

2016 IEEE First International Conference on  
**Data Stream Mining & Processing (DSMP)**

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## Conference Program

### Tuesday, August 23, 2016

13 <sup>00</sup> to 13 <sup>30</sup>	Opening Ceremony (Main Aula of LPNU, Lviv)
13 <sup>30</sup> to 14 <sup>30</sup>	Plenary Session (Main Aula of LPNU, Lviv) <b>Anatoliy Sachenko</b> IEEE Ukraine Section IM/CI Societies Joint Chapter activities within IEEE Vision & Mission <b>Yevgeniy Bodyanskiy</b> Fast learning algorithm for GMDH-SVM deep neural network in data stream mining tasks
14 <sup>30</sup> to 15 <sup>00</sup>	Coffee-break
15 <sup>00</sup> to 18 <sup>00</sup>	Plenary Session (Main Aula of LPNU, Lviv) <b>Volodymyr Mashtalir</b> Sequential temporal video segmentation via spatial image partitions <b>Leonid Lyubchyk</b> Real-time ranking learning from data stream <b>Eduard Petlenkov, Kristina Vassiljeva</b> Artificial intelligence methods for data based modelling and analysis of complex processes: real life examples from Industry to human
18 <sup>00</sup> to 21 <sup>00</sup>	Break
21 <sup>00</sup> to 22 <sup>00</sup>	The Program Committee Meeting (Hall: "Corporate", Vikings' Bay)

### Wednesday, August 24, 2016

9 <sup>00</sup> to 11 <sup>00</sup>	Plenary Session (Hall: "Corporate", Vikings' Bay) <b>Volodymyr Stepashko</b> Self-organizing intelligent modeling from data stream <b>Oleksandr Mikhalyov</b> Synthesis of criteria for the chaotic system identification <b>Viktor Krylov</b> Image segmentation in the wavelet domain
11 <sup>00</sup> to 11 <sup>30</sup>	Coffee-break

# – Sessions

A – Big Data & Data Science Using Intelligent Approaches

B – Dynamic Data Mining & Data Stream Mining

C – Hybrid Systems of Computational Intelligence

D – Machine Vision and Pattern Recognition



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11<sup>30</sup> to 13<sup>00</sup>

Sessions – D (Hall: "Corporate", Vikings' Bay)

**Victor V. Morozov, Alexander G. Timinsky**

Strategic gaps in the capabilities of internal and external adaptation of methodologies and information systems of project management

**Dmytro V. Mykhalevskiy**

Investigation of sensitivity impact of receiver to effective data transmission rate

**Yuliya Kozina, Nataliya Gulyaeva**

The classification algorithm development of photomasks defects based on fuzzy logic

**Bohdan M. Pavlyshenko**

Linear, machine learning and probabilistic approaches for time series analysis

**Leonid Hulianytskiy, Sergiy Malyshko**

Big data in information analytical system «NEWSCAPE»

**Yurii Teslia, Andrii Khlevnyi, Iulia Khlevna,**

**Svetlana Gerasymenko**

Control of informational impacts on project management

**Oleksandr Mitsa, Vasil Petcko, Jozsef Holovács, Oleksandr Levchuk**

Optimization of the parameters of the layer system on the example of the optical structure

**Vasylyna Horban**

A multifaceted approach to smart energy city concept through using big data analytics

**Ogbu James Onyigwang, Yanina Shestak, Alexandr Oksiuk**

Information protection of data processing center against cyber attacks

**Daniel Skrybailo-Leskiv**

Synthesis and optimization of error correcting code based on ideal ring bundles in big data tasks

**Viacheslav Khomenko, Oleg Shyshkov, Olga Radyvonenko,**

**Kostiantyn Bokhan**

Accelerating recurrent neural network training using sequence bucketing and multi-GPU data parallelization

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13<sup>00</sup> to 21<sup>00</sup> | Break

**Thursday, August 25, 2016**

9<sup>00</sup> to 11<sup>00</sup>

Panels (Halls: "Corporate", "Panorama" Vikings' Bay)

**Michael Dopira** (9<sup>00</sup> to 10<sup>00</sup>, "Panorama")

Challenges of execution and implementation of machine learning projects for SMEs

**Valentyn Kropov** (9<sup>00</sup> to 10<sup>00</sup>, "Corporate")

Essential data engineering for data scientist

**Alexander Sokolov** (10<sup>00</sup> to 11<sup>00</sup>, "Panorama")

How data science and big data are changing the world

**Tetiana Gladkykh, Taras Hnot, Volodymyr Solskyy** (10<sup>00</sup> to 11<sup>00</sup>, "Corporate")

Unsupervised anomaly detection for information security

11<sup>00</sup> to 11<sup>30</sup>

Coffee-break

11<sup>30</sup> to 13<sup>00</sup>

Panels (Halls: "Corporate", "Panorama" Vikings' Bay)

**Tymur Biktashev, Dmytro Yerusalimtsev, Sergiy Podnos, Igor**

**Manzhos, Irina Kartyshova** (11<sup>30</sup> to 13<sup>00</sup>, "Panorama")

Internal GlobalLogic data processing solutions

**Yaroslav Prytula, Zenoviy Veres, Yuriy Guts, Viktor Sarapin,**

**Vladislav Alekseyev** (11<sup>30</sup> to 13<sup>00</sup>, "Corporate")

Data science education in Ukraine: opportunities and market demand

13<sup>00</sup> to 14<sup>00</sup>

Break

14<sup>00</sup> to 15<sup>30</sup>

Sessions – C (Hall: "Corporate", Vikings' Bay)

**Galina Shcherbakova, Victor Krylov, Radmila Pisarenko**

Information technology components selecting for equipment critical applications

**Anatoliy Batyuk, Volodymyr Voityshyn**

Apache storm based topology for real-time processing of streaming data from social networks

**Volodymyr Stepashko, Olha Moroz**

Hybrid searching GMDH-GA algorithm for solving inductive modeling tasks

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14<sup>00</sup> to 15<sup>30</sup>

**Yevgeniy Bodyanskiy, Olena Vynokurova, Iryna Pliss,  
Galina Setlak, Pavlo Mulesa**

Fast learning algorithm for deep evolving GMDH-SVM neural Network  
in data stream mining tasks

**Vasyl Lytvyn, Victoria Vysotska, Liliya Chyrun, Lyubomyr Chyrun**

Distance learning method for modern youth promotion and  
involvement in independent scientific researches

**Gennadiy Bortnyk, Mikola Vasylkivskiy**

A spectral method of jitter estimation in telecommunication networks

**Leonid Lyubchyyk, Galyna Grinberg**

Real time recursive preference learning to rank from data stream

**Olga V. Spiritseva**

An application of multifractal analysis to photogrammetric image  
segmentation

**Lubomyr Sikora, Natalya Lysa, Roman Martsyshyn,  
Yuliya Miyushkovych**

Models of combining measuring and information systems for  
evaluation condition parameters of energy-active systems

Sessions – C (Hall: "Panorama", Vikings' Bay)

**Olexander Solomentsev, Maksym Zaliskyi,  
Tetyana Gerasymenko**

Change-point detection during radar operation

**Krzysztof Rychlicki-Kicior, Bartłomiej Stasiak, Mykhaylo  
Yatsymirskyy**

Multipitch estimation using multiple transformation analysis

**Igor Ivanisenko, Lyudmyla Kirichenko, Tamara Radivilova**

Investigation of multifractal properties of additive data stream

**Yevgeniy V. Bodyanskiy, Anastasiia O. Deineko,**

**Yana V. Kutsenko, Oleksandr O. Zayika**

Data streams fast EM-fuzzy clustering based on Kohonen's self-  
learning

**Andriy Yerokhin, Alina Nechyporenko, Andrii Babii, Oleksii Turuta**

Processing and analysis of rhinomanometric signals by F-transform  
approximation

**Nonna Kulishova**

Emotion recognition using Sigma-Pi neural network

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	<p><b>Zhengbing Hu, Yevgeniy V. Bodyanskiy, Oleksii K. Tyshchenko</b> A deep cascade neuro-fuzzy system for high-dimensional online fuzzy clustering</p> <p><b>Petro Bidyuk, Aleksandr Gozhyj, Irina Kalinina, Victor Gozhyj</b> Forecasting method based on the joint use of regression analysis and Bayesian networks</p> <p><b>Yevgeniy Bodyanskiy, Olena Vynokurova, Zdzisław Szymański, Ilya Kobylin, Oleg Kobylin</b> Adaptive robust models for identification of nonstationary systems in data stream mining tasks</p>
15 <sup>30</sup> to 16 <sup>00</sup>	Coffee-break
16 <sup>00</sup> to 17 <sup>00</sup>	<p>Sessions – C (Hall: "Panorama", Vikings' Bay)</p> <p><b>Ivan Tsmots, Oleksa Skorokhoda, Taras Tesliuk, Vasyl Rabyk</b> Designing features of hardware and software tools for intelligent processing of intensive data streams</p> <p><b>Roman Pasichnyk, Mykola Dyvak, Nataliia Pasichnyk</b> Identification and modeling of limiting factors systems</p> <p><b>Hakan Kutucu, Ayad Almryad</b> Modeling of solar energy potential in Libya using an artificial neural network model</p>
16 <sup>00</sup> to 17 <sup>00</sup>	<p>Sessions – A (Hall: "Corporate", Vikings' Bay)</p> <p><b>Yuriy P. Kozdratenko, Oleksiy V. Kozlov, Aleksandr S. Gerasin, Yuriy M. Zaporozhets</b> Synthesis and research of neuro-fuzzy observer of clamping force for mobile robot automatic control system</p> <p><b>Yevgeniy Bodyanskiy, Artem Dolotov, Iryna Pliss, Mykola Malyar</b> A fast learning algorithm of self-learning spiking neural network</p> <p><b>Yaroslav Sokolovskyy, Volodymyr Shymanskyi, Mar'iana Levkovich, Volodymyr Yarkun</b> Mathematical modeling of heat and moisture transfer and rheological behavior in materials with fractal structure using the parallelization of predictor-corrector numerical method</p> <p><b>Fedir E. Geche, Anatolii Ye. Batuk, V.Yu. Buchok</b> Invariant operations on discrete neural functions over Galois field</p>

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17<sup>00</sup> to 18<sup>00</sup>

Panels (Hall: "Corporate" Vikings' Bay)

**Yaroslav Prytula** (17<sup>00</sup> to 18<sup>00</sup>, "Corporate")

Stefan Banach and Lviv mathematical school

**Ivan Kulchytskyy** (17<sup>00</sup> to 18<sup>00</sup>, "Panorama")

Horizon 2020: new opportunities for researchers and developers

18<sup>00</sup> to 21<sup>00</sup>

Break

**Friday, August 26, 2016**

9<sup>00</sup> to 10<sup>00</sup>

Panel (Hall: "Panorama" Vikings' Bay)

**Margaret Ostapchuk** (9<sup>00</sup> to 10<sup>00</sup>, "Corporate")

Big data in cloud

9<sup>00</sup> to 11<sup>00</sup>

Sessions – A (Hall: "Corporate", Vikings' Bay)

**Lidiia I. Feshanych, Georgij N. Sementsov**

Intelligent analysis of multiparameter data based on the adaptive neuro-fuzzy system

**Yuriy Batko, Grygoriy Melnyk, Oleg Pitsun**

Graphical Interface of hybrid intelligent systems for biomedical imaging analysis

**Anton I. Guda, Aleksandr I. Mikhalyov**

Criteria synthesis problem for the chaotic systems identification.

**Mariya Nazarkevych, Roman Oliarnyk, Hanna Nazarkevych,**

**Olga Kramarenko, Igor Onyshchenko**

The method of encryption based on Ateb-functions

**Oleg Riznyk, Yurii Kynash, Oleksandr Povshuk, Volodymyr Kovalyk**

Recovery schemes for distributed computing based on BIB-schemes

**Leonid Kupershtein, Tetyana Martyniuk, Olesya Voitovych, Mihail Krentsin**

Neural network approach in the stroke diagnosis

**Oleksiy O. Petrenko, Anatoly I. Petrenko**

A loosely-integrated suite of services for mHEALTH formed by wireless sensor networks

**Sergey Subbotin, Andrii Oliinyk**

The fully-defined neuro-fuzzy model Synthesis

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	<p><b>Viktor Mashkov, Jiří Fišer, Volodymyr Lytvynenko</b> Evaluation of testing assignment for system level self-diagnosis</p> <p><b>Sergii Babichev, Mohamed Ali Taif, Volodymyr Lytvynenko</b> Inductive model of data clustering based on the agglomerative hierarchical algorithm</p> <p><b>Anatoliy Kovalchuk, Natalia Lotoshynska</b> Assessment of damage to buildings in areas emergency situations</p> <p><b>Sergei Koryagin, Pavel Klachek, Evgenei Koryagin, Aleksandr Kulak</b> The development of hybrid intelligent systems on the basis of neurophysiological methods and methods of multi-agent systems</p>
10 <sup>00</sup> to 11 <sup>00</sup>	<p>Sessions – A (Hall: "Panorama", Vikings' Bay)</p> <p><b>Oleksii Iegorchenkov, Nataliia Yehorchenkova</b> Product-resource planning system</p> <p><b>Iryna Perova, Iryna Pliss, Gennadiy Churyumov, Franklin M. Eze, Samer Mohamed Kanaan Mahmoud</b> Neo-fuzzy approach for medical diagnostics tasks in online-mode</p> <p><b>Olena Semenova, Lidiya Rogozina</b> Soft-computing techniques for mobile networks</p> <p><b>Tetiana Gladkykh, Taras Hnot, Volodymyr Solskyy</b> Fuzzy logic inference for unsupervised anomaly detection</p> <p><b>Natalya O. Komleva, Kyrylo S. Cherneha, Borys I. Tymchenko, Oleksandr M. Komlevoy</b> Intellectual approach application for pulmonary diagnosis</p> <p><b>Tetiana Kolpakova, Andrii Oliinyk, Valerii Lovkin</b> Evaluation of competing agents based on neuro-evolutionary approach</p>
11 <sup>00</sup> to 11 <sup>30</sup>	Coffee-break
11 <sup>30</sup> to 13 <sup>00</sup>	<p>Sessions – A (Hall: "Panorama", Vikings' Bay)</p> <p><b>Ireen O. Kravets, Victoria O. Kozlovskaya, Volodymyr S. Tumko</b> The forecastings of future changes in the trend's direction of stock quotes by neural networks and fuzzy systems</p> <p><b>Alyona Shved, Yevhen Davydenko</b> The analysis of uncertainty measures with various types of evidence</p>

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**Vitaliy Omelyanenko**

Development of conceptual approach to development of complex systems analysis model

**Oleg Bisikalo, Anna Lisovenko, Olexandr Jahumovuch, Sergii Trachenko, Mykola Pradivianni**

System of computational linguistic on base of the figurative text comprehension

**Valeriy Dubrovin, Mariia Zakharova, Julia Tverdohle**

Wavelet technologies of non-stationary signals analysis

**Zhengbing Hu, Vitaly Deibuk**

New design of reversible/quantum devices for ternary arithmetic

**Iurii N. Teslia, Mykola B. Kubiavka, Liubov B. Kubiavka**

Information management technology by non-forceful influence on the enemy during the preparation and conduction of military actions

**Rekik Ali, Temani Moncef, Ghedira Khaled**

Portfolio project selection as information processing system

**Yuriy Gryciuk, Yaroslav Dragan**

Use of Taylor polynomial for numerical integration of table functions of two variables

11<sup>30</sup> to 13<sup>00</sup>

Session – B (Hall: " Corporate ", Vikings' Bay)

**Sergii Mashtalir, Volodymyr Mashtalir**

Sequential temporal video segmentation via spatial image partitions

**Marina Polyakova, Victor Krylov, Natalya Volkova**

The methods of image segmentation based of distributions and wavelet transform

**Oksana Troyan, Maksym Korobchynskyi, Oleksii Didyk**

Analysis of threats falsification of printed documents

**Tien Nguyen, Svitlana Antoshchuk, Anatolii Nikolenko, Viktor Sotov**

Correlation-extreme method for text area localization on images

**Maksym P. Musiyenko, Oleksii O. Denysov, Iryna M. Zhuravska, Ivan S. Burlachenko**

Development of double median filter for optical navigation problems

**Oleksii Gorokhovatskyi**

Neocognitron as a tool for optical marks recognition

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13<sup>00</sup> to 14<sup>00</sup>

14<sup>00</sup> to 15<sup>30</sup>

**Roman Melnyk, Yuriy Kalychak**

Face classification by graph decomposition algorithm for parametric statistical features

**Alexander A. Safarov**

Features of the segmentation and classification of urban area photogrammetric images

**Yana I. Shedlovska, Volodymyr V. Hnatushenko**

Shadow detection and removal using a shadow formation model

Break

Sessions – B (Hall: "Corporate", Vikings' Bay)

**Bogdan Rusyn, Oleksiy Lutsyk, Yuriy Lysak, Adolf Lukenyuk, Lubomyk Pohreliuk**

Lossless image compression in the remote sensing applications

**Oleksii Maksymiv, Taras Rak, Olga Menshikova**

Deep convolutional network for detecting probable emergency situations

**Oleh Berezsky**

Fréchet metric for trees

**Adrian Nakonechny, Zenoviy Veres**

The wavelet based trained filter for image interpolation

**Volodymyr Fedak, Adrian Nackonechny**

Video de-noising using adaptive wavelet thresholding

**Igor Povhan**

Designing of recognition systems for discrete objects

**Yurii Tsymbal, Roman Tkachenko**

A digital watermarking scheme based on autoassociative neural networks of the geometric transformations model

**Dmytro Peleshko, Taras Rak, Marta Peleshko, Ivan Izonin, Danylo Batyuk**

Two-frames image superresolution based on the aggregate divergence matrix

**Ihor Shelevytsky, Evgeny Tkachenko**

Representation and identification of lines by dots in the image

**Elena Yelmanova**

Automatic image contrast enhancement based on the generalized

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15 <sup>30</sup> to 16 <sup>00</sup>	contrast
16 <sup>00</sup> to 18 <sup>00</sup>	Coffee-break
	Sessions – D (Hall: "Corporate", Vikings' Bay)
	<b>Yuriy Rashkevych, Dmytro Peleshko, Yuriy Ivanov, Igor Malets, Viktor Voloshyn</b>
	Tracking in the intersection areas of the cameras fields-of-view of CCTV monitoring distributed systems
	<b>Dmytro Peleshko, Yuriy Ivanov, Boris Sharov, Ivan Izonin, Yuriy Borzov</b>
	Design and implementation of visitors queue density analysis and registration method for retail videosurveillance purposes
18 <sup>00</sup> to 19 <sup>00</sup>	Summary. Closing Ceremony. (Hall: "Corporate", Vikings' Bay)

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