

SoMeT-2017

The 16th International Conference on
Intelligent Software Methodologies, Tools
and Techniques

Conference Program

September 26 ~ 28
2017
Kitakyushu, Japan

somet2017.iwate-pu.net

September 25, Monday

18:00-19:00 **REGISTRATION**

In front of the International Conference Room
(Room A) on 2nd Floor in Kitakyushu
International Conference Center

September 26, Tuesday

9:00-16:00 **REGISTRATION**

9:30- 10:00 **Room A** **OPENING CEREMONY**
Chair: Prof. Dr. Hamido FUJITA

SoMeT 2018 Announcement

10:00-11:00 **Room A** **KEYNOTE SPEECH I**
Chair: Prof. Dr. Hamido FUJITA

“Engineering Cyber-Physical Systems”
Prof. Dr. Volker GRUHN

Chair of paluno, Software Technology
Universitat Duisburg - Essen, Germany

11:00-11:20 **COFFEE BREAK**

11:20-12:20 **Room A** **KEYNOTE SPEECH II**
Chair: Prof. Dr. Hamido FUJITA

“Automatic analysis of software requirement for
software product lines”

Prof. Dr. Yinglin WANG

School of Information Management and Engineering at
Shanghai University of Finance and Economics

12:20-13:40 **LUNCH**

PARALLEL SESSIONS

13:40-15:40 **Room A**
Chair: Prof. Hideyuki TAKAGI

Chapter 6: Trends and Practices in Software
Engineering Disciplines (1)

↓ **Proceeding ID** **Submit #ID↓**

47	Unified User-Interface and Protocol for Managing Heterogeneous Deep Learning Services	#23
	<i>Absalom SHU, Konstantin MARKOV, Alexander VAZHENIN, Ruth CORTEZ, Subhash BHALLA and Shashank SHRESTHA</i>	
48	The Software Using Digital Databases and GIS Interface for Detecting Geodynamic Structures	#14
	<i>Alexander VAZHENIN, Anna MIKHEEVA, Petr DYADKOV and Andrey MARCHUK</i>	
58	Applying Data Analytics Approach in Systematic Literature Review: Master Data Management Case Study	#19
	<i>Faizura HANEEM, Nazri KAMA, Rosmah ALI and Ali SELAMAT</i>	
50	Convolutional Neural Networks for Question Classification in Italian Language	#75
	<i>Marco POTA, Massimo ESPOSITO and Giuseppe DE PIETRO</i>	

15:40-16:00 **COFFEE BREAK**

16:00-18:00 **Room A**
Chair: Dr. Alexander VAZHENIN

Chapter 6: Trends and Practices in Software
Engineering Disciplines (2)

51	An Innovative Approach for Rolling Mill and Forge Scheduling Based on Modified COTS Algorithms	#7
	<i>Roberto CHIARVETTO, Guido GUIZZI, Enrique KREMERS, Elpidio ROMANO, Lorenzo DAMIANI, Roberto REVETRIA, Pietro GIRIBONE</i>	

53	Twitter Hate Aspect Extraction using Association Analysis and Dictionary-based Approach	#48
	Nurulhuda ZAINUDDIN, Ali SELAMAT and Roliana IBRAHIM	
54	Robust technical trading with fuzzy knowledge-based systems	#72
	Masafumi NAKANO, Akihiko TAKAHASHI and Soichiro TAKAHASHI	
55	An Ontology Based Model for the Optimization of the Shutters Cutting Stock for Compressor Valves	#6
	Guido GUIZZI, Elpidio ROMANO, Lorenzo DAMIANI, Pietro GIRIBONE, Roberto REVETRIA, Matteo TOMA	

13:40-15:40 **Room B**

Chair: Prof. Layth SLIMAN

Chapter 5: Software Engineering Models, Methodologies, Tools, Designs and Techniques (1)

↓Program ID	Submit Paper #ID↓	
34	Tracing Cascading Data Corruption in CPS with the Information Flow Monitor	#3
	Stefan GRIES, Marc HESENIUS and Volker GRUHN	
35	Safety Verification Method for Priority-based Real-time Software	#13
	Fumio NARISAWA, Yoshikazu UEDA	
36	Wr2Fdr Tool Maintenance for Models Checking	#55
	Taoufik SAKKA ROUIS, Mohamed Tahar BHIRI, Mourad KMIMECH and Faouzi MOUSSA	
37	Introduction to SinJAR (a New Tool for Reverse Engineering Java Applications) and Tracing its Malicious Actions using Hidden Markov Models	#64
	Jaouhar FATTAHI, Mohamed MEJRI, Marwa ZIADIA, Emil PRICOP and Ouejdene SAMOUD	

15:40-16:00 **COFFEE BREAK**

16:00-18:00 **Room B**

Chair: Prof. Volker GRUHN

Chapter 5: Software Engineering Models, Methodologies, Tools, Designs and Techniques (2)

46	A Framework for Idea Mining Evaluation	#44
	Mostafa Ahmed ALKSHER, Azreen AZMAN, Razali YAAKOB, Rabiah ABDUL KADIR, Abdulmajid MOHAMED and Eissa ALSHARI	
39	Towards a Formal Verification Approach for Service Component Architecture	#45
	Wael CHARGUI, Taoufik Sakka ROUIS, Mourad KMIMECH, Mohamed Tahar BHIRI, Layth SLIMAN and Badran RADDAOUI	
40	Leveraging Test Case Generation in the Testing Process - An Integration of Human Oracles with Derived Oracles	#47
	Vincent VON HOF	
41	Towards a Formal Verification Approach for Cloud Software Architecture	#53
	Amal AYACH, Layth SLIMAN, Mourad KMIMECH, Mohamed Tahar BHIRI and Badran RADDAOUI	

13:40-15:40 **Room C**

Chair: Prof. Anna Maria DI SCIULLO

Chapter 2: Artificial Intelligence Techniques on Software Engineering, And Requirement Engineering (1)

↓Program ID	Submit Paper #ID↓	
9	Flower Pollination Freeman Chain Code (FP-FCC) Extraction Algorithm for Handwritten Character Recognition	#25
	Muhammad Arif MOHAMAD, Habibollah HARON and Haswadi HASSAN	
10	Support Vector Machines with Neural Network	#29
	Hidekazu YANAGIMOTO	

11	A conversational chatbot based on knowledge-graphs for factoid medical questions	#74
	Aniello MINUTOLO, Massimo ESPOSITO and Giuseppe DE PIETRO	
12	Security Requirements Engineering (SRE) Framework for Cyber-Physical Systems (CPS): SRE for CPS	#4
	Shafiq ur REHMAN and Volker GRUHN	

15:40-16:00 **COFFEE BREAK**

16:00-18:00 **Room C**

Chair: Dr. Hidekazu YANAGIMOTO

Chapter 2: Artificial Intelligence Techniques on Software Engineering, And Requirement Engineering (2)

13	Towards Developing an Approach to Confluence Innovative in Requirements Engineering	#27
	Sa'adah HASSAN, Azrina KAMARUDDIN, Novia ADMODISASTRO and Marzanah A. JABAR	
14	Confidence Based Consensus in Environments with High Uncertainty and Incomplete Information	#51
	Raquel UREÑA, Francisco CHICLANA, Hamido FUJITA and Enrique HERRERA-VIEDMA	
15	Asymmetry Based Parsing and Semantic Compositionality	#42
	Anna Maria DI SCIULLO	
16	Evaluation of Image Descriptors for Urban-Rural Classification of Aerial Images	#5
	Daniel CORTÉS, Mariko NAKANO, Hisashi KOGA, Hector PEREZ	

September 27, Wednesday

9:00-16:00 **REGISTRATION**

9:30-10:30 **Room A KEYNOTE SPEECH III**
Chair: Prof. Dr. Ali SELAMAT

“Consensus in Fuzzy Decision Making: Models and Challenges”

Prof. Dr. Enrique HERRERA-VIEDMA

University of Granada, Department of Computer Science and Artificial Intelligence

10:30-10:50 **COFFEE BREAK**

10:50-11:50 **Room A KEYNOTE SPEECH IV**
Chair: Prof. Dr. Ali SELAMAT

“Augmented Virtuality; enabling technologies for the next generation production intelligence”

Prof. Dr. Imre Rudas

IEEE Fellow, ex-vice President, Professor Emeritus of Óbuda University, Hungary

11:50-13:10 **LUNCH**

PARALLEL SESSIONS

13:10-14:40 **Room A**
Chair: Dr. Nazri KAMA

Chapter 6: Trends and Practices in Software Engineering Disciplines (3)

	↓Proceeding ID	Submit #ID↓
56	Driving Engineering Model Generation on Functional and Logical Levels	#15
	László HORVÁTH and Imre J. RUDAS	
57	A New Soft Rough Set Parameter Reduction Method for an Effective Decision-Making	#18
	Masurah MOHAMAD and Ali SELAMAT	

59	Workflow Based Query Management System for Astronomical Data Repository	#36
	Shashank SHRESTHA , Wanming CHU and Yilang WU	

14:40-15:00 **COFFEE BREAK**

15:00-16:30 **Room A**
Chair: Prof. László HORVÁTH

Chapter 6: Trends and Practices in Software Engineering Disciplines (4)

Chapter 5: Software Engineering Models, Methodologies, Tools, Designs and Techniques (3)

49	Formulating Evaluation Model to Assess the Effectiveness of Coordination Processes in Global Software Development Projects Research-in-Progress	#43
	Anusuyah SUBBARAO and Mohd Naz'ri MAHRIN	
60	Usability Prioritization Using Performance Metrics and Hierarchical Agglomerative Clustering in MAR-learning Application	#46
	Kok Cheng LIM , Ali SELAMAT, Mohd Hazli MOHAMED ZABIL, Md Hafiz SELAMAT, Rose Alinda ALIAS, Fatimah PUTEH, Farhan MOHAMED and Ondrej KREJCAR	
42	Software Protection Against Illegal Copy Using Software Watermarking y	#11
	Mario SOTELO-GARRIDO, Mariko NAKANO-MIYATAKE , Gabriel SANCHEZ-PEREZ, Manuel CEDILLO-HERNAMDEZ and Hector PEREZ-MEANA	

13:10-14:40 **Room B**
Chair: Dr. Jan KUBICEK

Chapter 3: Medical Informatics and Bioinformatics, Software Methods and Application for Biomedicine and Bioinformatics (1)

	↓Proceeding ID	Submit #ID↓
17	Analysis of Heart Rate Variability from Multichannel Photoplethysmography	#1
	Lukas PETER , Martina LADROVA, Iveta BRYJOVA, and Martin CERNY	
18	Relation Extraction for Circadian Rhythm using the EEG	#26
	Eisaku OHTA , Mikito OGINO, and Yasue MITSUKURA	
19	Data Based Feature Identification of Polymorphic Functional Marker from Transcriptome Comparison	#32
	Cin-Han YANG, Tun-Wen PAI , Ronshan CHEN and Hsin-Yiu CHOU	

14:40-15:00 **COFFEE BREAK**

15:00-16:30 **Room B**
Chair: Prof. Jun SASAKI

Chapter 3: Medical Informatics and Bioinformatics, Software Methods and Application for Biomedicine and Bioinformatics (2)

20	Time Deformable Segmentation Model based on the Active Contour Driven by Gaussian Energy Distribution: Extraction and Modelling of Early Articular Cartilage Pathological Interruptions	#38
	Jan KUBICEK , Veronika VICIANOVA, Marek PENHAKER and Martin AUGUSTYNEK	
21	Automated Extraction and Modelling of Calcifications and Blood Stream Volumetric Parameters	#39
	Jan KUBICEK , Marek PENHAKER, Tomas ONDRACZKA, Zdenek MACHACEK, Martin CERNY, Martin AUGUSTYNEK and Petra MARESOVA	
22	Segmentation based on Gabor Transformation with Machine Learning: Modelling of Retinal Blood Vessels System from RetCam Images and Tortuosity Extraction	#40
	Jan KUBICEK , Jana KOSTURIKOVA, Marek PENHAKER, Martin AUGUSTYNEK and Kamil KUCA	

13:10-14:40 **Room C**

Chair: *Dr. Nhon V. DO*

Chapter 4: Commercial Business Oriented Software Application Models and Emergency Disaster Recovery Software Systems (1)

↓Proceeding ID

Submit #ID↓

30	A Derivation of Factors Influencing the Concept Development of Virtual Reality Products by Hybrid MADM Methods	#68
	<i>Chi-Yo HUANG and Jeng-Chieh CHENG</i>	
28	A Proposal of the Tourism Course Recommendation System (TCRS) for Foreign Tourists by Using Photo Data in Social Network Service	#28
	<i>Shuang LI, Shizune TAKAHASHI, Keizo YAMADA, Masanori TAKAGI and Jun SASAKI</i>	
29	Case Study on Tourism Course Recommendation System using Data from Social Network Services	#35
	<i>Shizune TAKAHASHI, Shuang LI, Keizo YAMADA, Masanori TAKAGI and Jun SASAKI</i>	

14:40-15:00 **COFFEE BREAK**

15:00-16:30 **Room C**

Chair: *Gajo PETROVIC*

Chapter 4: Commercial Business Oriented Software Application Models and Emergency Disaster Recovery Software Systems (2)

Chapter 1: Intelligent Software Systems Design, And Software Evolution Techniques (1)

32	Behavior Support for Residents during Typhoon based on Association Rule Mining	#58
	<i>Kyosuke TAKAHASHI, Hitoshi INOMO, Wataru SHIRAKI and Shiho OKAMOTO</i>	
33	Stampede Prediction Based on Individual Activity Recognition for Context-Aware Framework using Sensor-Fusion in a Crowd Scenarios	#59
	<i>Sadiq, Fatai IDOWU, Ali SELAMAT, Roliana IBRAHIM, Md Hafiz SELAMAT, and Ondrej KREJCAR</i>	

2	Intelligent Problem Solver in Education for Discrete Mathematics	#16
	<i>Hien D. NGUYEN, Nhon V. DO</i>	

Bus start at 17:00, from front of the International Conference Center

17:00-21:00 Banquet

*THE INDUSTRY CLUB OF WEST JAPAN
(Address: 1-4-33, Ichie, Tobata, Kitakyushu)*

**September 28,
Thursday**

9:00-12:00 **REGISTRATION**

PARALLEL SESSIONS

9:30-11:00 **Room A**

Chair: Prof. Enrique HERRERA-VIDEAMA

Chapter 3: Medical Informatics and Bioinformatics, Software Methods and Application for Biomedicine and Bioinformatics (3)

↓Proceeding ID

Submit #ID↓

23	mBalance: An Intelligent Android Application to Assess and Analyze Body Balance	#41
	<i>Jose A. MORAL-MUNOZ, Adan TOSCANO, Manuel J. COBO and Ignacio J. PEREZ</i>	
24	Computational Visualizations of Customer Mood Using Affective Space Model Approach	#61
	<i>Norhaslinda KAMARUDDIN, Dini HANDAYANI and Abdul WAHAB</i>	
25	An Overview of Myocardial Infarction Registries and Results from the Hungarian Myocardial Infarction Registry	#71
	<i>Péter PIROS, Rita FLEINER, Tamás FERENCI, Péter ANDRÉKA, Hamido FUJITA, Péter OFNER, Levente KOVÁCS and András JÁNOSI</i>	

11:00-11:20 **COFFEE BREAK**

11:20-12:20 **Room A**

Chair: *Prof. Sigeru OMATU*

Chapter 5: Software Engineering Models, Methodologies, Tools, Designs and Techniques (3)

43	An Interaction Consensus in Group Decision Making Under Distributed Linguistic Trust Information	#9
	<i>Lifang DAI, JianWU, Francisco CHICLANA, Hamido FUJITA and Enrique HERRERA-VIDEAMA</i>	
44	Facial Expression Recognition in Unconstrained Environment	#10
	<i>Andres HERNANDEZ-MATAMOROS, Takayuki NAGAI, Muhammad ATTAMIMI Mariko NAKANO, Hector PEREZ-MEANA</i>	

12:20-13:40 **LUNCH**

13:40-15:10 **Room A**

Chair: *Dr. Norhaslinda KAMARUDDIN*

Chapter 5: Software Engineering Models, Methodologies, Tools, Designs and Techniques (4)

Chapter 1: Intelligent Software Systems Design, And Software Evolution Techniques (2)

45	Estimation of Rice Area from Satellite Data Using Neural Networks	#20
	<i>Sigeru OMATU</i>	
38	Towards Taming Variability Models in the Wild	#2
	<i>David FERNANDEZ-AMOROS, Ruben HERADIO, Carlos CERRADA, Enrique HERRERA-VIDEAMA and Manuel J. COBO</i>	
8	A holistic domain knowledge discovery and recommendation system for collaborative wikis	#54
	<i>Bernabé -Moreno JUAN, Tejada-Lorente ÁLVARO, Porcel CARLOS and Herrera-Viedma ENRIQUE</i>	

15:10-15:30 COFFEE BREAK

9:30-11:00 Room B

Chair: Dr. Bernabé -Moreno JUAN

Chapter 1: Intelligent Software Systems Design, And Software Evolution Techniques (3)

↓Proceeding ID		Submit #ID↓
3	Perfect COKB Model and Reasoning Methods for the Design of Intelligent Problem Solvers Nhon V. DO and Thanh T. MAI	#31
4	Research on Genetic algorithm and Nash equilibrium in multi-round procurement Bao Ngoc TRINH , Quyét Thang HUYNH and Thuy Linh NGUYEN	#49
5	Flat Finishing Skill Training Software System based on Personal Peculiarity Classification Masaru TERANISHI , Shinpei MATSUMOTO and Hidetoshi TAKENO	#57

11:00-11:20 COFFEE BREAK

11:20-12:20 Room B

Chair: Chi-Yo HUANG

Chapter 1: Intelligent Software Systems Design, And Software Evolution Techniques (2)

6	Online Handwritten Signatures Verification using Dynamic Threshold Combined with Local and Global Features Rebwar M. NABI , Rania AZAD, Rebaz M. NABI, Sardasht M-Raouf MAHMOOD	#65
7	Software Categorization Using Low-Level Distributional Features Zalán BODÓ and Bipin INDURKHYA	#69

12:20-13:40 LUNCH

13:40-15:10 Room B

Chair: Prof. Masaru TERANISHI

Chapter 6: Trends and Practices in Software Engineering Disciplines (5)

Chapter 4: Commercial Business Oriented Software Application Models and Emergency Disaster Recovery Software Systems (3)

52	The Changeable Space Theories Based Capacity Configuration for TFT-LCD Fabs Chi-Yo HUANG , Hsueh-Hsin LU, Wen-Hsin TSENG, Meng-Ru LI, Wan-Jung CHANG, Yun-Hsuan YANG, Yi-Chia WU, Ming-Jen YANG and Ming-Jenn WU	#50
31	A Review on Service Oriented Architecture Approach in Flood Disaster Management Framework for Sentiment Analysis: Malaysia Context Ummu Hani' HAIR ZAKI , Roliana IBRAHIM, Shahliza ABD HALIM and Takeru YOKOI	#37

15:10-15:30 COFFEE BREAK

9:30-11:00 Room C

Prof. Yinglin WANG

Chapter 7: Modelling, Analysis and Applications of Intelligent Systems (1)

↓Proceeding ID		Submit #ID↓
61	A New Code Generation Method for Software Engineering: from Requirements Model to Source Code Bo HUANG , Zhijun FANG, Guoqing WU, Xiankun SUN, Yongbin GAO	#SS1
62	An Aspect-based Unsupervised Approach for Classifying Non-Functional Requirements on Software Reviews Yinglin WANG , Jianzhang ZHANG	#SS2
63	Construction of Intelligent Tutoring System Based on Semantic Web Dai KAI-YU , Lu JIAN, Lu SHENG-QI, Zhao YI-MING	#SS3

11:00-11:20 COFFEE BREAK

11:20-12:20 Room C

Chair: Dr. Levente KOVÁCS

Chapter 3: Medical Informatics and Bioinformatics, Software Methods and Application for Biomedicine and Bioinformatics (4)

26	Automated Characterization of Breast Cancer using Steerable Filters Hamido FUJITA , U. RAGHAVENDRA, Anjan GUDIGAR, Vinoy Vishnu VADAKKEPAT and U. Rajendra ACHARYA	#73
27	Deep Correct: Deep Learning color correction for color blindness Gajo PETROVIC , Hamido FUJITA	#33

12:20-13:40 LUNCH

13:40-15:10 Room C

Chair: Prof. Yinglin WANG

Chapter 7: Modelling, Analysis and Applications of Intelligent Systems (2)

64	The Combat of Unmanned Surface Vehicles Based on Wolves Attack Juan PU, Xing WU , Yike GUO, Shaorong XIE, Huayan PU, Yan PENG	#SS4
65	The Cooperative Defence Strategy by Multi-USVs Juan PU, Xing WU , Yike GUO, Shaorong XIE, Huayan PU, Yan PENG	#SS5
66	The Cooperative Defence System by Team of USVs in Complicated Sea Environment Xing WU , Yuan LIU, Yike GUO, Shaorong XIE, Huayan PU, Yan PENG	#SS6

15:10-15:30 COFFEE BREAK

15:30- 16:00 Room A CLOSING

Chair: Prof. Dr. Hamido FUJITA