2018 IEEE 12th International Conference on Application of Information and Communication Technologies (AICT 2018)

Almaty, Kazakhstan 17-19 October 2018



IEEE Catalog Number: ISBN:

CFP1856H-POD 978-1-5386-6469-8

Copyright © 2018 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:	
ISBN (Print-On-Demand):	
ISBN (Online):	
ISSN:	

CFP1856H-POD 978-1-5386-6469-8 978-1-5386-6468-1 2378-8232

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



TABLE OF CONTENTS

SESSION 1. BIG DATA MANAGEMENT AND APPLICATION

API-SOCIOLOGY AND GOOGLE GLOBAL SOCIETY:CONFLUENCE OF FACTORS FOR POLITICAL AND ECONOMIC AWARENESS	
Lev Mazelis, Dariya Yakovleva, Andrey Mazelis, Olga Kolesnichenko, Nina Shamshurina, Anna Zykova, Yuriy Kolesnichenk	:0,
Ivan Grigorevsky	2
A MODEL BASED ON NETWORK INTERACTION TO IDENTIFY INFLUENTIAL USERS IN THE SOCIAL NETWORK GRAPH Rahim Rashidi, Farugh Katani, Saeid Usefpour, Azad Dehgan	N/A
MULTI-CRITERIA DECISION SUPPORT SYSTEM FOR RES EVALUATION	11/11
Mukhamediev R., Mustakayev R., Yakunin K., Kiseleva S., Gopejenko V	13
COMPARATIVE STUDY OF THE CLASSIFICATION MODELS FOR PREDICTION OF BANK TELEMARKETING Elzhan Zeinulla, Karina Bekbayeva, Adnan Yazici	19
AUTOMATED LANGUAGE DETECTION IN THE GLOBAL MONITORING SYSTEMS OF THE INFORMATION SPACE WITH BIG DATA Mais Farkhadov, Sergey Kalegin, Mukhabbat Farkhadova	
DEVELOPMENT AND INVESTIGATION OF ADAPTIVE FIREWALL ALGORITHM TO PROTECT THE SOFTWARE-DEFNED INFRASTRUCTURE OF MULTI-CLOUD PLATFORMS Irina Bolodurina, Denis Parfenov, Vadim Torchin	
SOLVING THE REVERSE PROBLEMS OF PHARMACOKINETICS FOR A LINEAR TWO-COMPARTMENT MODEL WITH ABSORPTION Baydaulet A. Urmashev, Aisulu T. Tursynbay, Almas N.Temirbekov, Aidana B. Amantayeva	33
PART-OF-SPEECH TAGGING FOR AZERBAIJANI LANGUAGE Samir Mammadov, Samir Rustamov, Ali Mustafali, Ziyaddin Sadigov, Rasim Mollayev, Zamir Mammadov	40
MODELLING THE HETEROGENEOUS MATERIALS DIELECTRIC RESPONSE N.V. Arinova, A.T. Kadyroldina, D.A. Raulov, M.G. Barkhatov, O.Yu. Mutasova, A.B. Arinova	N/A

SESSION 2. DATA MINING AND DATA ENGINEERING

ADAPTIVE FINITE RING NEURAL NETWORK Aleksey Evdokimov, Michael Afonin	54
DETERMINATION OF PATIENT'S HEARING SENSITIVITY USING DATA MINING TECHNIQUES Ersin Elbasi, Aymen Zreikat, Demet Kaya Ayanoglu	58
A POSTERIORI FRACTAL CHARACTERISTICS CHANGE POINT DETECTING ALGORITHM FOR TIME SERIES Chervova A.A., Pashchenko F.F., Filaretov G.F.	64
RESEARCH OF SIMPLE GENETIC ALGORITHM PARAMETERS FOR ESTIMATING DURATION OF THE ELEMENTS OF THE "WORK-REST" CYCLE OF A PRODUCTION WORKER <i>Alexander Nikolaevich Varnavsky</i>	69
NAMED ENTITY RECOGNITION THROUGH BIDIRECTIONAL LSTM IN NATURAL LANGUAGE TEXTS OBTAINED THROUGH AUDIO INTERFACES Gafurov N. R., Bessmertny I. A., Platonov A. V., Poleshchuk E. A., Vasiliev A. V.	74
DEVELOPMENT OF CONCEPTUAL FOUNDATIONS OF MEDICO-STATISTICAL DATA MINING Gulara Muradova	78
MINING TERM ASSOCIATION RULES FROM UNSTRUCTURED TEXT Abzetdin Adamov	

PARAMETRIC OPTIMIZATION OF THE CONTROLLERS IN AN ADAPTIVE FUZZY CONTROL SYSTEM	
Kudinov Y.I., Pashchenko F.F., Pashchenko A.F., Parshincev D.V., Kelina A.Y.	
A GREEDY CLUSTERING ALGORITHM BASED ON MINIMUM SPANNING TREE Yeskendir Sultanov, Zhaniya Sultanova	N/A
LEXICON-FREE STEMMING FOR KAZAKH LANGUAGE INFORMATION RETRIEVAL Ualsher Tukeyev, Aliya Turganbayeva, Balzhan Abduali, Diana Rakhimova, Dina Amirova, Aidana Karibayeva	
USING QUANTUM MECHANICAL FRAMEWORK FOR LANGUAGE MODELING AND INFORMATION RETRIEVAL Platonov A.V., Poleschuk E.A., Bessmertny I. A., Gafurov N. R.	99
COMPARATIVE ANALYSIS OF DATA MINING MODELS FOR CLASSIFICATION FOR SMALL DATA SET N P Singh, Nakul Gupta	
THE ONTOLOGY-BASED EVENT MINING TOOLS FOR MONITORING GLOBAL PROCESSES Polina Abrosimova, Irina Shalyaeva, Lyudmila Lyadova	108
AUTOMATIC TYPOS DETECTION IN BUG REPORTS Behzad Soleimani Neysiani, Seyed Morteza Babamir	N/A
ANALYSIS OF CHRONIC KIDNEY DISEASE DATASET BY APPLYING MACHINE LEARNING METHODS Yedilkhan Amirgaliyev, Shahriar Shamiluulu, Azamat Serek	
DOCUMENT AND WORD-LEVEL LANGUAGE IDENTIFICATION FOR NOISY USER GENERATED TEXT Zhanibek Kozhirbayev, Zhandos Yessenbayev, Aibek Makazhanov	124
INITIAL NORMALIZATION OF USER GENERATED CONTENT: CASE STUDY IN A MULTILINGUAL SETTING Bagdat Myrzakhmetov, Zhandos Yessenbayev, Aibek Makazhanov	128
DEVELOPMENT AND RESEARCH OF TEMPORAL RVTI-GRAMMAR FOR WORKFLOW DIAGRAMS PROCESSING	
A.N. Afanasyev, N.N. Voit, S.Yu.Kirillov, M.E.Uhanova	132
COMPUTER ASSESSMENT OF HOW WELL A PERSON VISUALLY RECOGNIZES VERBAL RUSSIAN SPEECH	
Myasoedova M.A., Myasoedova Z.P	

SESSION 3. HIGH PERFORMANCE COMPUTING AND MACHINE LEARNING

OUTLIER DETECTION BASED ON MAJORITY VOTING: A CASE STUDY ON REAL ESTATE PRICES Rıza Özçelik, Salih Bayar	<u> 144 </u>
COMMON MOVEMENT PREDICTION USING POLYNOMIAL REGRESSION Timur Bakibayev, Akbota Kulzhanova	148
EMPIRICAL STUDY OF ONLINE NEWS CLASSIFICATION USING MACHINE LEARNING APPROACHES Samir Rustamov, Umid Suleymanov, Murad Zulfugarov, Orkhan Orujov, Nadir Musayev, Azar Alizade	152
DESIGN OF K-MEANS CLUSTERING ALGORITHM IN PGAS BASED MAPREDUCE FRAMEWORK Shomanov A.S., Mansurova M.E., Nugumanova A.B.	158
IMPLEMENTATION OF THE TWO-DIMENSIONAL ELLIPTIC EQUATION MODEL IN LUNA FRAGMENTED PROGRAMMING SYSTEM Beimbet Daribayev, Danil Lebedev, Vladislav Perepelkin, Darkhan Akhmed-Zaki	161
SELF-DRIVING CAR STEERING ANGLE PREDICTION BASED ON DEEP NEURAL NETWORK AN EXAMPLE OF CARND UDACITY SIMULATOR M.V. Smolyakov, A.I. Frolov, V.N. Volkov, I.V. Stelmashchuk	165
BLENDING SITUATION AWARENESS WITH MACHINE LEARNING TO IDENTIFY CHILDREN'S SPEECH DISORDERS	
Maria Helena Franciscatto, Celio Trois, Joao Carlos Damasceno Lima, Iara Augustin	

REMOVING DISABILITIES: CONTROLLING PERSONAL COMPUTER THROUGH HEAD MOVEMENTS	
AND VOICE COMMAND	
Muhammad Asad, Rahman Wali, Muhammad Zubair Rehman, Shafique Ahmed, Abdur Rehman, Abdul Wadood,	
Semad Siddiqui, Muhammad Iqbal, Maria Imdad, Afia Zafar, H M Faisal Bhatti	176
HARDWARE AND SOFTWARE SUPPORT OF TECHNOLOGICAL PROCESSES OF COMPLEX SYSTEMS Aizhan Erulanova, Kulmira Zhanysbayeva, Zheniskul Zhantassova, Gulzhanat Yessenbekova, Aizhan Tlebaldinova,	
Gulzhan Soltan	N/A

SESSION 4. CYBER SECURITY ISSUES

RELIABILITY ASSESSMENT METHOD FOR GEOGRAPHICALLY DISTRIBUTED INFORMATION SYSTEMS	100
G.P. Akimova, A.V.Solovyev, I.A. Tarkhanov	188
THE BASE OF SPEECH STRUCTURAL UNITS OF KAZAKH LANGUAGE FOR THE SYNTHESIS OF SPEECH-LIKE SIGNALS Yerzhan N. Seitkulov, Seilkhan N. Boranbayev, Banu B. Yergaliyeva, Sabyrzhan K. Atanov, Henadzi V. Davydau,	
Aleksandr V. Patapovich	
CURRENT TAXONOMY OF INFORMATION SECURITY THREATS IN SOFTWARE DEVELOPMENT LIFE CYCLE	106
Alexander V. Barabanov, Maksim I. Grishin, Alexey S. Markov, Valentin L. Tsirlov	190
SECURITY AND PRIVACY IN VANETS Nazira Kaibalina, Mona A. E. Rizvi	
QUANTITATIVE DETERMINATION OF MASKING DEGREE OF SIGNALS BY INFORMATIONAL-ENTROPIC ANALYSIS	
Zeinulla Zhanabaev, Tatyana Grevtseva, Sayat Akhtanov	208
UTILIZATION OF FUZZY MATHEMATICS FOR SECURITY MODEL OF A SYSTEM K.S. Duisebekova, T. Duisebekov	213
LAN SECURITY ANALYSIS AND DESIGN Zoltán Balogh, Štefan Koprda, Jan Francisti	219
PROVIDING LOCATION PRIVACY USING FAKE SOURCES IN WIRELESS SENSOR NETWORKS Ulugbek Adilbekov, Anar Adilova, Sain Saginbekov	
HOW TO ESTIMATE RELIABILITY OF A NETWORK WITH MOVABLE NODES? Mais Farkhadov, Olga Blinova, Sergey Vaskovsky	

SESSION 5. EMERGING TRENDS AND TECHNOLOGIES IN ICT APPLICATION

CALCULATING THE PRIORITIES OF USER PROBLEMS IN SOFTWARE DEVELOPMENT A. Sapunkov, T. Afanasieva	
PRECEDENT-ORIENTED GEOMETRICAL MODELING OF THE PARTS AND ASSEMBLY UNITS OF AN AIRCRAFT PIPELINE P. Sosnin, P. Pavlov	240
THE ANALYSIS AND SIMULATION OF FOG-COMPUTING-BASED INFORMATION AND CONTROL SYSTEM RELIABILITY Eduard Melnik, Anna Klimenko, Vladislav Klimenko	
REVERSIBILITY IN COMPONENT-BASED PROGRAMMING LANGUAGE Vaidas Giedrimas	
DEVELOPMENT TRENDS IN THE FIELD OF AUTOMOTIVE INDUSTRY AND THEIR IMPACT ON VOCATIONAL TRAINING Alena Hašková, Martin Zatkalík	

ANALYZING EFFECTIVENESS OF THE ACTIVE DAMPERS IN VIBRATION SUPPRESSION OF A TEST BRIDGE	
Ali Akbar Shah, B.S.Chowdhry	N/A
PROPOSAL OF LEARNING ANALYTICS ARCHITECTURE INTEGRATION INTO UNIVERSITY IT INFRASTRUCTURE	
Martin Drlik, Ján Skalka, Peter Švec, Jozef Kapusta	265
OPTIMIZATION OF ENERGY-SAVING "HOT" PUMPING MODES	
E.S. Makhmotov, B.K. Sayakhov, T.T. Bekibayev, U.K. Zhapbasbayev, G.I.Ramazanova	N/A
DEVELOPMENT AND IMPLEMENTATION OF THE ALGORITHM OF DIFFERENTIAL DIAGNOSTICS	
Indira Uvaliyeva, Saule Belginova, Aigerim Ismukhamedova	276

SESSION 6. COMMUNICATION, NETWORK AND HARDWARE

A SOFTWARE SYSTEM FOR RISK MANAGEMENT OF INFORMATION SYSTEMS Askar Boranbayev, Seilkhan Boranbayev, Assel Nurusheva, Kuanysh Yersakhanov, Yerzhan Seitkulov	284
IMPLEMENTING COGNITIVE ARCHITECTURE PLAN-IMAGE TO SEARCH TASKS IN AGENT MODELS Alrksandra Mashkova, Olga Savina, Eugene Mashkov	290
PRESSURE SENSITIVE SHOE INSOLES AND SOCKS FOR REHABILITATION APPLICATIONS Josef Langer, Florian Eibensteiner, Jürgen Peterka, Philipp Knaack	295
RSSI BASED BLUETOOTH LOW ENERGY INDOOR POSITIONING Aigerim Mussina, Sanzhar Aubakirov	
FRACTAL ANTENNAS IN TELECOMMUNICATION TECHNOLOGIES Z.Zh. Zhanabaev, M.K. Ibraimov, A.K. Imanbayeva, B.A. Karibayev, T.A. Namazbayev	305
AN IMPROVED Q-LEAST MEAN SQUARE ALGORITHM FOR SPARSE SYSTEM IDENTIFICATION Cemil Turan	309
SERVICE-ORIENTED ROUTING IN DISTRIBUTED SELF-ORGANIZING SOFTWARE-DEFINED NETWORKS Yury A. Ushakov, Margarita V. Ushakova, Alexander E. Shukhman, Petr N. Polezhaev, Leonid V. Legashev	313
A METAMODEL FOR SENSOR-BASED MOBILE APPLICATIONS Zhiyi Ma, Xiaoxi Wang, Hongjnie Chen, Jinyang Liu, Xiao He	
DATA TRANSMISSION CONTROL BASED ON HIDDEN MARKOV QUEUING MODELS Nikolay A. Kuznetsov, Dmitry V. Myasnikov, Konstantin V. Semenikhin	
DEVELOPMENT OF THE STRUCTURE OF A MULTICOMPONENT FILTER BASED ON THE PRINCIPLE OF ADAPTIVE AGGREGATION OF FILTERS Ch.A. Alimbayev, K.A. Ozhikenov, Zh.N. Alimbayeva, O.N. Bodin, E.B. Mukazhanov	330

SESSION 7. ICT IN BUSINESS ADMINISTRATION, GOVERNANCE, FINANCE AND ECONOMY

EYE CONTACT AND TRUST ONLINE THE EFFECT OF PROFILE PICTURES ON AIRBNB BOOKING <i>Peter Broeder, Elena Remers</i>	336
SIMULATION OF EARTH'S PROTECTION BY SOLAR SAIL FROM ASTEROID HAZARD Nikolaeva Elizaveta, Starinova Olga, Chernyakina I.V., Alipova B.	340
INTEGRATING ARTIFICIAL AGENT IN THE SIMULATION MODEL OF THE RUSSIAN FEDERATION SPATIAL DEVELOPMENT Aleksandra Mashkova, Olga Savina, Mamatov A.V	
AN INTELLIGENT SYSTEM TO MANAGE THE SPARE PARTS LOGISTICS IN CIRCULAR ECONOMY Irina Makarova, Ksenia Shubenkova, Polina Buyvol, Eduard Mukhametdinov, Kuanysh Abeshev	N/A
TOOLS FOR INTERNET COMPETITIVE INTELLIGENCE BASED ON ONTOLOGY Viacheslav Lanin	356

E-GOVERNMENT APPLICATIONS IN TURKEY: E-DESPATCH ADVICE DATA MODEL AND ARCHITECTURE	
Ilknur Gur Nalcaci, Yalcin Tercan, Hakan Kutluay	N/A
FORMAL MODELS OF MONITORING OF DISPERSED SOCIO-ECONOMIC OBJECTS Pavel V. Senchenko, Anatoly A. Sidorov	<u>.</u> 364
THE DISCRETE-CONTINUOUS LAPLACE TRANSFORM OF THE MULTI-POINT MODEL OF RADIATION HEAT EXCHANGER	
Pikina Galina, Pashchenco Feodor	368

SESSION 8. ICT IN EDUCATION AND RESEARCH

NEW APPROACH TO ACTIVITY EVALUATION FOR SOCIAL NETWORK BASED STUDENT COLLABORATION	
Vyacheslav Zolotarev, Ekaterina Maro, Svetlana Kulikova	
PREDATOR-PREY INTERACTION MULTI-AGENT MODELLING Yerkezhan Seitbekova, Timur Bakibayev	380
MATHEMATICAL SIMULATION OF INTERPLANETARY FLIGHT: MODEL OF SOLAR SAIL SURFACE OSCILLATIONS	205
Alipova Bakhyt, Chekashov A. S., Gorbunova I. V., Starinova O. L.	385
PNEUMATIC AND HYDRAULIC SYSTEMS IN TERTIARY EDUCATION Gabriel Bánesz, Alena Hašková, Danka Lukáčová	390
DEVELOPMENT OF THE EDUCATIONAL SOFTWARE BASED ON A GAME ENGINE Yevgeniya Daineko, Madina Ipalakova, Dana Tsoy, Zhiger Bolaov, Yersultanbek Yelgondy, Akmedi Shaipiten	395
HACKATHON AS A PROJECT BASED TEACHING TOOL EMPLOYING PROGRAMMING CHALLENGE IN THE CLASS Bolatzhan Kumalakov, Alla Kim, Salima Mukhtarova, Assel Shukurova, Natalya Khon	399
APPLICATION OF ICT FOR CALCULATION OF BOLTZMANN KINETIC EQUATION FOR CONTINUOUS WEAKLY IONIZED PLASMA IRRADIATED BY FISSION FRAGMENTS Sandybeck Kunakov, Zhiger Bolatov, Yevgeniya Daineko, Edward Son, Aigerim Shapiyeva	
METHODOLOGY OF FORMATION OF EDUCATIONAL RESOURCES ON THE BASIS OF ONTOLOGY Bulat Kubekov, Vitaliy Naumenko, Anar Utegenova, Natalya Zhaksybaeva	
PRISCILLA – PROPOSAL OF SYSTEM ARCHITECTURE FOR PROGRAMMING LEARNING AND TEACHING ENVIRONMENT	
Ján Skalka, Martin Drlík	414