

HSI 2018 - Programme details

July 4, 2018

TT Health Care and Assistive Devices Chairs: Kang-Hyun Jo, Jerzy Wtorek Session 1, Track A Room: Aud 1L- 115NE	10.40-10.55	A novel approach in auscultation technology - new sensors and algorithms	Dominik Grochala, Marcin Kajor, Dariusz Kucharski, Eliasz Karłowicz, Marek Iwaniec
	10.55-11.10	Using wearable electronics to estimate usefulness of heart rate variability for bathing person identification	Tomasz Kocejko, Artur Polinski, Adam Bujnowski, Jerzy Wtorek
	11.10-11.25	ReFlexeNN – the wearable EMG interface with neural network based gesture classification	Hubert Toczko, Paweł Troka, Piotr Przystup, Tomasz Kocejko, Paweł Krzyżanowski, Mariusz Kaczmarek
	11.25-11.40	Tiny TTCN-Inspired Testing Tools for Experimenting with Hybrid IoT Systems	Krzysztof M. Brzeziński
	11.40-11.55	Electrical properties of bath solution mixtures	Adam Bujnowski, Kamil Osinski, Artur Polinski, Tomasz Kocejko, Jerzy Wtorek, Alexey Andrushevich
TT Education and Training Chairs: Lidia Jackowska-Strumiłło, Adrian Horzyk Session 1, Track B, Room: 110NE	10.40-10.55	Enriching Computer Science Programming Classes with Arduino Game Development	Piotr Duch, Tomasz Jaworski
	10.55-11.10	ANN Based Evaluation of Student's Answers in E-tests	Marwah Bani Saad, Lidia Jackowska-Strumiłło, Wojciech Blonicki
	11.10-11.25	Dante - Automated Assessments Tool for Students' Programming Assignments	Piotr Duch, Tomasz Jaworski
	11.25-11.40	Associative Graph Data Structures with an Efficient Access via AVB-trees	Adrian Horzyk
TT Human Computer and Machine Interaction Chairs: Milos Manic, Mariusz Kaczmarek Session 2, Track A Room: Aud 1L- 115NE	14.00-14.15	Classifying Cognitive Workload Based on Brain Waves Signal in the Arithmetic Tasks' Study	Małgorzata Plechawska-Wójcik, Magdalena Borys, Michail Tokovarov, Monika Kaczorowska, Kinga Wesolowska, Martyna Wawrzyk
	14.15-14.30	Emerged Theoretical Constructs to Rethink HCI Design	Elena Orni, Peter Bernus, Jolon Faichney
	14.30-14.45	Interpretable Data-Driven Modeling in Biomass Preprocessing	Daniel L Marino, Matthew Anderson, Kevin Kenney, Milos Manic
	14.45-15.00	Influence analysis of Common Spatial Pattern properties to BCI accuracy	Małgorzata Plechawska-Wójcik, Dariusz Zapala
	15.00-15.15	Evaluating asymmetric n-grams as spell-checking mechanism	Tomasz Boiński, Julian Kujawski, Artur Zimnicki, Karol Draszawka
SS Deep neural networks in multimedia data analysis for human-system interaction, Chairs: Alicja Kwaśniewska, Tomasz Kocejko Session 2, Track B Room: 110NE	14.00-14.15	Blood pressure estimation based on pulse arrival time, RR intervals and respiratory signal using a recurrent neural network	Artur Poliński, Krzysztof Czuszyński, Tomasz Kocejko
	14.15-14.30	Acoustic Data Building Toolset for Easy Experimentation with Neural Network-based Speech Recognition in Polish and English	Jerzy Sas
	14.30-14.45	Optical Sensor based Gestures Inference using Recurrent Neural Network in Mobile Conditions	Krzysztof Czuszyński, Alicja Kwaśniewska, Maciej Szankin, Jacek Ruminski
	14.45-15.00	Towards an Integrated Method of Detection and Description for Face Authentication System	Laksono Kurniaggoro, Kang-Hyun Jo
	15.00-15.15	Digits Recognition with Quadrant Photodiode and Convolutional Neural Network	Kamil Janczyk, Krzysztof Czuszyński, Jacek Ruminski
TT Human Computer and Machine Interaction Chairs: Hui Yu, Adam Bujnowski Session 3, Track A Room: Aud 1L- 115NE	16.00-16.15	Vocalic segments classification assisted by mouth motion capture	Sebastian Cygert, Grzegorz Szwach, Szymon Zaporowski, Andrzej Czyżewski
	16.15-16.30	Objectivization of phonological evaluation of speech elements by means of audio parametrization	Magdalena Piotrowska, Grażyna Korvel, Bożena Kostek, Arkadiusz Rojczyk, Andrzej Czyżewski
	16.30-16.45	The Gricean Maxims of Quantity and of Relation in the Turing Test	Baptiste Jacquet, Jean Baratgin, Frank Jamet
	16.45-17.00	Human Scale Haptic device based-teleoperation with robustness against tracking errors	M'hamed Frad, Amel Tilouche, Hichem Maaré, Abdellatif Mtibaa
	17.00-17.15	Design rules, implementation and testing of user interfaces for Mixed Reality applications	Agata Lis-Marciniak, Jan Tomiakowski, Paweł Kapusta
TT Vehicular Systems and Assisted Driving Chairs: Kang-Hyun Jo Session 3, Track B Room: 110NE	16.00-16.15	Division of Road Traffic Network based on Genetic Algorithm and Graph Coarsening	Tomasz Potuzak
	16.15-16.30	Evaluation of IEEE 802.11n and IEEE 802.11p based on Vehicle to Vehicle Communications	Daniilo Caceres Hernandez, Edgar Murillo, Hector Poveda, Kang-Hyun Jo
	16.30-16.45	Autonomous Vehicle Navigation in Dense Urban Area in Global Positioning Context	Jerzy Demkowicz

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TT Human Computer and Machine Interaction Chairs: Anna Bobkowska, Jerzy Wtorek Session 1, Track A Room: Aud 1L- 115NE	10.40-10.55	Positive Risk of Creativity in Software Projects: an Expected Result, a Threat or an Opportunity?	Anna E. Bobkowska
	10.55-11.10	Deep Self-Organizing Maps for Visual Data Mining	Chathurika Wickramasinghe, Kasun Amarasinghe, Daniel Marino, Milos Manic
	11.10-11.25	Mobile application usability testing in quasi-real conditions – the synergy of using different methods	Magdalena Borys, Marek Miłosz
	11.25-11.40	NIRS-SPM Analysis of body schema modification and performance of body motion	Takumi Watanabe, Toshiaki Fujiwara, Satoshi Suzuki
	11.40-11.55	New Automatic Algorithms for Computing Characteristics of Three Dimensional Pelvic and Lower Limb Motions in Race Walking	Maria Skublewska-Paszowska, Edyta Lukasik, Jakub Smolka, Monika Nawrocka
SS Human Computer Interaction in service of Rehabilitation and disability Chairs: Hideyuki Sawada, Miri Weiss Cohen Session 1, Track B, Room: 110NE	10.40-10.55	Motion Capture Technology as a Tool for Quantitative Assessment of the Rehabilitation Progress of Gait by Using Soft Orthoses	Maria Skublewska-Paszowska, Edyta Lukasik, Marek Miłosz, Jakub Smolka, Jolanta Taczala, Agnieszka Zdzienicka-Chyla, J. Napiorkowski, A. Kosiec
	10.55-11.10	A mobile application for interactive sonification of images for the visually impaired	Paweł Strumiłło, Andrzej Radecki, Piotr Skulimowski, Michał Bujacz, Mark Obuchowicz, Izabela Borowiecka, Mateusz Holak
	11.10-11.25	Information Display around Eyes Using the Vibration of SMA Wires and Its Evaluation of Perceived Sensation	Chunhao Song, Hiroki Shigemune, Hideyuki Sawada
	11.25-11.40	Hand Rehabilitation via Gesture Recognition using Leap Motion Controller	Miri Weiss Cohen, Israel Voldman, Daniele Regazzoni, Andrea Vitali
TT Health Care and Assistive Devices Chairs: Miri Weiss Cohen, Mariusz Kaczmarek Session 2, Track A Room: Aud 1L- 115NE	14.00-14.15	A sensory substitution device inspired by the human visual system	Dominik Osinski, Dag R. Hjelme
	14.15-14.30	Recognition of Continuous Sign Language Alphabet Using Leap Motion Controller	Miri Weiss Cohen, Nir Nir Ben Zikri, Alexander Velkovich
	14.30-14.45	EEG Measures of Auditory and Tactile Stimulations in Computer Vision Based Sensory Substitution System for Visually Impaired Users	Paweł Poryzala
	14.45-15.00	Application of different kinds of interfaces in modern devices for taking care of people	Michał; Majchrowicz, Paweł Kapusta, Lidia Jackowska-Strumiłło
	15.00-15.15	A biofeedback system that uses the game to study electrical muscle activity	Paweł Troka, Hubert Toczko, Piotr Przystup, Mariusz Kaczmarek
SS CAVE as the most immersive virtual reality environment Chairs: Jacek Lebieź, Krzysztof Walczak SS Affective Computing Session 2, Track B Room: 110NE	14.00-14.15	Urban prototyping in CAVE	Iwona Dzierżko-Bukal, Jacek Lebieź
	14.15-14.30	Feeling your way around the CAVE-like reconfigurable VR system	Ben Horan, Mehdi Seyedmahmoudian, Michael Mortimer, Gokul Sidarth Thirunavukkarasu, Stephen Smilevski, Alex Stojcevski
	14.30-14.45	Configurable Virtual Reality Store with Contextual Interaction Interface	Krzysztof Walczak, Jacek Sokołowski, Jakub Dziekoński
	14.45-15.00	Integration in Multichannel Emotion Recognition	Grzegorz Brodny, Agnieszka Landowska
	15.00-15.15	BandReader - A Mobile Application for Data Acquisition from Wearable Devices in Affective Computing Experiments	Krzysztof Kutt, Grzegorz J. Nalepa, Barbara Giżycka, Paweł Jemioło, Marcin Adamczyk
TT Wearable Devices and Systems Chairs: Adam Bujnowski, Mateusz Moderhak Session 3, Track A Room: Aud 1L- 115NE	16.00-16.15	GymApp: a Real Time Physical Activity Trainer on Wearable Devices	Paula Viana, Tiago Ferreira, Lourenço Castro, Marcio Soares, Jose Pedro Pinto, Teresa Andrade, Pedro Carvalho
	16.15-16.30	A Low-Profile Digital Eye-Tracking Oculometer for Smart Eyeglasses	Alexander S. Mastrangelo, Mohit U. Karkhanis, Rugved Likhite, Nazmul Hasan, Ashrafuzzaman Bulbul, Tridib Ghosh, Hanseup Kim, Carlos H. Mastrangelo
	16.30-16.45	Analysis of the accuracy of pulse estimation using smart watches	Kamila Wasilewska, Jacek Rumiński
	16.45-17.00	Haptic Perception of Virtual Spring Stiffness Using ExoTen-Glove	Mohssen Hosseini, Ali Sengul, Yudha Pane, Joris De Schutter, Herman Bruyninckx

SS Deep neural networks in multimedia data analysis for human-system interaction Chairs: Maciej Szankin, Piotr Szczuko Session 3, Track B Room: 110NE	16.00-16.15	CNN Architectures for Human Pose Estimation from a Very Low Resolution Depth Image	Piotr Szczuko
	16.15-16.30	Convolutional Neural Network based femur stabilization for X-ray image sequences	Marta Drajtkowska, Tomasz Gawron, Krzysztof Kozlowski
	16.30-16.45	Generating musical expression of MIDI music with LSTM neural network	Maria Klara Jędrzejewska, Adrian Zjawirski, Bartłomiej Stasiak
	16.45-17.00	Speaker Recognition using Convolutional Neural Network with Minimal Training Data for Smart Home Solutions	Mingshan Wang, Tejaswini Sirlapu, Alicja Kwasniewska, Maciej Szankin, Marko Bartscherer, Rey Nicolas

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TT Health Care and Assistive Devices Chairs: Marek Moszyński, Paweł Strumiłło Session 1, Track A Room: Aud 1L- 115NE	10.40-10.55	Seko: Smart System for Assisting Home-Based Rehabilitation of Knee Arthroplasty Patients	Arno Penders, Johanna Renny Octavia, Stefan Lefevre, Hannes Browaeys, Giles Lauwers, Mathias Van Onsem, Jelle Saldien, Steven Verstockt
	10.55-11.10	Ambient Assisted Living Ecosystem for Supporting Senior Citizens' Human System	Stefan Wagner
	11.10-11.25	The 2SEES smart stick: concept and experiments	Jean Connier, Shu Xu, Philippe Vasin, Christophe de Vaulx, Hongling Shi, Kun Mean Hou, Jian-Jin Li
	11.25-11.40	Analysis Of Neural Networks Based Heart Disease Prediction System	Rajamohana Sp, Akalyadevi C, Umamaheswari K, Kirubha R, Karunya K, Deepika R
	11.40-11.55	The Effectiveness, Evaluation, and Post-adoption of Smart Health Bracelets among Elderly	Milad Dehghani, Kwok Leung Tsui

SS New developments for human factors Chairs: Sho Yokota, Hideyuki Sawada Session 1, Track B Room: 110NE	10.40-10.55	The study of driver's brain activity and behavior using fNIRS during actual car driving	Kouji Yamamoto, Hideki Takahashi, Toshiyuki Sugimachi, Kimihiko Nakano, Yoshinori Suda, Toshinori Kato
	10.55-11.10	Multi-agent social choice model and some related questions	Darya Filatova, Jean Baratgin
	11.10-11.25	Concept Verification of Ungrounded Force Display using Cam	Emi Kakuda, Sho Yokota, Akihiro Matsumoto, Daisuke Chugo, Hiroshi Hashimoto
	11.25-11.40	Concept Verification of Antagonistic Pneumatic Driven and Inflatable Arm Joint	Hirofusa Ogasawara, Sho Yokota, Akihiro Matsumoto, Daisuke Chugo, Hiroshi
	11.40-11.55	Extracting concepts from the software requirements specification using natural language processing	Jaroslav Kuchta, Priti Padhiyar

TT Robots and HSI in Robotics Chairs: Satoshi Iwaki, Tomasz Kocejko Session 2, Track A Room: Aud 1L- 115NE	12.15-12.30	Context-based Multimodal Output for Human-Robot Collaboration	Magdalena Kaiser, Christian Bürckert
	12.30-12.45	A Method for the Design of lean Human-Robot Interaction	Marco Bonini, Wolfgang Echelmeyer
	12.45-13.00	A dancing robot controlled by a guitar sound	Hayato Shimizu, Satoshi Iwaki, Tetsushi Ikeda
	13.00-13.15	Improved Situational Awareness in ROS using Panospheric Vision and Virtual Reality	Veiko Vunder, Robert Valner, Conor McMahon, Karl Kruusamäe, Mitch Pryor
	13.15-13.30	Acceptance and long-term use of a social robot by elderly users in a domestic environment	Joanna Piasek, Katarzyna Wieczorowska- Tobis

SS Computer Vision in HCI Chairs: Junyu Dong, Hui Yu Session 2, Track B Room: 110NE	12.15-12.30	Kinect Depth Recovery via the Cooperative Profit Random Forest Algorithm	Jianyuan Sun, Qi Lin, Xuguang Zhang, Junyu Dong, Hui Yu
	12.30-12.45	Predicting and Generating Wallpaper Texture with Semantic Properties	Xiaohan Feng, Lin Qi, Yanhai Gan, Ying Gao, Hui Yu, Junyu Dong
	12.45-13.00	The Interaction Design and Its Evaluation of a Business-to-Business Website via Kansei Engineering	Peng Bian, Xinyue Liu, Yongxiang Liu
	13.00-13.15	Impact of shifting time-window post-processing on the quality of face detection algorithms	Adam Blokus, Henryk Krawczyk
	13.15-13.30	A vision and speech enabled, customizable, virtual assistant for smart environments	Giancarlo Iannizzotto, Lucia Lo Bello, Andrea Nucita, Giorgio Mario Grasso

13.45-14.05

Closing ceremony