

Program Summary

September 20th, 2017 (Wednesday)

9:00	OPENING (Room 201) <i>Chairman: Adam Dąbrowski</i>	
9:15-10:00	TUTORIAL 1: Jörg Lücke, Probabilistic and Unsupervised Machine Learning for Auditory Data and Pattern Recognition <i>Chairman: Adam Dąbrowski</i>	
10:00-10:20	Coffee Break	
10:20-11:40	SESSION 1: DSP Theory 1 (Room 201) <i>Chairman: Przemysław Korohoda</i>	SESSION 2: Human Computer Interaction (Room 202) <i>Chairman: Jörg Lücke</i>
10:20	Nick A. Petrovsky, Eugene V. Rybenkov, Alexander A. Petrovsky, Design and implementation of reversible integer quaternionic paraunitary filter banks on adder-based distributed arithmetic	Katarzyna Mrozik, Bożena Kostek, Adam Kurowski, Andrzej Czyżewski, Comparison of selected electroencephalographic signal classification methods
10:40	Mariusz Rudnicki, Implementation of DIFAR Processing in ASW Dipping Sonar	Jakub Tomczyński, Tomasz Mańkowski, Piotr Kaczmarek, Influence of sEMG electrode matrix configuration on hand gesture recognition performance
11:00	Dorosinskiy Leonid, Kurganski Andrew, Chudakova Milena, Clutter Reflection Suppression Algorithm In Synthetic-Aperture Radar	Jakub Tomczyński, Tomasz Mańkowski, Piotr Kaczmarek, Localisation method for sEMG electrode array, towards hand gesture recognition HMI development
11:20	Barbara Rozwałka, Marek W. Rupniewski, Simultaneous Mutual Localization of Transmitters and Receivers from Time Difference of Arrival Measurements	Jakub Tomczyński, Tomasz Mańkowski, Piotr Kaczmarek, Towards sensor position-invariant hand gesture recognition using a mechanomyographic interface
11:40-12:00	Coffee Break	
12:00-14:00	SESSION 3: Audio Processing (Room 201) <i>Chairman: Szymon Drgas</i>	SESSION 4: Biomedical Apps. (Room 202) <i>Chairman: Tomasz Marciniak</i>
12:00	Mouayad A. Sahib, Stefan Streif, Design of an Active Noise Controller for Reduction of Tire/Road Interaction Noise in Environmentally Friendly Vehicles	Faezeh Fallah, Doychin Mariyanov Tsanev, Bin Yang, Sven Walter, Fabian Bamberg, A Novel Objective Function Based on a Generalized Kelly Criterion for Deep Learning
12:20	Edward Półrolniczak, Michał Kramarczyk, Estimation of singing voice types based on voice parameters analysis	Jakub Jurek, Marek Kociński, Andrzej Materka, Are Losnegård, Lars Reisæter, Ole J. Halvorsen, Rule-Based Data-Driven Approach for Computer Aided Diagnosis of the Peripheral Zone Prostate Cancer from Multiparametric MRI: proof of concept
12:40	Marzena Mięsikowska, Analysis of Signal of X8 Unmanned Aerial Vehicle	Jakub Jurek, Marek Kociński, Andrzej Materka, Are Losnegård, Lars Reisæter, Ole J. Halvorsen, Reconstruction of High-Resolution T2W MR Images of the Prostate Using Maximum A Posteriori Approach and Markov Random Field Regularization
13:00	Michał Lenarczyk, Artur Janicki, Voice conversion with pitch alteration using phase vocoder	Agnieszka Stankiewicz, Tomasz Marciniak, Adam Dąbrowski, Marcin Stopa, Piotr Rakowicz, Elzbieta Marciniak, Novel Full-Automatic Approach for Segmentation of Epiretinal Membrane from 3D OCT Images
13:20	Tatsiana Viarbitskaya, Andrzej Dobrucki, Wavelets in elimination of distortions in the recorded violin sound	Tomasz Woźniak, Michał Strzelecki, Investigation of Bi-Gaussian Kernel for Vessel Detection in Level-Set Based Segmentation Framework
13:40		Izabella Korczyńska-Czurak, Artur Klepaczko, Piotr M. Szczypiński, Vessel tree surface modeling for blood flow simulation

14:00-15:00	Lunch	
15:00	TUTORIAL 2: Petr Pfeifer, Heinrich Theodor Vierhaus, Forward Error Correction in Wireless Communication Systems for Industrial Applications <i>Chairman: Adam Dąbrowski</i>	
15:50-17:30	SESSION 5: DSP Theory 2 (Room 201) <i>Chairman: Michał Strzelecki</i>	SESSION 6: Image Processing 1 (Room 202) <i>Chairman: Andrzej Materka</i>
15:50	Farnoosh Hosseinzadeh, Petr Pfeifer, Heinrich Theodor Vierhaus, The Coarse and Fine Granular Fault Tolerance Techniques in FPGA-based Processors	Faezeh Fallah, Bin Yang, Fabian Bamberg, Accurate Robust Nonlinear Surface Registration with Simultaneous Point Cloud and Triangular Mesh Representation
16:10	Jarosław Majewski, Ryszard Wojtyna, Results of Applying Evolutionary Algorithms to Frequency-Domain Signal Analysis	Maciej Suhecki, Tomasz Trzciski, Understanding aesthetics in photography using deep convolutional neural networks
16:30	Aydin Kizilkaya, Ali Kirkbas, Esref Bogar, Signal Denoising Based on Adaptive Fourier Decomposition	Michał Bednarek, Krzysztof Walas, Local Descriptors Robust to Out-of-Plane Rotations
16:50	Andrzej Borys, Przemysław Korohoda, Analysis of Critical Sampling Effects Revisited	Karol Piniarski, Paweł Pawłowski, Efficient pedestrian detection with enhanced object segmentation in far IR night vision
17:10	Krzysztof Sozanski, Anna Sozanska, Multirate Shunt Active Power Filter with Improved Dynamic Parameters	Tomasz Pałys, Krzysztof Murawski, Artur Arciuch, Andrzej Walczak, Optical Driving for a Computer System with Augmented Reality Features
18:00	Welcome Party	

September 21st, 2017 (Thursday)

9:00-9:45	TUTORIAL 3: Andrzej Dobrucki, Stefan Brachmański, Test signals used in electroacoustics and speech technology <i>Chairman: Adam Dąbrowski</i>	
9:45-10:00	Coffee Break	
10:00-11:40	SESSION 7: Biomedical & Biometric Apps. (Room 201) <i>Chairman: Damian Cetnarowicz</i>	SESSION 8: Image Processing 2 (Room 202) <i>Chairman: Pawel Pawłowski</i>
10:00	Adam Borowicz, Correction of eye-blink artifacts in EEG recordings using Wiener filtering	Maciej Janeczek, Piotr Skulimowski, Mateusz Owczarek, Pawel Strumillo, Adaptive Edge-based Stereo Block Matching Algorithm for a Mobile Graphics Processing Unit
10:20	Marianna Parzych, Tomasz Marciniak, Adam Dąbrowski, Kinetic measures for automatic motion analysis in CCTV systems	Wojciech Sulej, Krzysztof Murawski, Determining the Stroke Volume of the Artificial Ventricle Using the Numerical Integration Method
10:40	Piotr Bratoszewski, Andrzej Czyżewski, Piotr Hoffmann, Michał Lech, Maciej Szczodrak, Pilot Testing of Developed Multimodal Biometric Identity Verification System	Zbigniew Czapla, Vehicle Speed Estimation with the Use of Gradient-Based Image Conversion into Binary Form
11:00	Maryamsadat Hejazi, S. A. R. Al-Haddad, Shaiful Jahari, Yashwant Prasad Singh, Non-Fiducial Based ECG Biometric Authentication Using One-Class Support Vector Machine	Piotr M. Szczypiński, Artur Klepaczko, Marcin Kociołek, QMaZda – software tools for image analysis and pattern recognition
11:20	Yasar Abbas Ur Rehman, Lai Man Po, Mengyang Liu, Deep Learning for Face Anti-Spoofing: An End-to-End Approach	Seyyed Mahdi Najmabadi, Prajwala Pandit, Trung-Hieu Tran, Sven Simon, A Resource-Efficient Monitoring Architecture for Hardware Accelerated Self-Adaptive Online Data Stream Compression
11:40-12:00	Coffee Break	
12:00-14:00	SESSION 9: DSP Implementations (Posters) <i>Chairman: Ryszard Wojtyna</i>	
	Maciej Szczodrak, Karolina Marciniuk, Andrzej Czyżewski, Road surface roughness estimation employing integrated position and acceleration sensor	
	Adam Bondyra, Przemysław Gąsior, Stanisław Gardecki, Andrzej Kasiński, Fault Diagnosis and Condition Monitoring of UAV Rotor using Signal Processing	
	A. Radecki, M. Bujacz, P. Skulimowski, P. Strumillo, Interactive Sonification of Images on Mobile Devices for the Visually Impaired	
	Marcin Maciejewski, Grzegorz Dzida, ECG parameter extraction and classification in noisy signals	
	Maxim Vashkevich, Elias Azarov, Nick Petrovsky, Alexander Petrovsky, Petralex: A smartphone-based real-time digital hearing aid with combined noise reduction and acoustic feedback suppression	
	ZHAO Gang, DI Bingbing, ZHU Wenjuan, YU Yali, ZAN Hui, Design and Implementation of Multi - touch Tujia Brocade Virtual Weaving System	
	Adam Dąbrowski, Tomasz Marciniak, Canonic Goertzel algorithm and drawbacks of various Goertzel algorithm formulations	
	Zuzanna Kunik, Adam Bykowski, Tomasz Marciniak, Adam Dąbrowski, Raspberry Pi based complete embedded system for iris recognition	
	Matin Beiranvand, Mohammad Shabbakhti, Mehdi Eslamizadeh, Mohammadreza Bavi, Somayeh Mohammadifar, Investigating Wavelet Energy Vector for pre-term Labor Detection using EHG Signals	
	Chen Lasheng, Li Yuqiang, Improved initial clustering center selection algorithm for K-means	
	Robert Kazala, Algorithm of DFT leakage minimization by using optimization methods	
	Jerzy Fiołka, Application of the fractional Fourier transform in automotive system development: The problem of knock detection	
	Madalin Frunzete, Horia Cucu, Observability Coefficient for 2D Dynamical Systems	
	Lihong Luo, Jiazhen Li, Jianqing Mo, A Cardinal-Based Algorithm for Automatically Roaming in Virtual Scene	
	Faiza Mekhalifa, Nafaa Nacereddine, Gentle Adaboost Algorithm for Weld Defect Classification	
	Mengyang Liu, Lai-man Po, Yasar Abbas Ur Rehman, Xuyuan Xu, Yuming Li Litong Feng, A Novel Inverted Index File based Searching Strategy for Video Copy Detection	
	Piotr Kłosowski, Polish Language Modelling for Speech Recognition Application	
14:00-14:45	Lunch	
15:00-18:00	Social Event	
18:00	Banquet	

September 22nd, 2017 (Friday)

9:00-9:45	TUTORIAL 4: Bogusław Cyganek, Image and Video Processing with Tensor Methods <i>Chairman: Adam Dąbrowski</i>	
9:45-10:00	Coffee Break	
10:00-11:40	SESSION 10: Communication Apps. 1 (Room 201) <i>Chairman: Andrzej Borys</i>	SESSION 11: Image Processing 3 (Room 202) <i>Chairman: Bogusław Cyganek</i>
10:00	Max Frohberg, Enkhdavaa Batkhagva, Mario Schölzel, WISDOM - A Wireless Debugging and Power Measurement System for Field Tests and Device Observation in WSN	Grzegorz Sarwas, Sławomir Skoneczny, Grzegorz Kurzejamski, Fractional order method of image keypoints detection
10:20	Iwona Kochanska, Jan Schmidt, Probe signal processing for channel estimation in underwater acoustic communication system	Piotr Szczuko, ANN for human pose estimation in low resolution depth images
10:40	Andrzej Borys, On Using Tensors in the Areas of Circuit Theory, Signal Processing, and Telecommunications	Karolina Szturo, Piotr M. Szczypiński, Ontology Based Expert System For Barley Grain Classification
11:00	Przemysław Gilski, Adaptive Multiplex Resource Allocation Method for DAB+ Broadcast System	Marcin Kociółek, Piotr M. Szczypiński, Artur Klepaczko, Preprocessing of barley grain images for defect identification
11:20	Julian Balcerek, Paweł Pawłowski, Adam Dąbrowski, Classification of emergency phone conversations with artificial neural network	Paweł Marek Stasik, Julian Balcerek, Improvements in Upscaling of Pixel Art
11:40-12:00	Coffee Break	
12:00-13:20	SESSION 12: Communication Apps. 2 (Room 201) <i>Chairman: Piotr Kardys</i>	SESSION 13: Image Processing 4 (Room 202) <i>Chairman: Piotr Szczuko</i>
12:00	Sarah Imam, Ahmed El-Mahdy, Cross-tier Interference Alignment of Macro Users with Average Selection in Heterogeneous Networks	Marek Wodzinski, Andrzej Skalski, Izabela Ciepiela, Tomasz Kuszewski, Piotr Kedzierawski, Application of Demons Image Registration Algorithms in Resected Breast Cancer Lodge Localization
12:20	Ahmed El-Mahdy, MennaTullah Seraj-EIDin, Design of Multi-Antenna Relaying for OFDM in Impulsive Noise Environment	Bartosz Meus, Tomasz Kryjak, Marek Gorgon, Embedded vision system for pedestrian detection based on HOG+SVM and use of motion information implemented in Zynq heterogeneous device
12:40	Grzegorz Cisek, Tomasz Zieliński, Performance Analysis of Frequency Domain Simulator of Multi-UE E-UTRAN Fading Channel with Intercarrier Interference	Youngbok Cho, Sunghee Woo, Sangho Lee, Minkang Kim, An Efficient Approach in Iris Genetic Lesion Detection Algorithm using SURF and SVM
13:00	Ernest Szczepaniak, Zbigniew Piotrowski, Radio transmission masking on the example of FSK modulation	
13:30	CLOSING (Room 201)	
14:00-15:00	Lunch	