Flexible Bandwidth Allocation in Hybrid Broadcasting Environments
   Satoru Matsumoto and Tomoki Yoshihisa
5. A Novel Movie Recommendation System Based on Collaborative Filtering and Neural Networks
   Chu-Hsing Lin and Hsuan Chi
6. Link Level Capacity Analysis of Precoded FBMC/OQAM Systems
   Jihed Ghodhbane, Noureddine Boujnah, Ridha Bouallegue

AINA-S11: Wireless Networks and Mobile Computing

Chair: Akimitsu Kanzaki, Shimane University, Japan

1. Backhaul-based Cooperative Caching in Small Cell Network
   Yu-Ting Wang, Yun-Zhan Cai, Lo-An Chen, Sian-Jhe Lin, Meng-Hsun Tsai
2. A UAV-Collaborative Sensing Method for Efficient Monitoring of Disaster Sites
   Akimitsu Kanzaki and Hideyuki Akagi
3. Towards 802.11g Signal Strength Estimation in an Industrial Environment: a Practical Study
   Dalton Cezane Gomes Valadares, Joseana Macedo Fechine Regis de Araujo, Angelo Perkusich, Marco Aurelio Spohn, Elmar Uwe Kurt Melcher
4. Realization and Preliminary Evaluation of MPI Runtime Environment on Android Cluster
   Masahiro Nissato, Hiroki Sugiyama, Kanemitsu Ootsu, Takeshi Ohkawa, Takashi Yokota
5. An Inter-slice Management Solution for Future Virtualization-based 5G Systems
   Borja Bordel, Ramón Alcarria, Diego Sánchez-de-Rivera, Álvaro Sánchez

AINA-S12: Information Security

Chair: Kouichi Sakurai, Kyushu University, Japan

1. Multi-level Authentication Protocols using Scientific Expertise Approach
   Marek R. Ogiela and Lidia Ogiela
2. Mobile App and Malware Classifications By Mobile Usage with Time Dynamics
   Yong Zheng and Sridhar Srinivasan
3. Terminal Access Data Anomaly Detection Based on Random Forest for Power User Electric Energy Data Acquisition System
   Xiaobing Liang, Bing Zhao, Qian Ma, Bang Sun, Baojiang Cu
4. Automatic Graph-based Clustering for Security Logs
   Hudan Studiawan, Christian Payne, Ferdous Sohel
5. Deniable Secret Handshake Protocol - Revisited
   Somnath Panja, Sabyasachi Dutta, Kouichi Sakurai

BOSON-S1: Intelligent Computing Methods and Applications

Chair: Walter Balzano, University of Naples Federico II, Italy

1. Automatic Text Preprocessing for Intelligent Dialog Agents
   Alessandro Maisto, Serena Pelosi, Massimiliano Polito, Michele Stingo
2. A Self-organization Technique in Wireless Sensor Network to Address Node Crashes Problem and Guarantee Network Connectivity
   Walter Balzano and Silvia Stranieri
3. ManDri: A New Proposal of Manus VR Facility Integration in Everyday Car Driving
   Walter Balzano, Maurizio Minieri, Silvia Stranieri
4. A Smart Compact Traffic Network Vision Based on Wave Representation
   Walter Balzano, Aniello Murano, Loredana Sorrentino, Silvia Stranieri
5. ACOp: An Algorithm Based on Ant Colony Optimization for Parking Slot Detection
   Walter Balzano and Silvia Stranieri

IOEMLA-S1: Machine Learning

Chair: Omid Ameri Sianaki, Victoria University, Australia

1. Social Credibility Incorporating Semantic Analysis and Machine Learning: A Survey of the State-of-the-Art and Future Research Directions
   Bilal Abu-Salih, Bushra Bremie, Pornpit Wongthongtham, Kevin Duan, Tomayess Issa, Kit Yan Chan, Mohammad Alhabashneh, Teshreen Albtoush, Sulaiman Alqahtani, Abdullah Alqahtani, Muteeb Alahmari, Naser Alshareef, Abdulaziz Albahlal
2. Source Codes Classification Using A Modified Instruction Count Pass
   Omar Darwish, Majdi Maabreh, Ola Karajeh, Belal Alsinglawi
3. Queue Formation Augmented with Particle Swarm Optimisation to Improve Waiting Time in Airport Security Screening
   Mohamad Naji, Ahmed Al-Ani, Ali Braytee, Ali Anaissi, Paul Kennedy
4. Predictive Analytics and Deep Learning Techniques in Electronic Medical Records: Recent Advancements and Future Direction
   Belal Alsinglawi and Omar Mubin
5. Dimensionality Reduction for Network Anomalies Detection: A Deep Learning Approach
   Ahmed Dawoud, Seyed Shahristani, Chun Raun

BICom-S1: Intelligent Systems

Chair: Elis Kulla, Okayama University of Science, Japan

1. A Deep Q-Network with Experience Optimization (DQN-EO) for Atari's Space Invaders
   Yan Chen and Elis Kulla
2. Design of A Deep Q-Network Based Simulation System for Actuation Decision in Ambient Intelligence
   Tetsuya Oda, Chiaki Ueda, Ryo Ozaki, Kengo Katayama
3. Improving Peer Reliability Considering Jitter Parameter: A Fuzzy-based System for JXTA-Overlay P2P System
   Yi Liu, Makoto Ikeda, Keita Matsuo, Leonard Barolli, Makoto Takizawa
4. Efficient Scheduling of Smart Home Appliances for Energy Management by Cost and PAR Optimization Algorithm in Smart Grid
   Sahibzada Muhammad Shuja, Nadeem Javaid, Sajjad Khan, Hina Akmal, Murtaza Hanif, Qazi Fazalullah, Zain Ahmad Khan

IWDENS-S1: Disaster Information Networking and Applications

Chair: Yoshitaka Shibata, Iwate Prefectural University, Japan

1. A Basic Study on Emergency Communication System for Disaster using LPWA
   Hiroaki Yuze and Shinichi Nabeta
2. Construction of a Disaster Response Automatic Extraction Support System
   Tatsuya Ohyanagi, Tomoyuki Ishida, Noriki Uchida, and Yoshitaka Shibata
3. A IoT Based Disaster Information Platform for Challenged Network Environment in Snow Countries
   Yoshitaka Shibata, Yoshikazu Arai, Yoshia Saito, Jun Hakura
4. Platform System based on LoRa Mesh Network Technology
   Goshi Sato, Yoshitaka Shibata , Noriki Uchida

12:30-14:00 Lunch Break

14:00-16:00 Parallel Sessions

AINA-S13: Cloud Computing and Data Centers

Chair: Farookh Khadeer Hussain, Technology University Sydney, Australia

1. An Efficient Virtual Machine Placement via Bin Packing in Cloud Data Centers
   Aisha Fatima, Nadeem Javaid, Tanzeela Sultana, Mohammed Y Aalsalem, Shaista Shabbir, Durr-e-Adan
2. Service Oriented Architecture for Interconnecting LoRa Devices with the Cloud
   Konstantinos Tsakos and Euripides G.M. Petrakis
3. Supporting Internet-based Location for Location-based Access Control in Enterprise Cloud Storage Solution
   Muhammad I.H. Sukmana, Kennedy A. Torkura, Hendrik Graupner, Ankit Chauhan, Feng Cheng, Christoph Meinel
4. A Methodology for Automating the Cloud Data Center Availability Assessment
   Guto Leoni Santos, Daniel Rosendo, Demis Gomes, Leylane Ferreira, Andre Moreira, Djamel Sadok, Judith Kelner, Glauco Goncalves, Mattias Wilderman, Patricia Takako Endo
5. Response to Co-Resident Threats in Cloud Computing Using Machine Learning
   Chu-Hsing Lin and Hsiao-Wen Lu
6. Dynamic Ranking System of Cloud SaaS based on Consumer Preferences - Find SaaS M2NFCP
   Mohammed A. Ikram, Nabin Sharma, Muhammad Raza, Farookh Khadeer Hussain

AINA-S14: Software Defined Networks

Chair: Leonard Barolli, Fukuoka Institute of Technology, Japan

1. A Framework to Achieve Full Waypoint Enforcement in Hybrid SDN Networks
   Sandhya Rathee, T Dinesh Ram Kumar, K Haribabu, Ashutosh Bhatia
2. Interfacer: A Model-Driven Development Method for SDN Applications
   João Eurípedes Pereira Júnior, Flávio de Oliveira Silva, João Henrique de Souza Pereira, Pedro Frosi Rosa
3. A QoS-based Flow Assignment for Traffic Engineering in Software-Defined Networks
   Lakshmi Priya Thiruvasakan, Quoc-Tuan Vien, Jonathan Loo, Glenford Mapp
4. VoIP Traffic Management using a Software-Defined Networking Approach
   Paulo Vieira Jr. and Adriano Fiorese

AINA-S15: Internet Computing and Scheduling

Chair: Hiroaki Nishino, Oita University, Japan

1. Improvement of Self Position Estimation of Electric Wheelchair Combining Multiple Positioning Methods
   Fumiai Sato
2. A Web-Based Artwork Editing System Empowered by Neural Style Transfer
   Kenta Goto and Hiroaki Nishino
3. Job Scheduling Simulator for Assisting the Mapping Configuration between Queue and Computing Nodes
   Yuki Matsui, Yasuhiro Watashiba, Susumu Date, Takashi Yoshikawa, Shinji Shimojo
4. Commodore: Fail Safe Container Scheduling in Kubernetes
   Christos Christodoulopoulos, Euripides G.M. Petrakis
5. Transparent State Machine Replication for Kubernetes
   Felipe Borges, Luis Pacheco, Eduardo Alchieri, Marcos F. Caetano, Priscila Solis
6. An Optimal Travel Route Recommendation System for Tourists' First Visit to Japan
   Chen Yuan and Minoru Uehara

BOSON-S2: Modeling and Simulation of Big Data Processing

Chair: Silvia Stranieri, University of Naples Federico II, Italy

1. Textual Processing in Social Network Analysis
   Flora Amato, Walter Balzano, Giovanni Cozzolino, Alessandro de Luca, and Francesco Moscato
2. Data Dissemination in Vehicular ad Hoc Network: A Model to Improve Network Congestion
   Walter Balzano and Silvia Stranieri
3. Big Data Analytics for Traceability in Food Supply Chain
   Alessandra Amato, Giovanni Cozzolino, Vincenzo Moscato
4. Exploiting Figures of Speech in Cultural Heritage Reasoning
   Flora Amato, Walter Balzano, Giovanni Cozzolino

IOEMLA-S2: Intelligent Systems and Security

Chair: Omid Ameri Sianaki, Victoria University, Australia

1. Big Data Analytics for Electricity Price Forecast
   Ashkan Yousefi, Omid Ameri, Tony Jan
2. Polar Topographic Derivatives for 3D Face Recognition: Application to Internet of Things Security
   Farshid Hajati, Ali Cheraghian, Omid Ameri Sianaki, Behnam Zeinali, Soheila Gheisari
3. A Survey on Conversational Agents/Chatbots Classification and Design Techniques
   Shafquat Hussain, Omid Ameri Sianaki, Nedal Ababneh

4. Environmental Monitoring Intelligent System using Wireless Nanosensor Networks
   Nedal Ababneh, Omid Ameri Sianaki, Shafquat Hussain
5. Blockchain: A Research Framework for Data Security and Privacy *Farhad Daneshgar, Omid Ameri Sianaki, Prabhat Guruwacharya*

BICom-S2: Metaheuristic Algorithms and Models

Chair: Hyunhee Park, Korean Bible University, Korea

1. An Efficient Scheduling of User Appliances using Multi Objective Optimization in Smart Grid
   Hafiz Muhammad Faisal, Nadeem Javaid, Umar Qasim, Shujaat Habib, Zeshan Iqbal, Hasnain Mubarak
2. Pro Utility Pro Consumer Comfort Demand Side Management in Smart Grid
   Waleed Ahmad, Nadeem Javaid, Basit Karim, Syed Qasim Jan, Muhammad Ali, Raza Abid Abbasi, Sajjad Khan
3. Multiple S-Box Correlation Energy Analysis Model Based on Particle Swarm Optimization
   Yao Wu-jun, Yang Hai-bin, Chen Lin, Wei Bin
4. ANN based Intrusion Detection Model
   Seunghyun Park and Hyunhee Park

IWDENS-S2: Delay Tolerant Networking and Mobile Computing

Chair: Noriki Uchida, Fukuoka Institute of Technology, Japan

1. Delay Tolerant Networks with Static Body Object Detections by Mobile Sensors for Disaster Information System
   Noriki Uchida, Tomoyuki Ishida, Yoshitaka Shibata
2. Network Performance Evaluation to Realize N-wavelength V2X Cognitive Wireless Communication System
   Akira Sakuraba, Takanori Ito, Yoshitaka Shibata
3. Study on Balloon Network using LoRa Mesh Communication System
   Goshi Sato, Yoshitaka Shibata, Noriki Uchida
4. Performance Evaluations on Adaptive Array Antenna of Vehicular Delay Tolerant Networking for Winter Road Surveillance Systems
   Noriki Uchida, Goshi Sato, Yoshitaka Shibata

16:00-16:30 Coffee Break

17:00 The bus will leave from Kunibiki Messe to Restaurant.

18:30-20:30 Banquet Party

- Location: Matsue Vogel Park
- Address: 52 Ogakicho, Matsue, 690-0263, Japan.

Friday, March 29, 2019

08:00 Registration

9:00-11:00 Parallel Sessions

AINA-S16: Social Networks

Chair: Masaki Kohana, Ibaraki University, Japan

1. Estimation of Tags using Various Data for Online Videos
   Hiroki Sakaji, Akio Kobayashi, Masaki Kohana, Yasunao Takano, Kiyoshi Izumi
2. Analysis of Consumers Perceptions of Food Safety Risk in Social Networks
   Alessandra Amato, Walter Balzano, Giovanni Cozzolino, Francesco Moscato
3. Limiting the Influence to Vulnerable Users in Social Networks: A Ratio Perspective
   Huiping Chen, Grigorios Loukides, Jiashi Fan, Hau Chan
4. An IP Multimedia Subsystem Service Discovery and Exposure Approach based on Opinion Mining by Exploiting Twitter Trending Topics
   Armielle Noulapeu Ngaffo, Walid El Ayeb, Zièd Choukair
5. Forecasting Crypto-Asset Price using Influencer Tweets
   Hirofumi Yamamoto, Hiroki Sakaji, Hiroyasu Matsushima, Yuki Yamashita, Kyohei Osawa, Kiyoshi Izumi, Takashi Shimada

AINA-S17: Data Management and Big Data

Chair: David Taniar, Monash University, Asutralia

1. Dependability Analysis for On-demand Computing based Transaction Processing System
   Dharmendra Prasad Mahato, Jasminder Kaur Sandhu, Nagendra Pratap Singh, Kamlesh Dutta
2. Improving Document Similarity Calculation using Cosine-Similarity Graphs
   Yasunao Takano, Yusuke Iijima, Kou Kobayashi, Hiroshi Sakuta, Hiroki Sakaji, Masaki Kohana, Akio Kobayashi
3. Retrieving Text-based Surrounding Objects in Spatial Databases
   Bojie Shen, Md. Saiful Islam, David Taniar, Junhu Wang
4. Revealing Storage and Speed Transmission Emerging Technology of Big Data
   Heru Susanto, Fang-Yie Leu, Didi Rosiyadi
5. An Efficient Data Transmission Technique for Big Video Files over HetNet in Emerging 5G Networks
   Richa Siddavaatam, Isaac Woungang, Sanjay Kumar Dhurandher
6. Quantifying the Limitations of Learning-assisted Grammar-based Fuzzing
   Yuma Jitsunari, Yoshitaka Arahori, Katsuhiko Gondow

AINA-S18: IoT Platforms and Applications

Chair: Akio Koyama, Yamagata University, Japan

1. A Proposal for a Dynamic Digital Map to Prevent Heatstroke Using IoT Data
   Kanae Matsui and Keiya Sakai
2. Hot Spot Tracking by Time-Decaying Bloom Filters and Reservoir Sampling
   Kai Cheng

3. IoT Security Viewer System Using Machine Learning
   Yuya Kunugi, Hiroyuki Suzuki, Akio Koyama
4. Implementing Lightweight IoT-IDS on Raspberry Pi Using Correlation-based Feature Selection and Its Performance Evaluation
   Yan Naung Soe, Yaokai Feng, Paulus Insap Santosa, Rudy Hartanto, Kouichi Sakurai
5. Self-adaptive RFID Authentication for Internet of Things
   Bacem Mbarek, Mouzhi Ge, Tomas Pitner

AIMAL-S1: Artificial Intelligence and Intelligent Computing

Chair: Nadeem Javaid, COMSATS University Islamabad, Pakistan

1. Enhanced Robustness Strategy for IoT in Smart Cities Based on Data Driven Approach
   Talha Naeem Qureshi, Nadeem Javaid, Suhail Ashfaq Butt, Wahab Khan Sabir Ali Changazi, Muhammad Mudassar Iqbal
2. Electricity Price Forecasting In Smart Grid: A Novel E-CNN Model
   Waleed Ahmad, Nadeem Javaid, Annas Chand, Syed Yousaf Raza Shah, Umar Yasin, Mudassar Khan, Aimal Syeda
3. Short Term Load Forecasting using XGBoost
   Raza Abid Abbasi, Nadeem Javaid, Muhammad Nauman Javid Ghuman, Zahoor Ali Khan, Shujat Ur Rehman, Amanullah
4. Multi-objective Optimal Power Flow using Improved Multi-objective Multi-verse Algorithm
   Muhammad Abdullah, Nadeem Javaid, Annas Chand, Zain Ahmad Khan, Muhammad Waqas, Zeeshan Abbas

WITIN-S1: Innovative Technologies in Informatics and Networking

Chair: Yi-Jen Su, Shu-Te University, Taiwan

1. Performance of the 25Gbps/100Gbps Fullmesh RoCE Network using Mellanox ConnetX-4 Lx Adapter and Ruijie S6500 Ethernet Switch
   Hui Li, Xiaolong Chen, Tao Song, Haiyin Chen, Hao Chen
2. The Warning System for Speed Cameras on the Road by Deep Learning
   Chien-Chung Wu, Yu-Xuan Lin, Deng-Xiang Hu, Chien-Chuan Ko, Ji-Han Jiang
3. Using Feature Selection to Improve Performance of Three-tier Intrusion Detection System
   Yi-Jen Su, Pei-Yu Huang, Wu-Chih Hu, Hsuan-Yu Lin, Chen-Yu Kao, Shan-Hsiung Hsieh, Chun-Li Lin
4. A CNN-based Method for Infant Cry Detection and Recognition
   Chuan-Yu Chang and Lung-Yu Tsai
5. The Sensor Calibration and Growth Parameters Monitoring for Phalaenopsis Cultivation
   Ding-Horng Chen, Rong-Show Shen, Tsai-Rong Chang, Pei-Shan Lin, Tzu-Ying Wang

E3WSN-S1: Wireless Networks and Energy Efficient Systems

Chair: Leonardo Mostarda, Camerino University, Italy

1. Comparison of Machine Learning Techniques for Prediction Problems
   Y. Kirsal Ever, K. Dimililer, B. Sekeroglu
2. Tailoring Micro-solar Systems to Heterogeneous Wireless Sensor Networks
   Stefano Calabrò, Roberto Gagliardi, Fausto Marcantoni, Matteo Micheletti, Alessandro Pacini, Andrea Piermarteri
3. Distributing Energy Consumption in Multi-Interface Series-Parallel Networks
   Alessandro Aloisio, Alfredo Navarra and Leonardo Mostarda
4. Energy Efficient Light Routing in Utility Network
   Rosario Culmone and Fabio Pagnotta

11:00-11:30 Coffee Break

11:30-13:30 Parallel Sessions

AINA-S19: Medical and E-Learning Applications

Chair: Fang-Yie Leu, Tunghai University, Taiwan

1. Detecting Mental Health Illness Using Short Comments
   Takahiro Baba, Kensuke Baba, Daisuke Ikeda
2. Framework for Feature Selection in Health Assessment Systems
   Ayesha Ubaid, Fan Dong, Farookh Kadeer Hussain
3. Personality-Aware Collaborative Learning: Models and Explanations
   Yong Zheng and Archana Subramaniyan
4. Design of Remote Heart Monitoring System for Cardiac Patients
   Afef Benjemmaa, Hela Ltifi, Mounir Ben Ayed

AINA-S20: Smart Home and Smart Cities

Chair: Zahoor Ali Khan, Higher Colleges of Technology, United Arab Emirates

1. On Maximizing User Comfort using a Novel Meta-Heuristic Technique in Smart Home
   Sajjad Khan, Zahoor Ali khan, Nadeem Javaid, Waleed Ahmad, Raza Abid Abbasi, Hafiz Muhammad Faisal
2. Towards Efficient Energy Management in a Smart Home using Updated Population
   Hafiz Muhammad Faisal, Nadeem Javaid, Zahoor Ali Khan, Fahad Mussadaq, Muhammad Akhtar, Raza Abid Abbasi
3. iHome: Smart Home Management as a Service in the Cloud and the Fog
   George Myrizakis and Euripides G.M. Petrakis
4. Implicit and Continuous Authentication of Smart Home Users
   Noureddine Amraoui, Amine Besrour, Riadh Ksantini, Belhassen Zouari
5. An Efficient Event-Based Protocol for Emergency Situations in Smart Cities
   Sediane C. L. Hernandes, Marcelo E. Pellenz, Alcides Calsavara, Manoel C.Penna
6. A New Memory Updation Heuristic Scheme for Energy Management System in Smart Grid
   Waleed Ahmad, Nadeem Javaid, Sajjad Khan, Maria Zuraiz, Tayyab Awan, Muhammad Amir, Raza Abid Abbasi

AINA-S21: Energy Management and Energy-Saving Systems

Chair: Tomoya Enokido, Rissho University, Japan

1. The Improved Energy-Efficient Quorum Selection with Excluding Meaningless Methods
   Tomoya Enokido, Dilawaer Duolikun, Makoto Takizawa
2. Minimizing Daily Electricity Cost using Bird Chase Scheme with Electricity Management Controller in a Smart Home
   Raza Abid Abbasi, Nadeem Javaid, Shujat ur Rehman, Amanulla, Sajjad Khan, Hafiz Muhammad Faisal, Sajawal Ur Rehman Khan
3. Energy-efficient Group Migration of Virtual Machines in a Cluster
   Dilawaer Duolikun, Tomoya Enokido, Makoto Takizawa
4. Electricity Load Forecasting in Smart Grids using Support Vector Machine
   Nasir Ayub, Nadeem Javaid, Sana Mujeeb, Maheen Zahid, Wazir Zada Khan, Muhammad Umar Khattak
5. Optimization of Response and Processing Time for Smart Societies using Particle Swarm Optimization and Levy Walk
   Ayesha Anjum Butt, Zahoor Ali khan, Nadeem Javaid, Annas Chand, Aisha Fatima, Muhammad Talha Islam

AIMAL-S2: Machine Learning for Energy Management

Chair: Nadeem Javaid, COMSATS University Islamabad, Pakistan

1. Game-Theoretical Energy Management for Residential User and Micro Grid for Optimum Sizing of Photo Voltaic Battery Systems and Energy Prices
   Aqdas Naz, Nadeem Javaid, Abdul Basit Majeed Khan, Muhammad Mudassar Iqbal, Muhammad Aqeel ur Rehman Hashmi, Raheel Ahmad Abbasi
2. Electricity Load Forecasting for Each Day of Week using Deep CNN
   Sajjad Khan, Nadeem Javaid, Annas Chand, Abdul Basit Majeed Khan, Fahad Rashid Imran Uddin Afridi
3. Prediction of Building Energy Consumption using Enhance Convolutional Neural Network
   Hafiz Muhammad Faisal, Nadeem Javaid, Bakhtawar Sarfraz, Abdul Baqi, Muhammad Bilal, Inzamam Haider, Sahibzada Muhammad Shuja
4. Electricity Price Prediction by Enhanced Combination of Autoregression Moving Average and Kernal Extreme Learing Machine
   Sahibzada Muhammad Shuja, Nadeem Javaid, Sajjad Khan, Umair Sarfraz, Syed Hamza ALi, Muhammad Taha, Tahir Mehmood

13:30-15:00 Lunch Break

AINA-2019 Session Schedule
March 27 – 29, 2019
Kunibiki Messe, Matsue, Japan

Wednesday (March 27, 2019)		ROOM 1	ROOM 2	ROOM 3	ROOM 4	ROOM 5	ROOM 6	ROOM 7
Slot	**Time**	Registration						
Session 1	**09:00 – 10:00**	**Opening Ceremony & AINA-2019 Keynote I (Plenary Room)**						
Coffee Break	10:00 – 10:30	Coffee Break						
Session 2	**10:30 – 12:30**	AINA S1	AINA S2	AINA S3	FINA S1	HWISE S1	M2EC S1	INTRICATE-SEC S1
Lunch	12:30 – 14:00	Lunch Break						
Session 3	**14:00 – 16:00**	AINA S4	AINA S5	AINA S6	FINA S2	HWISE S2	M2EC S2	INTRICATE-SEC S2
Coffee Break	16:00 – 16:30	Coffee Break						
Session 4	**16:30 – 18:30**	AINA S7	AINA S8	AINA S9	FINA S3	COLLABES S1	TeNAS S1	MAW S1
Social Event	19:00 – 21:00	**Welcome Reception Party**						

Thursday (March 28, 2019)		ROOM 1	ROOM 2	ROOM 3	ROOM 4	ROOM 5	ROOM 6	ROOM 7
Slot	**Time**	Registration						
Session 1	**09:00 – 10:00**	**AINA-2019 Keynote II (Plenary Room)**						
Coffee Break	10:00 – 10:30	Coffee Break						
Session 2	**10:30 – 12:30**	AINA S10	AINA S11	AINA S12	BOSON S1	IOEMLA S1	BICom S1	IWDENS S1
Lunch	12:30 – 14:00	Lunch Break						
Session 3	**14:00 – 16:00**	AINA S13	AINA S14	AINA S15	BOSON S2	IOEMLA S2	BICom S2	IWDENS S2
Coffee Break	16:00 – 16:30	Coffee Break						
Social Event	18:30 – 20:30	**Banquet Party**						

Friday (March 29, 2019)		ROOM 1	ROOM 2	ROOM 3	ROOM 4	ROOM 5	ROOM 6	ROOM 7
Slot	**Time**	Registration						
Session 1	**09:00 – 11:00**	AINA S16	AINA S17	AINA S18	AIMAL S1	WITIN S1	E3WSN S1	
Coffee Break	11:00 – 11:30	Coffee Break						
Session 2	**11:30 – 13:30**	AINA S19	AINA S20	AINA S21	AIMAL S2			
Lunch	13:30 – 15:00	Lunch Break						