



The 6th Conference on Creativity in Intelligent Technologies & Data Science

September 22-25, 2025
Volgograd, Russia

THE CONFERENCE PROGRAM

<http://citds2025.ru/>



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Welcome to CIT&DS 2025

Creativity is the powerful engine of humanity to move forward and overcome global challenges in changing environments. Creativity is the process of breaking out of established patterns; it is the reorganization, recombination, or reinterpretation of concepts and ideas for getting something unique and previously unknown in the fast modifying world due to new unforeseen hazards. First, a shift to a new technological paradigm requires a velocity of adaptation to the new reality with the merge of physical and virtual components. Therefore, creativity is probably one of the essential components of humankind, and it becomes more crucial in the new digital Society 5.0.

6th Conference on Creativity in Intelligent Technologies and Data Science (CIT&DS 2025) continues the successful series of previous conferences took place in 2023, 2021, 2019, 2017 and 2015. We celebrate *10th* Anniversary this year! The main objective of the CIT&DS 2025 is to bring together researchers and practitioners to share ideas in using creativity to theory and practice for design brand new intelligent systems for engineering and decision-making.

CIT&DS 2025 conference papers are composed into twelve sections regarding four topics. Topic 1 “Artificial intelligence for Creative tasks” includes Section 1 “Knowledge Discovery in Patent and Open Sources”, Section 2 “Large Language Models for Creative

tasks”, and Section 3 “Artificial intelligence in Games & eXtended Reality Engineering”. Topic 2 “Distributed systems & Proactive control” has the following sections: Section 4 “Data-Driven Industrial Assets Maintenance & Knowledge-Based Control”, Section 5 “Pro-Active Modeling in Intelligent Decision Making Support”, Section 6 “Intelligent distributed systems cybersecurity”. Topic 3 “Cyber-Physical Systems & Robotics” consists of papers grouped in Section 7 “Cyber-Physical Systems & Industrial Creativity”, Section 8 “Robotics Design & Control”. Topic 4 “Intelligent Technologies in Social Engineering” consists of papers grouped in Section 9 “Data Science in Social Engineering”, Section 10 “AI&Creativity in Engineering Education”, Section 11 “Healthcare Intelligent Technologies”, and Section 12 “Intelligent technologies in Urban Design & Computing”.

We do hope CIT&DS 2025 will help stimulate your creativity and bring new insights to you.

CIT&DS 2025 is held within the framework of development program of Center for Digital Research& Educational& Development Projects in Industrial Artificial Intelligence (C2RED-AI) of Volgograd State Technical University, created as part of the implementation of top-level educational programs in artificial intelligence.

CIT&DS 2025 Proceedings are published by Springer in their

Communications in Computer and Information Science series.

Venue



The conference on Creativity in Intelligent Technologies & Data Science 2025 is held in Volgograd State Technical University. The University is located in Lenin avenue, 28.

The Main Building (“MB”).



The “B” Building.

The Conference Hall is located here.

All rooms in schedule start from “B-” are located in “B” Building.

If you have an urgent question, do not hesitate to contact organizing committee phone: **+7 903 376 26 78 (Maxim Shcherbakov)**

Conference General Co-chairs



Vladimir Lysak

Academician of Russian
Academy of Science,
scientific supervisor of
Volgograd State Technical
University, Russia



Igor Kalyaev

Academician of Russian
Academy of Science,
scientific supervisor of
Federal Research Center
Southern Scientific Center
RAS, Russia



Dmitriy Novikov

Academician of Russian
Academy of Science,
director of Institute of
Control Sciences, RAS,
Russia

The Program Committee Co-chairs

prof. Alla Kravets, Volgograd State Technical University, Russia

prof. Maxim Shcherbakov, Volgograd State Technical University, Russia

prof. Bal Krishna Bal, Kathmandu University, Dhulikhel, Kavre, Nepal

The keynote speakers



Alla G. Kravets,

Professor, Dr.Sc., CAD&RD Department of Volgograd State Technical University, Russia, AllaGKravets@yandex.ru

CYBER PHYSICAL SYSTEMS: ON THE WAY FROM INDUSTRY 4.0 TO INDUSTRY 5.0 AND ONWARDS TO THE FUTURE

Cyber-Physical Systems (CPS) represent a fundamental technological framework critical to the evolving industrial landscape transitioning from Industry 4.0 to Industry 5.0 and beyond. CPS integrate physical processes, computational intelligence, and networked communications to enable real-time monitoring, adaptive control, and autonomous decision-making within industrial environments. The transition to Industry 5.0 positions CPS as essential enablers of human-centric manufacturing, sustainable practices, and resilient production systems, expanding the scope of automation to incorporate cooperative interaction between humans and machines.

The evolution of CPS encompasses increasing complexity and requires addressing critical challenges related to

system reliability, cybersecurity, and data integrity. Advanced models and algorithms facilitate intelligent decision support and risk assessment, ensuring operational safety and robustness. Furthermore, engineering education plays a pivotal role in cultivating competences to develop and manage CPS effectively across diverse industrial sectors.

Looking forward, CPS are envisaged to underpin emerging paradigms that integrate artificial intelligence, cognitive functionalities, and bio-inspired systems, fostering seamless integration across cyber, physical, and social domains. Continual advancement in CPS technologies is imperative for driving innovation, optimizing industrial workflows, and enabling sustainable development within the next generations of industrial ecosystems. This keynote presents a comprehensive overview of CPS evolution, challenges, and future trajectories reflecting contemporary research and practice. The research was carried out within the framework of the C2RED-AI project of Volgograd State Technical University.

Short Bio. *Alla G. Kravets was graduated from the Volgograd State Polytechnic Institute in 1993 with diploma of engineer in CAD systems development. She got Diploma in Business Translation (English) in 1997. Kravets A.G. works at VSTU since 1993. as a teacher in the Department of Descriptive Geometry and Engineering Graphics. In 1993-1996 - post-graduate study, which since 1994 was combined with teaching at the CAD Department as an assistant, and then in 1999 - 2000 as a senior lecturer. In 1993-1997 - Head of the Training Center in the first joint*

Russian-Singaporean enterprise "Automated Banking Systems". In the late 90s - one of the organizers of the Computer Center at the CAD Department. In 2000-2001 Kravets A.G. began her activities related to innovation as an executive director of the Volgograd Regional Agency for the Support of Small and Medium Enterprises. Since 2003 - work at the CAD Department from the leading programmer to professor. Since 2020 - Professor of the Department of Geoinformation Systems and Technologies of the Institute of System Analysis and Management of the University "Dubna"

In-depth 20+ years expertise in DBMS, data bases and knowledge bases development, knowledge discovery, analytics including predictive analytics, data mining. Key scientific interests: social networks analysis, coordinated management in complex systems, IT in intellectual capital management, big data analysis, knowledge discovery. Scientific supervisor and/or owner of 10+ small innovative enterprises in IT.

Conducts research on automated control in complex systems. Academic degree - Doctor of Technical Sciences since July 11,

2008. Deputy chairman of the dissertation council D 24.2.282.08 at the Volgograd State Technical University, member of the dissertation councils at the Astrakhan State Technical University and Dubna University.

Lecturing and presentations in: KH Leuven (Belgium), Università degli Studi di Genova (Italy), Lusófona University Of Humanities And Technologies (Portugal), Information Systems Management Institute (ISMA) (Latvia), Prague High School of Economics (Czech Republic), University of North Texas (USA). Member of the International Association of Development of Information Society (IADIS).

A.G. Kravets was in the top-10 in AI citation (SciVal, 2016-2019), and now she is in top-3 in Scholarly Output and citation in Decision Science (SciVal, 2020-2024) in Russian Federation. H-index in Scopus - 15.

A.G. Kravets is the head of Project Laboratory of Cyber-Physical Systems since 2019, the head of Digital Department project in VSTU since 2022, TOP-AI educational program "AI in Game and XR development" supervisor since 2025.



Evgeni Magid

PhD, Head of Intelligent Robotics Department, Kazan Federal University, Senior IEEE member.

magid@it.kfu.ru

<https://kpfu.ru/robofab.html>

SEARCH AND RESCUE ROBOTICS: CLASSIFICATIONS, INTERACTION PROTOCOLS, SIMULATION

One of the fundamental objectives of mobile robotics is to substitute humans in environments that are inaccessible or pose significant risks. This is particularly relevant in the context of search and rescue (SAR) operations, where the deployment of robotic systems can substantially enhance efficiency of emergency response activities while minimizing potential risks to lives and health of rescue personnel. This talk considers typical SAR scenarios, where human rescue teams could benefit from a support of robotic solutions. Given a broad variety of robots that could be involved in SAR, a new classification is proposed in order to optimize a reasonable selection of robots for a particular task. Since experiments are expensive in terms of time and resources, modelling and simulation play important role in SAR robotics. Over 10 years our

team employs Gazebo and Webots simulators for modelling new approaches and algorithms as first stages of research projects. In the talk, an overview of our experience in using robot operating system (ROS) with these simulators for SAR projects will present construction of mobile robots' models and virtual environments, algorithm validation and comparative analysis. Finally, to enhance efficiency of a robotic team, a new application layer protocol for a heterogeneous group of mobile robots in SAR scenarios was developed and validated with 3 mobile robots and 2 IoT devices in laboratory settings.

Short Bio. *Education: Undergraduate: 2002, B.Sc. in Mathematics and Computer Science, Technion - Israel Institute of Technology, Israel. Applied Mathematics, Technion - Israel Institute of Technology, Israel. Post Graduate: 2011, PhD in Engineering, Doctoral program in Intelligent Interaction Technologies, Graduate School of Systems and Information Engineering at University of Tsukuba, Japan. Degree: 2011, The University of Tsukuba, Japan, PhD.*

2016-present: Head of Intelligent Robotics Department, Institute of Information Technology and Intelligent Systems (ITIS), Kazan Federal University, Kazan, Republic of Tatarstan, Russia. Founder and Head of « Laboratory of Intelligent Robotic Systems» (LIRS), Founder and Director of Master Program in Intelligent Robotics.

2021-present: Professor, School of Electronic Engineering, HSE Tikhonov Moscow Institute of Electronics and Mathematics, HSE University, Moscow, Russia.

2021-2022: Professor, The Bauman Moscow State Technical University (BMSTU), Moscow, Russia.

2014-2016: Professor, Founder and Head of «Intelligent Robotic Systems Laboratory», Innopolis University, Innopolis city, Republic of Tatarstan, Russia.

2013-2014: Postdoctoral Research Associate, The Bristol Robotics Laboratory, The University of Bristol, Bristol, The United Kingdom (UK).

2012-2013: Postdoctoral Research Fellow, Carnegie Mellon University, Robotics Institute, Pittsburgh, PA, The United States of America (USA).

2011-2012: Postdoctoral Research Fellow, University of Tsukuba, Tsukuba, Japan.

Senior member of IEEE, member of IEEE RAS, ACM, INSTICC and Russian Association for Artificial Intelligence.

His research interests include urban search and rescue robotics, mobile robotics, path planning, robotic teams, medical robotics, industrial robotics, and human-robot interaction. He authors over 300 publications in English, Russian and Japanese languages and 26 patents. As a PI, he conducted over 20 research projects with governmental and industrial external funding, including 3 international projects that engaged foreign research partner teams from top universities of India, Israel, Japan and Thailand. H-index in Scopus - 24.



Vladimir Tsyganov,
Professor, Dr.Sc., Head researcher of the
Institute of Control Sciences (ICS), Head
of Moscow department of the Institute of
Transport Problems (ITP), Russia,
<http://www.ipu.ru/node/11549>

INTELLIGENT PROACTIVE CONTROL TECHNOLOGIES FOR SUSTAINABLE DEVELOPMENT

Sustainable development of industry assumes satisfaction of current needs, while maintaining the possibility of satisfying needs in the future. It is shown that industrial sustainable development correlates with a decrease in environmental pollution. Therefore, the paper considers proactive control of industrial pollution. A hierarchical model of such control is considered. At the top level of the hierarchy is the business owner, who needs to minimize the pollution produced. To do this in conditions of uncertainty, he uses the services of a consultant. At the middle level is the executive officer, who is responsible for the day-to-day management. At the bottom level is an employee who performs a specific job that causes environmental pollution. At the bottom level is an employee who performs a specific job that causes environmental pollution. The business owner, consultant and executive officer do not know the minimum level of contamination that could be caused by

this work. Thus, the employee can manipulate the pollution to obtain better estimation from the officer. To avoid this, intelligent technologies for proactive control of job pollution is developed. Sufficient conditions are found under which the employee reduces pollution. In addition, the officer may allow pollution during the outsourcing process. The business owner and the consultant do not know the minimum pollution for which the officer is responsible. So, the officer can manipulate a pollution to obtain better class from the business owner. To avoid this, intelligent technology to proactive control the officer is developed. Sufficient conditions are found under which the executive officer reduces pollution. The application of this technology for sustainable development is illustrated by the example of the wagon maintenance business in the Russian Railways holding.

Short Bio. Education of V. Tsyganov: *Magister of engineering in theoretical physics, Moscow Physics-Technical Institute (1966 – 1972); 1st Ph.D. in control of social and economic systems proved in ICS, Moscow (1979); 2nd Ph.D. – also in ICS (2000); professor of control of socio-economic systems (2005).*

Career: Head researcher of ICS (1979-2021). Career-related: Head of Moscow department of ITP (2011-2021); Consultant of Experimental Plant “EZAN” (2001-2021); Member of board of bank “Vitas”, Moscow (2004-2008) etc.

Author of monographs: Adaptive control mechanisms for branch of industry (1991); Intellectual Enterprise: mastering capital and power / Theory and practice of management of organization evolution (2004); Adaptive organization of the railway complex (2009); Safety of socio-economic systems (2009); Modernization

of the National security system (2010); Reforming rail freight in Russia: Criticism of liberal reform under growth constraints (2012); Sociology of public safety (2014); Large scale transport systems: theory, methodology, development and expertise (2016); Infrastructure of Siberia, the Far East and the Russian Arctic: state and 3 stages of development until 2050 (2019); Strategic planning for sustainable development of Russian economics: threats, goal setting, forecast, recommendations (2021). Coauthor of monograph series "Social & Political Technologies" (Methods and technologies of information wars (2007); Information management (2009); Adaptive mechanisms and high humanitarian technologies: theory of

humanitarian systems (2012) etc.). H - index in Scopus - 12.

Awards: "Best book of the year" awarded by the Russian Book Editors Association for monograph "Intellectual Enterprise"(2004); Award of Advisor of the President of Russia (2010); Award of Senior Vice-President of JSC "Russian Railways" (2015); Award of the President of the Russian academy of Sciences (2019).

Professional Membership: Member of International Federation of Automatic Control (IFAC) Technical Committee TC5.4 Large Scale Complex Systems; Member of IFAC Technical Committee TC9.5 Technology, Culture and International Stability.



Uranchimeg Tudevdağva,
Professor, PhD, Dr.h.s., Scientist and
Guest Professor of Faculty of Computer
Science of Chemnitz University of
Technology, Germany, Professor of Power
Engineering School of Mongolian
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DATA DRIVEN ASSESSMENT FOR MATHEMATIC COURSE BASED ON SURE AND QASS MODELS

This paper describes an assessment system for mathematic course “Geometry”. The new assessment system has been developed based on two evaluation models: structure-oriented evaluation (SURE) model and the quasi-arithmetic scoring system (QASS) model. The mathematic course “Geometry” is taught at the National University of Mongolia. The assessment of the students’ work at the mid and end of the academic semester is an important task for professors, and it is quite time consuming. The factors like high number of students, multiple versions of homework, deadline for the assessment grade and limited time puts a high

pressure on the professors. Here is coming up the need to automate these tasks. The aim of this study is to create the main concepts of the assessment systems and test them with pilot real or simulated data. The SURE model applied as self-evaluation for students. Main target of the self-evaluation is to do continues analyze on the self and professor evaluation and later define structure-oriented self-evaluation assessment for “Geometry” course. The QASS model applies for peer-assessment of “Geometry” course based on group homework for students. his paper explained core idea of both evaluation models and its pilot tests.

Short Bio. *Uranchimeg Tudevdağva was born in Ulaanbaatar, Mongolia. After high school, in 1987 she moved for study of informatics to Russia. She finished her undergraduate study at the Faculty of Automation and Computer Engineering at Novosibirsk Institute for Electrical Engineering. In 1992 she moved back to home country and started to teach at Power Engineering School of Mongolian University of Science and Technology. In 1997 she finished her graduated study and received a Magister degree in Automation and system engineering. From 1998 to 2001 she was granted a scholarship from her home university for a PhD study. In 2002 she moved back to Novosibirsk State Technical University where she finished her PhD thesis and in 2003 successful defended.*

In 2004, she returned to home university, as associate Professor at the Power Engineering School. In 2007 she received scholarship from Russia for study for Doctor of Science. For family reason she could not use this opportunity and returned to home country where she continued to work on her field. In 2011

she received Grant from Schlumberger Foundation for Post-Doc study. With this grant she moved to Germany, to Chemnitz University of Technology. In 2014 she successfully finished her Post-Doc thesis and received Dr.-Ing.habil. degree as Doctor of Science. Since 2008 she is working as full professor in Power Engineering School of MUST. Main working areas are e-learning and virtual laboratories.

In 2016 she received an invitation from Chemnitz University of Technology to teach as Professor of Computer Architecture. Since 2017 she is working as Scientist and Guest Professor at Faculty of Computer Science of Chemnitz University of Technology. She is main Editor of online journal 'Embedded Selforganising Systems (ESS)'. In 2017 she received an honorary doctorate from the Novosibirsk State Technical University, Russia.

She has been teaching undergraduate and graduate courses in the thematic areas of programming languages, databases, artificial intelligence and theory of compiler. Her research interests cover the

areas of artificial intelligence, decision support systems, experts systems, optimization, evaluation theory, evaluation models and e-learning. Last decade she is dealing with multidimensional evaluation models for e-learning and complex systems. She leads and is included into active running projects: Automated Power Line Inspection (APOLI), DRIVE-MATH - development of innovative mathematical teaching strategies in European engineering degree programs, Learner Centered Learning. She has published 6 books, edited 3 books, 1 chapter in an Elsevier book. She published over 150 papers in journals and/or in International conferences. Prof. Uranchimeg Tudevdaeva has supervised 1 Doctoral Thesis and around 30 Master Theses.



Maxim V. Shcherbakov

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AI-AUGMENTED PREDICTIVE CONTROL: A CYBER-PHYSICAL FRAMEWORK FOR EFFICIENT RESOURCE TRANSPORT CONTROL IN DISTRIBUTED HETEROGENEOUS SYSTEMS

Many complex production systems are distributed network systems composed of heterogeneous components, such as energy systems, heating supply networks, water distribution infrastructures, and oil refining. In these systems, the fundamental operation is the transfer of resources, and overall system efficiency is critically influenced by the extent of unplanned resource losses.

The control of resource transportation fundamentally involves the application of technical impacts generated and performed to minimize deviations between actual and target resource transfer volumes throughout the entire lifecycle of the system. Advances in data acquisition and communication technologies, along with their integration, have elevated these source systems to the status of cyber-physical systems. This report presents a comprehensive methodology for addressing the challenge

of efficient resource transport control within distributed systems. It introduces local problem formulations and proposes solution frameworks grounded in the principles of information systems augmented with AI components.

Short Bio. Maxim Shcherbakov was born in 1979. In 2002, he graduated from Volgograd State Technical University, received a master's degree and enrolled in full-time postgraduate studies. In 2004 he defended his thesis for the degree of Candidate of Technical Sciences. In parallel with his work as an associate professor at the university, he worked in commercial enterprises. He has experience in business organization in the field of software development and maintenance of IT infrastructure of companies. He led the implementation of over 40 projects of varying complexity for the development of information systems with artificial intelligence components. In 2014, he defended his thesis for the degree of Doctor of Technical Sciences. Participates in research projects supported by grants from the Russian Foundation for Basic Research and the Ministry of Education and Science of the Russian Federation. Shcherbakov is developing one of the promising areas in the field of intelligent information processing and management systems related to the development of proactive intelligent systems towards the reliability of industrial equipment. Based on the theoretical results, unique AI-based systems were developed and implemented, which are used at energy and oil enterprises in the Russian Federation. Author of over 80 scientific papers (*h-index Scopus* = 12), 5 university courses. Head of the Center for Additional Education for Children, C2RED project. Winner of the Leaders of Russia competition (2018-2019).

Sessions schedule

23 September

22-Sep-25 Meeting, registration and accommodation of participants and guests			
23-Sep-25 Registration Desk 9.00 – 17.00			4th Floor “B”
Sessions	Start	Finish	Room
VSTU exhibition	08:45	9:45	4th Floor “B”
Opening session. Alexander Navrotskiy , corresponce member of Russian Academy of Science, rector of Volgograd State Technical University. Welcome speech. General Co-Chair Igor Kalyaev , Academician of Russian Academy of Science, scientific supervisor of Federal Research Center Southern Scientific Center RAS. Welcome speech. General Co-Chair Dmitriy Novikov , Academician Russian Academy of Science, director of Institute of Control Sciences of Russian Academy of Sciences. Welcome speech.	09:45	10:00	“B” Conference Hall
Keynote speaker Alla G. Kravets , Volgograd State Technical University	10:00	10:30	“B” Conference Hall
Keynote speaker Vladimir Tsyganov , V.A.Trapeznikov Institute of Control Sciences of the Russian Academy of Sciences	10:30	11:00	“B” Conference Hall
Coffee-break	11:00	11:20	2 nd Floor, “B”
Keynote speaker Maxim Shcherbakov , Volgograd State Technical University			“B” Conference Hall
Keynote speaker Evgeni Magid , Kazan Federal University			“B” Conference Hall
Lunch	13:00	14:00	2 nd Floor, “B”
Track 3. Cyber-Physical Systems & Robotics			
Session 7. Cyber-Physical Systems & Industrial Creativity Chairs: Vladimir Tsyganov , Vitaly Egunov	14:00	15:00	“B” 208
Session 8. Robotics Design & Control. Chairs: Evgeni Magid , Anna Matokhina	15:00	16:00	“B” 208
Track 2. Distributed systems & Proactive control			
Session 6. Intelligent distributed systems cybersecurity Chairs: Alexey Kizim , Gais Al-Merri	16.00	16.40	“B” 208
Conference Dinner and celebration of 40 th Anniversary of CAD&RD Department	18:00	21:00	River port Ship

Sessions schedule

24 September

Distance presentations	9.30	11:30	"B" 208
Keynote speaker Uranchimeg Tudevdagva , Chemnitz University of Technology, Germany, Mongolian University of Science and Technology, Mongolia	9.30	10.00	"B" 208
Conference tour	10:00	13:00	
Coffee-break	11:30	11:50	2nd Floor, "B"
Scientific seminar "Artificial Intelligence In Industry"	11:50	13:00	"B" 208
Lunch	13:10	14:00	
Track 1. Artificial intelligence for Creative tasks	14:00	17:20	"B" 208
Session 1. Knowledge Discovery in Patent and Open Sources Chairs: Pavel Gusev, Dmitry Korobkin	14:00	15:00	"B" 208
Session 2. Large Language Models for Creative tasks Chairs: Alena Zakharova, Dmitry Skorobogatchenko	15:00	16:00	"B" 208
Session 3. Artificial intelligence in Games & eXtended Reality Engineering Chairs: Alla G.Kravets, Valeriia Viakhireva	16:00	17:20	"B" 208
Track 4. Intelligent Technologies in Social Engineering			
Session 12. Intelligent technologies in Urban Design & Computing Chairs: Alexey Finogeev, Danila Parygin	17:20	18:20	"B" 208

25 September

Track 4. Intelligent Technologies in Social Engineering			
Session 10. AI&Creativity in Engineering Education. Chairs: Vitalina Epp, Stanislav Dragunov	09:30	10:30	"B" 208
Section 11. Healthcare Intelligent Technologies Chairs: Olga Shabalina, Ekaterina Korotkova	10:30	11:30	"B" 208
Coffee-break	11:30	11:50	2nd Floor "B"
Track 3. Distributed systems & Proactive control			
Session 4. Data-Driven Industrial Assets Maintenance & Knowledge-Based Control. Chairs: Maxim Shcherbakov, Aleksandr Lapkis	11:50	13:10	"B" 208
Lunch	13:10	14:00	2nd Floor "B"
Track 3. Distributed systems & Proactive control			
Session 5. Pro-Active Modeling in Intelligent Decision Making Support. Chairs: Natalia Sadovnikova, Andrey Andreev	14:00	15:20	"B" 208
Track 4. Intelligent Technologies in Social Engineering			
Section 9. Data Science in Social Engineering Chairs: Elena Zakieva, Alexey Simonov	15:20	18:00	"B" 208
Poster session	16:00	18:00	"B" 209
Final session. Best papers award.	18:00	18:30	"B" 208

#	Topic	Start	Finish	Date	Type ¹
Track 1. Artificial intelligence for Creative tasks					
1.	Knowledge Discovery in Patent and Open Sources	14:00	15:00	24.Sep	
1.1.	Development of a Neural Network Model for Extracting Components from Patent Device Descriptions, Dmitry Korobkin , Artyom Bobunov, Sergey Fomenkov, Alla G.Kravets	14:00	14:20	24.Sep	
1.2.	The new intelligent method of patent array analysis, Alexander Rublev , Dmitriy Korobkin, Alexander Golovanchikov	14:20	14:40	24.Sep	
1.3.	Development of a neural network model for generating the text of a patent application, Sergey A. Fomenkov, Svetlana A. Kozina , Irina S. Nazarova, Yaroslav D. Korobkin	14:40	15:00	24.Sep	
2.	Large Language Models for Creative tasks	15:00	16:00	24.Sep	
2.1.	Slides Agent: An Intelligent Agent for Creating and Analyzing Presentations Using Large Language Models, Alexander Ivanov , Anastasia Pakhorukova, Maria Solodkaya, Aleksandr Konstantinov, Anna Avdyushina, Tatiana Markina	15:00	15:20	24.Sep	
2.2.	Affordance based Model for Prompt Engineering Creativity Support, Anton Ivaschenko , Mikhail Terekhin, Artem Portnov, Oleg Golovnin, Natalya Chertykovtseva	15:20	15:40	24.Sep	
2.3.	Improving the Processing and Acquisition of Text Information in Intelligent Chatbots Using a Hybrid Approach, Igor Riabov , Alexander Kataev, Alexey Kizim, Olga A. Astafurova	15:40	16:00	24.Sep	
2.4.	<i>Optimizing Retrieval Strategies for Vietnamese Legal RAG Systems</i> , Nguyen Truong Giang , To Minh Duc, Nguyen Minh Dang, Nguyen Thi Mai Trang	10:40	11:00	24.Sep	V
2.5.	<i>An Empirical Study of Aspect-Based Sentiment Analysis Using a Two-Stage XGBoost Framework</i> , Nguyen Thi Mai Trang	11:00	11:20	24.Sep	V
3.	Artificial intelligence in Games & eXtended Reality Engineering	16:00	13:00	24.Sep	
3.1.	Understanding Player Experience: Personality Traits, Perceptual Modalities, and Eye-Movement Patterns in Dynamic Gaming Environments, Valeriia Viakhireva	16:00	16:20	24.Sep	
3.2.	Towards Developing Personal Traits of F-2 the Communicative Robot: Context and Temperament, Liliya Volkova , Artemy Kotov, Kirill Kivva, Eseniya Vinogradova	16:20	16:40	24.Sep	
3.3.	Immersive XR System for Law-Enforcement Personnel Training, Alla G. Kravets, Pavel D. Korobkin	16:40	17:00	24.Sep	
3.4.	Challenges and Solutions for Adaptive Software Development: Transferable Adaptation Model and its Implementation in Adaptive Learning Games, Alexander Khayrov , Olga Shabalina, Aleksandr Davtian, Alexander Kataev, Elena Khvastunova, Anna Andropova	17:00	17:20	24.Sep	
Track 2. Distributed systems & Proactive control					
4.	Data-Driven Industrial Assets Maintenance & Knowledge-Based Control	11:50	13:10	25.Sep	
4.1.	Multidimensional Analysis of Heterogeneous Data in Electromechanical Equipment Diagnostic Systems, E. A. Abidova, A.A. Lapkis , N.A. Peters, L.V. Tsykhler, A.V. Chernov	11:50	12:10	25.Sep	
4.2.	Method of Object State Estimation with Small Training Samples, J.A. Vishnevskaya , T.I. Buldakova	12:10	12:30	25.Sep	
4.3.	Data Collection, Analysis, and Classification for Equipment	12:30	12:50	25.Sep	

¹ K – keynote, V – videoconference

#	Topic	Start	Finish	Date	Type ¹
	Monitoring Using Intelligent Agents, Anastasya Bardikova, Anna Pygacheva, Ivan Holodov, Nguyen Dinh Hung, N.A. Salnikova, and Alexey Kizim				
4.4.	Selection features of the p-controller coefficient value for automatic regulation of passenger car's anti-lock braking system, Grigory Boyko , Alexey Fedin, Mikhail Petrenko, Igor Leskovets, Jozef Redl	12:50	13:10	25.Sep	
5.	Pro-Active Modeling in Intelligent Decision Making Support	14:00	15:20	25.Sep	
5.1.	Intelligent Proactive Control Technologies for Sustainable Development, Vladimir Tsyganov	10:30	11:00	23 Sep	K
5.2.	Tranformer-Based RUL Prediction via Approximated Non-Linear Kernels, Nikita Kolovorotnyy	14:00	14:20	25.Sep	
5.3.	Network Load Analysis-Based Method for Electrical Equipment Types Classification, Nikita M. Aleinikov , Maxim V. Shcherbakov	14:20	14:40	25.Sep	
5.4.	Acceleration of computational processes for artificial intelligence tasks based on the analysis of architectural features of central and graphics processors, Vladimir Shabalovsky , Vitaly Egunov, Andrey Andreev	14:40	15:00	25.Sep	
5.5.	Data mining on investment development of regional socio-economic systems for management decision-making, Elena Makarova, Elena Zakieva , Elvira Gabdullina, Nataliya Khasanova, Alexey Boytsov	15:00	15:20	25.Sep	
6.	Intelligent distributed systems cybersecurity	16.00	16.40	23.Sep	
6.1.	A Study on the Use of Artificial Intelligence in Open Source Intrusion Detection and Prevention Systems, Enkh-Od Erdene , Uranchimeg Tudevdaeva, Dashdorj Yamkhin, Zheng Rui	10.20	10.40	24.Sep	<i>V</i>
6.2.	Development of an automated identification and identity verification module based on the analysis of document images, Eman Shaheen , Gais Al-Merri	16.00	16.20	23.Sep	
6.3.	Trust in Automation: Evaluation of Trustworthiness of Automated Assessment, Aleksandr Davtian, Olga Shabalina , Olga Berestneva, Irina Molodtsova, Elena Khvastunova, Anna Andropova	16.20	16.40	23.Sep	
Track 3. Cyber-Physical Systems & Robotics					
7.	Cyber-Physical Systems & Industrial Creativity	14:00	15:00	23.Sep	
7.1.	Method for a 3D Printing Cyber Physical System Control on the Analysis of Environmental Monitoring Data, Alla G. Kravets , N.A. Salnikova, I.V. Strukova, M.B. Lempert	10:00	10:30	23 Sep	K
7.2.	Application of artificial intelligence methods for assessing the 3D model construction workflow, P.Gusev , A.Danilov, Y.Lvovich, P.Povarov, K.Gusev	14:00	14:20	23.Sep	
7.3.	Technology for Exploratory Analysis of Cyber-physical System Objects Operation Data Based on Application of Different Visualization Metaphors, Alena Zakharova , Ruslan Isaev, and Aleksandr Podvesovskii	14:20	14:40	23.Sep	
7.4.	Evolutionary Selection of a Deep Neural Network Parameters for Recognition of Functional States of Cell Groups United by Mechanical Microvibrations, Andrey Volkov, Artem Mukkel, Elena Iakunicheva, and Anton Soshnikov	14:40	15:00	23.Sep	
7.5.	<i>Strength Prediction of Concrete with Mongolian Cement and Fly Ash Based on Machine Learning</i> , Bulgan Daalkhai , Momoka	10:00	10:20	24.Sep	<i>V</i>

#	Topic	Start	Finish	Date	Type ¹
	<i>Maruyama, Atsushi Suzuki</i>				
8.	Robotics Design & Control	15:00	16:00	23.Sep	
8.1.	A Graphical User Interface for Controlling a Group of Service Mobile Robots, Rinat Gataullin, Bulat Abbyasov, Valeriya Zhukova, Edgar A. Martinez-Garcia, Evgeni Magid	15:00	15:20	23.Sep	
8.2.	Design of a Robotic Injection Device for Medical Applications, Shifa Sulaiman , Liaisan Safarova, Niyaz Imamov, Hongbing Li, Evgeni Magid	15:20	15:40	23.Sep	
8.3.	Development of an Integrated Computer Vision and Gait Control System for an Insectomorphic Robot, V.A. Egunov , V.I Konchenkov., I.D. Polukhin, V.A. Zybin	15:40	16:00	23.Sep	
Track 4. Intelligent Technologies in Social Engineering					
9.	Data Science in Social Engineering	15:40	18:00	25.Sep	
9.1.	Study of deviant behavior of minors by constructing an intelligent fuzzy system based on the Freiburg Personality Inventory (FPI), A. Gish , A. Kovalenko	15:40	16:00	25.Sep	
9.2.	Multimodal Analysis of VK User Profiles for Friend Recommendation, Nikita Andriyanov	16:00	16:20	25.Sep	
9.3.	Agent-based modeling of consumer income and expenses formation processes in quintile groups of the population, Elena Makarova , Elena Zakieva, Nikolay Rovneyko, Marat Yusupov, Anastasia Paramonova	16:20	16:40	25.Sep	
9.4.	Speech under Stress: A Machine Learning Approach to Detecting Public Speaking Anxiety through Acoustic Features – a Pilot Study, Valeriia Demareva , Nikolay Nazarov, Ksenia Bushueva, and Andrey Demarev	16:40	17:00	25.Sep	
9.5.	Optimizing Personal Schedules with CP-SAT and Soft Constraints, Sergei Volchkov	17:00	17:20	25.Sep	
9.6.	Spatial Heterogeneity of Economic Indicators' Interdependence: Specifics of Arctic Regions, Alexey B. Simonov , Alexey F. Rogachev, Irina E. Simonova, Darya V. Ocheretyanaya	17:20	17:40	25.Sep	
9.7.	Navigation in the Digital Environment: The Influence of General and Domain-Specific Skills, Anastasiia Brueva and Julia Edeleva	17:40	18:00	25.Sep	
10.	AI&Creativity in Engineering Education	09:30	10:30	25.Sep	
10.1.	<i>Data - Driven Assessment for Mathematic Course based on SURE and QASS models, Uranchimeg Tudevdağva, Paul Hubert Vossen and Amarzaya Amartuvshin</i>	09:30	10:00	24 Sep	KV
10.2.	KEEL: Knowledge Engineering for Educators Layer, Aleksandr Konstantinov , Anna Avdyushina, Maria Solodkaya, Anastasia Pakhorukova, Alexander Ivanov, Ilya Danilenko	09:30	09:50	25.Sep	
10.3.	Research on the application of Yingge dance in University physical education from the perspective of digital intelligence, Zhi Cheng Yi , Narantsatsral Delgerkhuu	09:50	10:10	25.Sep	
10.4.	New approach for training college students in game development competitions, Alexandr Bershadskii , Ekaterina Ilyinskaya, Vitalina Epp	10:10	10:30	25.Sep	
11.	Healthcare Intelligent Technologies	10:30	11:30	25.Sep	
11.1.	Autonomic response to imagery of real and desired self: the role of self-esteem in the dynamics of heart rate variability, Irina Zayceva , Valeriia Demareva	10:30	10:50	25.Sep	

#	Topic	Start	Finish	Date	Type ¹
11.2.	Healthcare Intelligent Technologies for Real-Time Brain Anomaly Detection, Vladimir Tsygankov , Aleksandr Kataev, Rodion Kudrin, Dmitriy Orlov, Olga Berestneva	10:50	11:10	25.Sep	
11.3.	A surprising increase in the predicted brain age in people who had suffered a stroke in their childhood: a real result or a pitfall in the analysis of MRI scans?, Ekaterina Korotkova , Sofia Kulikova, Alexey Meshkov, Michail Lebedev, Dmitrii Tarasov, Daria Kleeva, Ksenia Kunnikova, Olga Lvova	11:10	11:30	25.Sep	
11.4.	<i>A Study on Early Detection of Skin Cancer Using Deep Learning</i> , Daariimaa Chuluunbaatar , Uranchimeg Tudevdagva, Ganbat Ganbaatar	11:20	11:40	24.Sep	V
12.	Intelligent technologies in Urban Design&Computing	17:20	18:20	24.Sep	
12.1.	Synthesis and study of neural network model for predicting critical events in road environment, Anton Finogeev , Mikhail Deev, Polezhaev Maxim, Alexey Finogeev	17.20	17.40	24.Sep	
12.2.	Defect recognition for clustering and ranking road sections according to the incidents risk, Anton Finogeev, Mikhail Deev, Alexey Finogeev	17.40	18.00	24.Sep	
12.3.	Control of Operation and Fleet Management of Public Transport Depots based on a Chatbot System, Alexander Menko, Marat Mansurov, Danila Parygin , Natalia Sadovnikova, Tatyana Petrova	18.00	18.20	24.Sep	

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