

2013 IEEE 4th International Conference on Cognitive Infocommunications

(CogInfoCom 2013)

**Budapest, Hungary
2-5 December 2013**



**IEEE Catalog Number: CFP1326R-POD
ISBN: 978-1-4799-1545-3**

Table of Contents

Comparative study of Architecture for Twitter Analysis and a proposal for an improved approach <i>B. Molnár, Z. Vincellér</i>	11	Received signal strength based room level accuracy indoor localisation method <i>Attila Buchman, Claudiu Lung</i>	103
Agent-based Modelling of Cognitive Navigation: How spatial knowledge is constructed and used <i>Farid Karimipour and Alireza Niroo</i>	17	Towards a new approach for the description of shapes from multimodal data <i>Z. Li, F. Giannini, B. Falcidieno, J-P. Pernot, P. Véron</i>	109
Multimodal Conformity of Expression between Blog Names and Content <i>Carl Vogel</i>	23	Prediction of Movement of Wireless Nodes in Mobile Ad-hoc Networks <i>Nermin Makhoulouf, Lúboš Nagy, Pavel Vajsar</i>	115
FPGA implemented reduced Ethernet MAC <i>József Sütő, Stefan Oniga</i>	29	Sharing and bridging information in a collaborative virtual environment: application to ergonomics <i>Charles Pontonnier, Thierry Duval, Georges Dumont</i>	121
Growing Self-Organizing Map Approach for Semantic Acquisition Modeling <i>Mengxue Cao, Aijun Li, Qiang Fang and Bernd J. Kröger</i>	33	Modality and Contextual Differences in Computer Based Non-verbal Communication Training <i>Hiroki Tanaka, Sakriani Sakti, Graham Neubig, Tomoki Toda, Satoshi Nakamura</i>	127
EEG control of an industrial robot manipulator <i>Angel Perez Garcia, Ingrid Schjølberg, Serge Gale</i>	39	Human whole body motion characterization from embedded Kinect <i>Consuelo Granata, Joseph Salini, Ragou Ady, Philippe Bidaud</i>	133
Optimal Data Distribution for Heterogeneous Parallel Storage Servers Streaming Media Files <i>Christian Ortolfo, Christian Schindelhauer</i>	45	Evaluating a Game Motion-Based Control by Using Kansei Engineering Knowledge <i>Akihito Nakai, Mika Luimula, Satoshi Hongo, Hannu Vuola</i>	139
Multimodal Interfaces: An Enactive Approach <i>Beatriz A. Pacheco, Ilana A. Souza-Concilio</i>	51	Increasing communication between a man and a dog <i>Germain Lemasson, Sylvie Pesty, Dominique Duhaut</i>	145
Emotion Ontology for Context Awareness <i>Franck Berthelon, Peter Sander</i>	59	Building a Cognitive Model of Tactile Sensations Based on Vibrotactile Stimuli <i>Yuichi Muramatsu and Mihoko Niitsuma, Trygve Thomessen</i>	149
The Recognition of Acted Interpersonal Stance in Police Interrogations <i>Sophie Spitters, Merijn Sanders, Riëks op den Akker, Merijn Bruijnes</i>	65	Improving the Methodology of Text Entry Experiments <i>Ondrej Poláček, Adam J. Sporka, Brandon Butler</i>	155
A novel method of generating tunable underlying network topologies for social simulation <i>Imre Varga, András Németh, Gergely Kocsis</i>	71	Chapters of Future Internet Research <i>Gyula Sallai</i>	161
Experiencing the past in virtual reality: A virtual reality event for the French National Days of Archaeology <i>Ronan Gaugne, Jean-Baptiste Barreau, Gaétan Le Cloirec, Valérie Gouranton</i>	75	Electrophysiologically-Inspired Evaluation of Dialogue Act Complexity <i>Milan Gnjatovic and Vlado Delic</i>	167
Cognitive control of quadrocopter using supervisor <i>Fredrik J. Haugen, Martin Hansen, Rune Schlanbusch and Raymond Kristiansen</i>	81	A Pre-experiment on Effects of Horizontal and Vertical Touch Displays on Group Work in Card Classification Tasks <i>Meiting Mi, Shun'ichi Tano, Tomonori Hashiyama, Junko Ichino, Mitsuru Iwata, Junko Misawa, Yushin Kakei, Takaaki Hagi, Hirofumi Mochizuki, Keisuke Yonemoto</i>	173
Temporal Discrete Cosine Transform for Speech Emotion Recognition <i>Branislav Popović, Igor Stanković, Stevan Ostrogonac</i>	87	3D CFD Modeling of Air Flow Through a Porous Fence <i>Yizhong Xu, Mohamed Y Mustafa, Jason Knight, Muhammad Virk & George Haritos</i>	179
Regression algorithm for emotion detection <i>Franck Berthelon, Peter Sander</i>	91		
Hierarchical image browsing based on visual information <i>Gábor Szűcs</i>	97		

Can time dependencies and ensemble classification improve content-free dialogue segmentation? <i>Jing Su, Saturnino Luz</i>	183	Temporal prediction of retweet count <i>Róbert Pálovics; Bálint Daróczy András A. Benczúr</i> ;	267
Heterogeneous Knowledge Representation for VLSI Systems and MEMS Design <i>Vadim Shakhnov, Lyudmila Zinchenko, Vladimir Makarchuk, Vladimír Verstov</i>	189	Cognitive aspects of communicating information with conversational fillers in Slovak <i>Štefan Beňuš</i>	271
Transfer Learning in Multimodal Corpora <i>Costanza Navarretta</i>	195	Parallel Thinning on the Triangular Grid <i>Péter Kardos, Kálmán Palágyi</i>	277
Multipath Communication – a new basis for the Future Internet Cognitive Infocommunication <i>Béla Almási</i>	201	Multimodal Analysis of “well” as a Discourse Marker in Conversation: A Pilot Study <i>G. Esfandiari Baiat, M. Coler, M. Pullen, S. Tienkouw, L. Hunyadi</i>	283
A queueing model to study the effect of network service breakdown in a CogInfoCom system <i>Attila Kuki, Tamás Bérczes, Béla Almási, János Sztrik</i>	205	A multi-terabyte relational database for geo-tagged social network data <i>László Dobos, János Szüle, Tamás Bodnár, Tamás Hanyecz, Tamás Sebők, Dániel Kondor, Zsófia Kallus, József Stéger, István Csabai and Gábor Vattay</i>	289
Incompleteness and Fragmentation in Spoken Language Syntax and its Relation to Prosody and Gesturing: Cognitive Processes vs. Possible Formal Cues <i>Laszlo Hunyadi</i>	211	Framework for Smart City Applications Based on Participatory Sensing <i>R. Szabó, K. Farkas, M. Ispány, A. A. Benczúr, N. Bátfai, P. Jeszenszky, S. Laki, A. Vágner, L. Kollár, Cs. Sidló, R. Besenczi, M. Smajda, G. Kövér, T. Szincsa, T. Kádek, M. Kósa, A. Adamkó, I. Lendák, B. Wiandt, T. Tomás, A. Zs. Nagy, G. Fehér</i> ;	295
Comfortable mouse control using 3D depth sensor <i>Szilvia Szeghalmy, Marianna Zichar, Attila Fazekas</i>	219	Automatic Alignment of Large 3D Data Sets for Facade Reconstruction from Car-Mounted LIDAR Measurements <i>Dmitry Chetverikov, Oszkár Józsa, Iván Eichhardt</i>	301
A dynamic personal space of a pedestrian for a personal mobility vehicle <i>Daisuke Chugo, Zhaoyu Liu, Satoshi Muramatsu, Yuki Sakaida, Sho Yokota, Hiroshi Hashimoto</i>	223	Near Real-Time Thematic Clustering of Web Documents and other Internet contents <i>Adrián Pusztai, János Szüle and Sándor Laki</i> ;	307
Mouse Tracker Analysis on Cognitive Awareness <i>D'oria Isalmiah Rosli, Azizah Abdul Rahman & Rose Alinda Alias</i>	229	Field study: How Blind People Communicate While Recovering From Loss of Orientation <i>Jan Balata, Zdenek Mikovec, Jan Novacek</i>	313
Consideration of human movement prediction for human friendly mobile robot's path planning <i>Satoshi Muramatsu, Hiroaki Matsuda, Shinpei Nakamoto and Daisuke Chugo, Takashi Suehiro, Hiroshi Hashimoto</i>	235	Users' retrieval skills in library environment: ways to measure and improve them <i>Klára Koltay, Mária Borbély, Erzsébet Dani, László Balázs, Mária Csernoch, Gyöngyi Bujdosó</i>	319
Do institutions think? Comparing past success and future investment <i>György Kampis, László Gulyás, Sándor Soós</i>	241	Wireless Sensor Glove Interface and its Application in Digital Holography <i>Konstantin Mikhaylov, Tomi Pitkäaho, Jouni Tervonen and Mikko Niemelä</i>	325
Cortically coupled computer vision with Emotiv headset using distractor variables <i>Thomas Ousterhout, Mads Dyrholm</i>	245	Towards Modeling Fuzzy Propagation for Sentiment Analysis in Online Social Networks: a Case study on TweetScope <i>Duc Nguyen Trung and Jason J. Jung, Le Anh Vu, Attila Kiss</i>	331
Target-Oriented Opinion Mining from Tweets <i>Viktor Hangya, Richárd Farkas</i>	251	Personalized Technology for Supporting Health Behaviors <i>Silje C. Wangberg, Cand Psychol</i>	339
Mental Map Generation Assistance Tool Using Relative Pitch Difference and Angular Information for Visually Impaired People <i>Takayuki Watabe and Mihoko Niitsuma</i>	255	A Simulation Platform to Study Inter-BAN Interference <i>Kamran Sayrafian-Pour, John Hagedorn, Martina Barbi, Judith Terrill, Mehdi Alasti</i>	345
Building a Multi-Resolution Map for Autonomous Mobile Robot Navigation in Living Environments <i>Toshiya Furuyama, Mihoko Niitsuma</i>	261		

Linking Human-Computer Interaction with the Social Web: a Web Application to Improve Motivation in the Exercising Activity of Users <i>Fabrizio Mulas, Paolo Pilloni, Matteo Manca, Ludovico Boratto, Salvatore Carta</i>	357	Regional properties of global communication as reflected in aggregated Twitter data <i>Zsófia Kallus, Norbert Barankai, Dániel Kondor, László Dobos, Tamás Hanyecz, János Szüle, József Stéger, Tamás Sebők, Gábor Vattay, István Csabai</i>	429
Evaluating Intra- and Crosslingual Adaptation for Non-native Speech Recognition in a Bilingual Environment <i>György Szaszák, Philip N. Garner</i>	357	Advances and practice in Internet of Things <i>György Terdik, Zoltán Gál</i>	435
Cognitive visualization for the design of complex systems <i>Janos Toth, Ildiko Papp, Robert Tornai, Imre Labancz, Eniko Hajdune Pocsai, Andras Hajdu</i>	363	Five Ws, One H and Many Tweets <i>Imre Szűcs, Gergő Gombos, Attila Kiss</i>	441
Towards Meaning-Oriented Language Modeling <i>Günther Wirsching, Robert Lorenz</i>	369	Biomechanical Equipment Development in Virtual Collaboration Arena <i>Noémi Juhász, Bibiána Juhász, Henriette Steiner, Zsolt Kertész</i>	447
ADDInPanel: Adaptive Advertising Interactive Panel <i>Miroslav Macík, Ivo Maly, Zdenek Mikovec, Martin Urban</i>	375	On a Keyword-Lifecycle Model for Real-time Event Detection in Social Network Data <i>Tamás Matuszka, Zoltán Vincellér, and Sándor Laki</i>	453
Youtube Emotional Database: How to acquire User Feedback to Build a Database of Emotional Video Stimuli <i>Gennaro Cordasco, Maria Teresa Riviello, Vincenzo Capuano, Ivana Baldassarre and Anna Esposito</i>	381	Automatic phrase segmentation and clustering in spontaneous speech <i>András Beke, György Szaszák, Viola Váradi</i>	459
Collaboration enhancement through tangible metaphors: application to Home Care rescheduling <i>Ettore Lanzarone, Cédric Masclet, Frédéric Noel</i>	387	The challenges of SVM optimization using Adaboost on a phoneme recognition problem <i>Rimah Amami, Dorra Ben Ayed and Nouredine Ellouze</i>	463
Using Robust PCA to estimate regional characteristics of language use from geo-tagged Twitter messages <i>Dániel Kondor, István Csabai, László Dobos, János Szüle, Norbert Barankai, Tamás Hanyecz, Tamás Sebők, Zsófia Kallus and Gábor Vattay</i>	393	Properties of the Most Influential Social Sensors <i>Balázs Kósa, Balázs Pinczel, Gábor Rácz and Attila Kiss</i>	469
Complexity-based Generation of Multi-Choice Tests in AQG Systems <i>Laszlo Kovacs, Gabor Szeman</i>	399	Coginfocom in Collaborative Virtual Working Environments <i>Bibiána Juhász, Noémi Juhász, Henriette Steiner, Zsolt Kertész</i>	475
Classification of Emotional Speech Units in Call Centre Interactions <i>Dimitrios Galanis, Sotiris Karabetsos, Maria Koutsombogera, Harris Papageorgiou, Anna Esposito, Maria-Teresa Riviello</i>	403	Estimation of Emotional States Enhanced by A Priori Knowledge <i>Branimir Dropuljić, Siniša Popović, Davor Petrinović, Krešimir Čosić</i>	481
Toward a cognitive based approach for knowledge structuring <i>Mohamed Anis Dhuieb, Florent Laroche, Alain Bernard</i>	407	Context-aware Addressing in the Internet of Things using Bloom Filters <i>Andras Kalmar, Rolland Vida, Markosz Maliosz</i>	487
Towards Cloud-based Speech Interfaces for Open-Domain CogInfoCom Systems <i>Graham Wilcock and Kristiina Jokinen</i>	413	Stability Analysis of Car Driving with a Joystick Interface <i>Masayoshi WADA and Yohei KIMURA</i>	493
Extending the visualization capabilities of a genome browser <i>Csaba Lámfalusi, Dávid Girus, Kinga Kruppa, János Tóth, Enikő Hajduné Pocsai, Roland Kunkli, András Hajdu, Bálint L. Bálint</i>	419	A Round-Robin Bloom Filter for Stateful Control over Event Streams <i>Róbert Szabó</i>	497
The Parody of Politicians <i>Francesca D'Errico, Isabella Poggi</i>	423	Geovisualization-Related Issues with Cognitive Aspects <i>Marianna Zichar</i>	503
		Oversketching and Associated Audio-Based Feedback Channels for a Virtual Sketching Application <i>Adam Csapo, Johann Habakuk Israel, Oliver Belaifa</i>	509

On board 3D Object Perception in Dynamic Urban Scenes <i>Attila Börcs, Balázs Nagy and Csaba Benedek . . .</i>	Reduced Information Scenario for Shared Segment Protection <i>János Tapolcai, Zalán Heszberger, Gábor Rétvári, József Bíró.</i>
515	589
Deep and surface structural metacognitive abilities of the first year students of Informatics <i>Piroska Biró, Maria Csernoch</i>	A reverse logistics network design model for sustainable treatment of multi-sourced Waste of Electrical and Electronic Equipment (WEEE) <i>Hao Yu, Wei Deng Solvang</i>
521	595
Practical aspects of visual recognition for indoor mobile positioning <i>Sándor Plósz, Zsolt Kertész, Csaba Lukovszki, Dávid Kovács, István Moldován, Gergely Hollósi</i>	Reusable Framework for the Development of Adaptive Games <i>Luca Szegletes, Bertalan Forstner</i>
527	601
Energy-Availability-QoS Trade-off for Future Converged Fixed-Mobile Networks <i>T. Cinkler, Á. Ladányi, R. Béres, A. Mitcsenkov, G. Paksy, B. Molnár, R. Andó</i>	Network Bandwidth Aggregation based Mobile Resource Management <i>Krisztián Pándi, Hassan Charaf, Krisztián Fekete</i>
533	607
New dimensions of an ancient library: the Library of Alexandria <i>István Boda, Miklós Bényei, Erzsébet Tóth</i>	Analysis of Mobile BitTorrent Client Behavior <i>Kristóf Csorba, Péter Ekler, András Bori, Hassan Charaf</i>
537	613
LibSearchNet: Analyses of Library Log Files to Identify Search Flows <i>Mária Csernoch, Gyöngyi Bujdosó, Mária Borbély, Erzsébet Dani, Margit Némethi-Takács, Klára Koltay, László Balázs</i>	Characteristics of live media sharing communities <i>Csaba Simon, Markosz Maliosz</i>
543	619
System Architecture for Internet of Things with the Extensive Use of Embedded Virtualization <i>Tamás Kovácsházy, Gábor Wacha, Tamás Dabóczi, Csanád Erdős, Attila Szarvas,</i>	Intelligent Restaurant System Smartmenu <i>Sakari Pieskä, Markus Liuska, Juhana Jauhiainen, Antti Auno, Delitz Oy</i>
549	625
Mathability: Emulating and Enhancing Human Mathematical Capabilities <i>Péter Baranyi, Attila Gilányi</i>	Design of a robotic arm for automatic cleaning of cargo containers <i>Dmitry Kokvin, Gabor Sziebig, Wei Deng Solvang</i>
555	631
Solving Systems of Linear Functional Equations with Computer <i>Gergő Gyula Borus, Attila Gilányi</i>	Product development in micro-sized firms – the case of ad hoc procedures <i>Henrik Nergård, Åsa Ericson, Johan Wenngren</i>
559	637
Library Treasures in a Virtual World <i>Attila Gilányi, Márta Virágos.</i>	Analysis of the Relationship between Quality of Experience and Service Attributes for 3D Future Internet Multimedia <i>Ivett Kulik, Péter András Kara, Tuan Anh Trinh, László Bokor</i>
563	641
LibSearchNet: Library Log File Initiatives – as a Part of Semantic Library Interface Development for the VirCA 3D Virtual Collaboration Arena <i>Gyöngyi Bujdosó, Mária Csernoch, Mária Borbély, Erzsébet Dani, Margit Némethi-Takács, Klára Koltay, László Balázs</i>	Towards an Energy Efficient Code Generator for Mobile Phones <i>Krisztián Fekete, Kristóf Csorba, Tamás Vajk, Bertalan Forstner and Krisztián Pándi</i>
567	647
Building a software platform to guide doctors and nurses with ultrasound scanning <i>John Ahmet Erkoyuncu, Florian Salbrechter, Daniel Steenstra and Rajkumar Roy.</i>	Integration of warning signals and signaled objects to a multimodal object: a pilot study <i>Á. Török, Zs. Tóth, F. Honbolygó, V. Csépe,</i>
573	653
Language independent automatic speech segmentation into phoneme-like units on the base of acoustic distinctive features <i>Gábor Kiss, Dávid Sztahó, Klára Vicsi.</i>	A Decision Support System for Establishing a Waste Treatment Plant for Recycling Organic Waste into Bio-energy in Northern Norway <i>Wei Deng Solvang, Elisabeth Roman, Hao Yu, Mohamad Y. Mustafa</i>
579	659
Development of Text-to-Audiovisual Speech Synthesis to Support Interactive Language Learning on a Mobile Device <i>Wai-Kim Leung, Ka-Wa Yuen, Ka-Ho Wong and Helen Meng</i>	Intelligent Ice Protection System for Offshore Structures in High North <i>Muhammad S. Virk, Umair N. Mughal & Mohamed Y. Mustafa</i>
583	665
	Application of Advance CAE Tools to Design & Manufacture a Racecar <i>Uzair N. Mughal, Muhammad Babar Mughal & Umair N. Mughal</i>
	671

Review of open source computing devices for iSpace in production workshops <i>Pavel Krushnitskiy, Gabor Sziebig</i>	Cognitive Dampers for Structures <i>Umair Najeeb Mughal</i>
677	771
E-driven Technology for Cold Regions <i>Umair N. Mughal, Taimur Rashid, Per-Ole Nyman & Muhammad S. Virk</i>	A general framework for innovative mobile biofeedback based educational games <i>Bertalan Forstner, Luca Szegletes, Róbert Angeli, András Fekete</i>
683	775
Role of Advanced CAE Tools in the Optimization of Wind Resource Assessment of Complex Terrains <i>Geanette Polanco & Muhammad Shakeel Virk</i>	Core Line Detector of a Multi Purpose Geometry Scanner <i>Tibor Kovács, Gergely Mezei</i>
687	779
On the Benefits of Cognitive Infocommunication for Mobile Communication Nodes Using Cooperative Concepts <i>László Blázovics, Bertalan Forstner, Hassan Charaf, Frank H. P. Fitzek</i>	A Method of Machine Code Translation to Intermediate Representation <i>Dmitriy Dunaev, Hassan Charaf, László Lengyel</i>
693	785
Identification and Interpretation of Acausal Synchronistic Cognitive Patterns in the long-run Dream-Series of C. G. Jung and W. Pauli (1927-1936) Part I. Jung as Observer for Pauli's future experiences <i>Péter Várlaki, Péter Baranyi</i>	Measuring Reading Comprehension using Eye Movements <i>Leana Copeland, Tom Gedeon</i>
699	791
Identification and Interpretation of Acausal Synchronistic Cognitive Patterns in the long-run Dream-Series of Carl Jung and Wolfgang Pauli (1947-1956) Part II. Pauli as Observer for Jung's past experiences <i>Péter Várlaki, Péter Baranyi</i>	Extending the index finger is worse than sitting: Posture and minimal objects in 3D pointing interfaces <i>Martin Henschke, Tom Gedeon, Richard Jones</i>
711	797
Atmospheric Icing Sensors for UAV's <i>Taimur Rashid, Umair N. Mughal & Muhammad S. Virk</i>	Container Ports Sustainability - A Literature Review <i>Moulay Hicham Hakam and Wei Deng Solvang</i>
725	803
Conceptual approach applied to experiments design for noise mitigation in porous panels used on oil and gas platforms <i>Geanette Polanco, Yizhong Xu & Mohamad Mustafa</i>	Construction of a CogInfoCom Ontology <i>István Marcell Fülöp, Ádám Csapó, Péter Baranyi</i>
729	811
Complex Event Processing in Supercomputer Environment Sensor and Neural Network Based Analysis <i>Zoltán Gál, Tibor Tajti</i>	Towards Rich Multimodal Behavior in Spoken Dialogues with Embodied Agents <i>Samer Al Moubayed</i>
735	817
Exploring latent structure in expressive speech <i>Spyros Raptis</i>	Identification and Interpretation of Acausal Synchronistic Cognitive Networks Part I. Jung and Pauli as Joint Observers <i>Péter Várlaki, Péter Baranyi</i>
741	823
Denormalizing Data into Schema-free Databases <i>Tamás Vajk, Péter Fehér, Krisztián Fekete and Hassan Charaf</i>	Identification and Interpretation of Acausal Synchronistic Cognitive Networks Part II. Observations via Laurens van der Post <i>Péter Várlaki, Péter Baranyi</i>
747	839
Self-Adjusting Method for Efficient GPS Tracklog Compression <i>Marcell Feher, Bertalan Forstner</i>	The Personal Assistant application, problem definition <i>Claudiu Pozna, Peter Foldesi, Janos Kovacs</i>
753	851
MapReduce Algorithm for Finding st-Connectivity <i>Péter Fehér, Tamás Vajk, Hassan Charaf and László Lengyel</i>	A modeling method for human actions considering their temporal and spatial differences <i>Kae Doki, Takahito Hirai, Kohjiro Hashimoto, Shinji Doki</i>
759	857
Improving Orientation Estimation in Mobiles with built-in Camera <i>László Kundra, Péter Ekler, Hassan Charaf</i>	Cognitive informatics and media <i>Farkas Róbert</i>
765	863
	Foundations and Perspectives of Mathability in relation to the CogInfoCom domain <i>Marianna Török, Márton József Tóth, Alexandra Szöllősi</i>
	869