

XXV International Conference on Data Analytics and Management in Data
Intensive Domains
Conference Program

24.10.2023 – 27.10.23

Moscow, HSE University

Note for chairmen and the authors: full paper talk is 30 min. (25 min. for the talk, 5 min. for questions and answers); short paper talk is 20 min. (15 min. for the talk, 5 min. for questions and answers). Please follow the timetable strictly.

TUESDAY, OCTOBER 24th	
Time	Registration Room G109
9:45-10:00	Opening of the DACOMSIN Workshop Room F201
10:00-11:30	SESSION D1 AI & ML in Materials Science I Room F201 Chair: Alexandra Khvan Zoom Session
10:00-10:30	Kainan Zhang, Chang Liu, Lixin Tang and Min Xiao Metallographic Structure Recognition with Few Samples Based on Meta-transfer Learning
10:30-11:00	Jingwen Cong, Lixin Tang and Min Xiao A hybrid model based on adaptive active contour and multi-scale attention for pearlite segmentation in metallographic images
11:00-11:30	Hanyu Zhang, Lixin Tang and Yong Shuai GCr15 Bearing Steel Metallographic Image Fine Segmentation Model Based on Transformer Unet Network and CV model
11:30-12:00	Coffee Break Room G109
12:00-13:30	SESSION D2 AI & ML in Materials Science II Room F201 Chair: Nadezhda Kiselyova Zoom Session
12:00-12:30	Shicheng Xie, Lixin Tang and Yong Shuai A migration learning based multi-headed attentional convolutional neural network applied to metallographic image denoising

12:30-13:00	Nadezhda Kiselyova, Victor Dudarev, Oleg Senko, Alexander Dokukin, Andrey Stolyarenko and Yuliana Kuznetsova Double halides physical properties prediction by means of machine learning methods	
13:00-13:30	Alexander Glushko, Alexey Neznanov, Olga Maksimenkova, Sergei Kuznetsov and Galina Kuzmicheva Interactive Research Toolbox for Chemical Compounds Analysis Based on Well-interpretable ML Methods	
13:30-14:30	Lunch	
14:30-16:00	SESSION D3 Materials Informatics & Databases Room F201 Chair: Victor Dudarev Zoom Session	
14:30-15:00	Sergey Dyachkov, Adilbek Erkimbaev, Sergey Grigoryev, Pavel Korotaev, Andrey Kosinov, Pavel Levashov, Maxim Maltsev, Dmitry Minakov, Igor Morozov, Mikhail Paramonov, Aleksey Yanilkin and Vladimir Zitserman Database for properties of nuclear reactor materials based on the ontology and NoSQL data format	
15:00-15:30	Victor Dudarev, Nadezhda Kiselyova and Alfred Ludwig Flexible Materials Properties Management System as a Basis for Data-centric Systems in Inorganic Materials Science	
15:30-16:00	Alexander Shevchenko Structure building units of homoleptic coordination compounds	
16:00-16:15	Closing of the DACOMSIN Workshop	
16:30-18:00	Welcome Reception Room M111	
WEDNESDAY, OCTOBER 25th		
9:00-9:15	Opening of the Conference Room R401	
9:15-11:00	Alexander Petrenko Memorial speech on Sergey Dmitrievich Kuznetsov Invited Talk: Pavel Velikhov Современная оптимизация запросов в аналитических системах Invited Talk: Andrey Borodin Scientific and technical dualism: collaborative work of PostgreSQL community and researchers in the field of data management Room R401 Chair: Sergei O. Kuznetsov Zoom Session	
11:00-11:30	Coffee Break Room R407	
11:30-13:30	SESSION 1 Image Analysis Room R208	SESSION 2 Data analysis in medicine and cognitive science Room R408

	Chair: Ivan A. Matveev Zoom Session	Chair: Sergey Stupnikov Zoom Session
11:30	Aleksei Samarin, Artyom Nazarenko, Alina Dzestelova, Alexandr Motyko, Alexander Savelev, Aleksei Toropov, Elena Mikhailova and Valentin Malykh UniFi: Universal Filter Model for Image Enhancement	Dmitry Lyutkin, Dmitry Ignatov, Andrey Soloviev, Dmitry Zhukov and Denis Pozdnyakov Transformer-based classification of user queries for medical consultancy with respect to expert specialisation
12:00	Elnur Abbasov and Maxim Bakaev Does UI Labeling Data Quality Matter for Predicting Website Aesthetics	Stefan Nikolic, Dmitriy Ignatov and Peter Fedorov Acne severity grading with deep learning
12:30	Aleksei Samarin, Aleksei Toropov, Alina Dzestelova, Alexander Savelev, Alexandr Motyko, Valentin Malykh, Elena Mikhailova, Artem Nazarenko, Pavel Dmitriev and Anastasia Golovatiuk Human eye iris and pupil segmentation using infrared camera snapshots	Konstantin Sorokin, Alexander Levin, Andrey Zaitsev, German Magai, Maxim Beketov and Vladimir Sotskov Global cognitive graph properties dynamics of hippocampal formation
13:00	[short] Pavel Arkhipov, Sergey Philippskih and Maxim Tsukanov A method for creating realistic synthetic examples using a generative deep learning model for classifying anomalies in panoramas	Almaz Shangareev, Ivan Shanin Reading Progress Tracking: A Novel Autoencoder Model Approach
13:30-14:30	Lunch	
14:30-16:00	SESSION 3 Machine learning methods I Room R208 Chair: Dmitry Namiot Zoom Session	SESSION 4 Machine learning applications I Room R408 Chair: Vasily Gromov Zoom Session
14:30	Igor Buyanov, Vasily Yadrintsev and Ilya Sochenkov Using Autoencoders to improve Nearest Neighbor Search on large Datasets	Anton Dubovskoi, Maksim Sokolov and Ildar Baimuratov Informed Object Detection for Computer Games
15:00	Maxim Bakaev Distributional Ground Truth: a Non-Redundant Data Quality Control Method	Art Prosvetov and Vladislav Balaev Degradation detection for steam turbines
15:30	Zaur Shibzukhov Some robust variants of the principal components analysis	Vyacheslav Manevich Corrected Triple Correction Method, CNN and transfer learning for prediction the realized volatility of Bitcoin and E-mini S&P500
16:00-16:30	Coffee Break Room R407	
16:30-18:30	SESSION 5 Machine learning methods II Room R208 Chair: Dmitry Ignatov Zoom Session	SESSION 6 Machine learning methods and applications II Room R407 Chair: Andrey Parinov Zoom Session
16:30	Oleg Pilipenko, Bulat Nutfullin and Vasily Kostyumov TrojanInterpret: A detecting	Boris Mirkin, Andrey Parinov. Self-adjusted consensus clustering with agglomerate algorithms

	backdoors method in DNN based on neural network interpretation methods	
17:00	Temirlan Bidzhiev and Dmitry Namiot Attacks on machine learning models based on the PyTorch framework	Erchimen Gavriliev and Tatiana Avdeenko Towards an Approach to Formulating Personal Development Plan for Developers based on Competency Framework and Data Mining
17:30	Mariia Zueva and Sergei Kuznetsov Индексы интересности как инструмент отбора формальных понятий для построения нейронной сети на основе решётки формальных понятий	Artyom Abakumov and Sergey Ereemeev Segmentation of graphical user interface elements based on topological decomposition for GUI testing tasks
18:00	Xenia Naidenova, Vladimir Parkhomenko, Tatiyana Martirova and Alexander Schukin Plausible Reasoning in an Algorithm of Good Classification Test Generating	[short] Антон Черненко Использование искусственного интеллекта в патентных исследованиях
19:00-22:00	Conference Dinner Room M111	
THURSDAY, OCTOBER 26th		
9:30-11:00	KEYNOTE: Bernhard Thalheim Kinds of models in science, engineering, and daily life including generic, specific, special INVITED TALK: Ildar Baimuratov Open Research Knowledge Graph: a semantic approach to scientific communication Room R204 Chair: Sergey Stupnikov Zoom Session	
11:00-11:30	Coffee Break Room R207	
11:30-13:30	SESSION 7 Conceptual models, Ontologies, Semantic Web Room R204 Chair: Dmitry Ilvovsky Zoom Session	SESSION 8 Data analysis in astronomy I Room R208 Chair: Dana Kovaleva Zoom Session
11:30	Stepan Vinnikov, Anatoly Nardid and Yuriy Gapanyuk Analysis of the Metagraph Data Model in Terms of Category Theory	Georgiy Mozgunov, Alexei Pozanenko, Pavel Minaev, Ivan Chelovekov and Sergei Grebenev Classification of long gamma-ray transients from INTEGRAL data using machine learning approach
12:00	Olga Ataeva, Vladimir Serebriakov and Natalia Tuchkova Построение персонального графа знаний в цифровой семантической библиотеке	Aleksandra Avdeeva, Dana Kovaleva and Oleg Malkov Assessing the Reliability of Gaia DR3 Effective Temperatures
12:30	[short] Manuk Manukyan Conceptual Data Model : Concept, Formal Bases, and Implementation Issues	Nicolai Pankov, Artem Prokhorenko, Eugene Schekotihin, Alexei Pozanenko, Pavel Minaev, Sergei Belkin and Alina Volnova AWARE: Alert Watcher and Astronomical Rapid Exploration
12:50	[short] Victor Telnov and Konstantin Odintsov Experience in Integrating Domain-	

	Specific Knowledge Bases Founded on Semantic Web Standards	
13:10	[short] Irina Sobolevskaya, Nikolay Kalenov, Alexander Sotnikov and Svetlana Vlasova Ontology of the Universal Subspace of the Common Digital Space of Scientific Knowledge	
13:30-14:30	Lunch	
14:30-16:10	SESSION 9 Research Infrastructures and Models in Earth Sciences Room R204 Chair: Viktor Zakharov Zoom Session	SESSION 10 Data analysis in astronomy II Room R208 Chair: Alexey Pozanenko Zoom Session
14:30	Alexander Fazliev and Nikolay Lavrentiev Quality control of scientific plot collections. The problem and methods of its solution	Eugene Schekotihin, Nicolai Pankov, Sergey Belkin, Alexei Pozanenko, Pavel Minaev, Alina Volnova and Artem Prokhorenko Применение нейронных сетей для поиска оптических транзиентов на астрономических изображениях методом вычитания
15:00	Evgenii Viazilov and Denis Melnikov About using models in digital twins of earth sciences	Volnova Alina, Patrick D. Aleo, Anastasia Lavrukhina, Etienne Russeil, Timofey Semenikhin, Emmanuel Gangler, Emille E. O. Ishida, Matwey V. Kornilov, Vladimir Korolev, Konstantin Malanchev, Maria V. Pruzhinskaya and Sreevarsha Sreejith Exploring the Universe with SNAD: Anomaly Detection in Astronomy.
15:30	[short] Nikolay Kalinin and Nikolay Skvortsov Модель инфраструктуры исследовательских данных для исследований в области компьютерных наук	[short] Timofey Semenikhin, Matwey Kornilov and Maria Pruzhinskaya Neural network architecture for artifacts detection in ZTF survey
15:50	[short] Владимир Будзко and Виктор Меденников Математическое Моделирование Оценки Влияния Глобальных Изменений в Мире на Цифровой След Российских Аграрных Университетов	[short] Anastasia Lavrukhina and Konstantin Malanchev Tree-based machine-learning classifier for stellar flares in The Zwicky Transient Facility survey
16:10-16:30	Coffee Break Room R207	
16:30-18:00	Coordinating Committee Meeting Room R208	
FRIDAY, OCTOBER 27th		
9:30-11:00	KEYNOTE: Mikhail Zymbler Discord discovery in time series, or Can we detect all anomalies of an anomalously long time series in an anomalously short time? KEYNOTE: Vladislav A. Blatov Topological Methods and Tools for the Analysis of Big Crystallographic Data	

	<p style="text-align: center;">Room R401 Chair: Nadezhda Kiselyova Zoom Session</p>	
11:00-11:30	<p style="text-align: center;">Coffee Break Room R408</p>	
11:30-13:00	<p style="text-align: center;">SESSION 11 Information extraction from text I Room R401 Chair: Boris Dobrov Zoom Session</p>	<p style="text-align: center;">SESSION 12 Social Networks Analysis Room R407 Chair: Nikolay Skvortsov Zoom Session</p>
11:30	Muhammad Shahid Iqbal Malik. Analysis of Cross-lingual and Multi-lingual Text Classification Approaches using Transfer Learning: for high and low-resource languages	Samyak Jain, Sarthak Johari and Radhakrishnan Delhibabu Analyzing Cryptocurrency trends using Tweet Sentiment Data and User Meta-Data
12:00	Alisher Rogov and Natalia Loukachevitch Evaluating the Performance of Interpretability Methods in Text Categorization Task	[short] Evelina Bronnikova de Menezes Identifying Life Satisfaction of Social Network Users
12:30	Anna Glazkova and Dmitry Morozov Cross-Domain Robustness of Transformer-based Keyphrase Generation	[short] Nagim Davletshin and Konstantin Nikolaev Information System for Predicting Personal Success Based on Open Data from Social Networks
12:40		[short] Kishankumar Bhimani and Khushbu SaradvaDecoding the Workplace & EOR: An Employee Survey Analysis by Data Science Techniques and Visualization
13:00-14:00	<p style="text-align: center;">Lunch</p>	
14:00-15:20	<p style="text-align: center;">SESSION 13 Information extraction from text II Room R401 Chair: Natalia Loukachevitch Zoom Session</p>	<p style="text-align: center;">SESSION 14 Advanced algorithms I Room R407 Chair: TBA Zoom Session</p>
14:00	Ivan Pimenov and Natalia Salomatina Evaluating the Influence of Argumentation Markers on the Identification of Reasoning Models	Majid Sohrabi, Amir M Fathollahi-Fard and Vasili A Gromov Genetic Engineering Algorithm (GEA): An Efficient Metaheuristic Algorithm for Solving Combinatorial Optimization Problems
14:30	Rodion Sulzhenko and Boris Dobrov Approximation of the meaning for thematic subject headings by simple interpretable representations	Andrew Soroka, German Mikhelson, Alex Meshcheryakov and Sergey Gerasimov Smart Routes: a system for developing and comparing algorithms for solving vehicle routing problems with realistic constraints
15:00	[short] Alexander Sychev Diagnostics of the Topical Model for a Collection of Text Messages Based on Latent Dirichlet Allocation	[short] Ivan Deykin, Vladimir Syuzev and Elena Smirnova Spectral Theory for Multidimensional Digital Data Matrices' Processing
15:20-15:50	<p style="text-align: center;">Coffee Break Room R408</p>	

15.50-17.10	<p>SESSION 15</p> <p>Information extraction from text III</p> <p>Room R401</p> <p>Chair: Dmitry Deviatkin</p> <p>Zoom Session</p>	
15:50	Vladimir Bochkarev, Stanislav Khristoforov, Anna Shevlyakova and Valery Solovyev Diachronic Analysis of a Word Concreteness Rating: Impact of Semantic Change	
16:20	Valentin Malykh, Alexander Kukushkin, Maria Tikhonova and Tatiana Shavrina MOROCCO: Model Resource Comparison Framework	
16:50	[short] Konstantin Nikolaev Web-based visualization of semantic annotation of mathematical PDF documents	
17.10	Closing of the Conference	

All conference articles are available by the link: <https://damdid2023.hse.ru/articles>