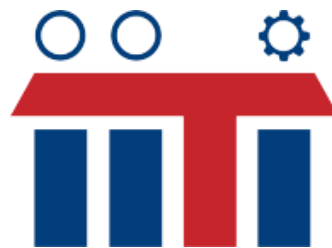




## CONFERENCE PROGRAMME

November 1 – 7, 2024, Shanghai-Harbin,  
China



## ORGANIZERS

**Rostov State Transport University (Russia)**  
**Harbin Institute of Technology (China)**  
**JSC “NIIAS” (Russia)**  
**Russian Association for Artificial Intelligence (Russia)**

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- **Vladimir Vereskun**, Rostov State Transport University, Russia
- **Han Jiecai**, Harbin Institute of Technology (HIT), China
- **Alexander Dolgiy**, JSC “NIIAS”
- **Zongben Xu**, Chinese Academy of Sciences, China
- **Imran Akperov**, Southern University, Russia

### Conference Chairs

- **Sergey Kovalev**, Rostov State Transport University, JSC NIIAS, Russia
- **Igor Kotenko**, St. Petersburg Federal Research Center of RAS, and ITMO University, Russia
- **Liu Ting**, Harbin Institute of Technology (HIT), China

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- **Andrey Sukhanov**, Rostov State Transport University, JSC “NIIAS”, Russia
- **Ivan Olgeizer**, Rostov State Transport University, JSC “NIIAS”, Russia
- **Zhang Dazhi**, Harbin Institute of Technology (HIT), China
- **Jian Fang**, Harbin Institute of Technology (HIT), China
- **Wang Long**, Peking University, China

### Conference Organizers

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- **You Chao**, Harbin Institute of Technology, China
- **Li Jia**, Harbin Institute of Technology, China
- **Sun Jiebao**, Harbin Institute of Technology, China
- **Anna Kolodenkova**, Samara State Technical University, Russia
- **Shi Shengzhu**, Harbin Institute of Technology, China
- **Andrey Shulzhenko**, Rostov State Transport University, JSC “NIIAS”, Russia
- **Vitezslav Styskala**, VSB-Technical University of Ostrava, Czech Republic
- **Liu Wenjie**, Harbin Institute of Technology, China
- **Yao Wenjuan**, Harbin Institute of Technology, China
- **Li Yao**, Harbin Institute of Technology, China
- **Li Yin**, Harbin Institute of Technology, China
- **Xing Yuming**, Harbin Institute of Technology, China
- **Guo Zhichang**, Harbin Institute of Technology, China

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- **Alexey Averkin**, Dorodnicyn Computing Centre of Russian Academy of Sciences, Russia
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- **Zhu Wei**, Chongqing University of Posts and Telecommunications, China
- **Tang Xiaomin**, Heilongjiang University, China
- **Chen Xinzhuang**, Yan'an University, China
- **Li Xiuxian**, Tongji University, China
- **Xu Xuanhua**, Central South University, China
- **Nadezhda Yarushkina**, Ulyanovsk State Technical University, Russia
- **Dmitry Yudin**, Moscow Institute of Physics and Technology, Artificial Intelligence Research Institute, Russia
- **Mikhail Zabezhailo**, Dorodnicyn Computing Centre of Russian Academy of Sciences, Russia

## IITI'24 General Plan

<b>Date</b>	<b>Content</b>
<b>November 1</b>	<b>Conference registration in Shanghai. Visit Shanghai Night View</b>
<b>November 2, before 12:00 am</b>	<b>China's Ministry of Industry, Ministry of Education and other departments supported the opening ceremony of the International Conference on Science and Technology Exchange (a total of 2,000 experts)</b>
<b>November 2, after 12:00 am</b>	<b>Academic presentations by leading Russian and Chinese experts</b>
<b>November 3, before 12:00 am</b>	<b>Tour Shanghai</b>
<b>November 3, after 12:00 am</b>	<b>Fly to Harbin (HIT)</b>
<b>November 4-5</b>	<b>IITI'24 main track</b>
<b>November 6</b>	<b>Scientific meetings and visiting Harbin</b>
<b>November 7</b>	<b>IITI'24 Closing</b>

## VENUE

### Conference sessions will be held at:

#### Part 1: Shanghai

Zhangjiang Science Hall Address: No. 1393, Haik Road, Pudong New Area, Shanghai

There will be a scheduled bus for academic conferences waiting and picking up at the airport.

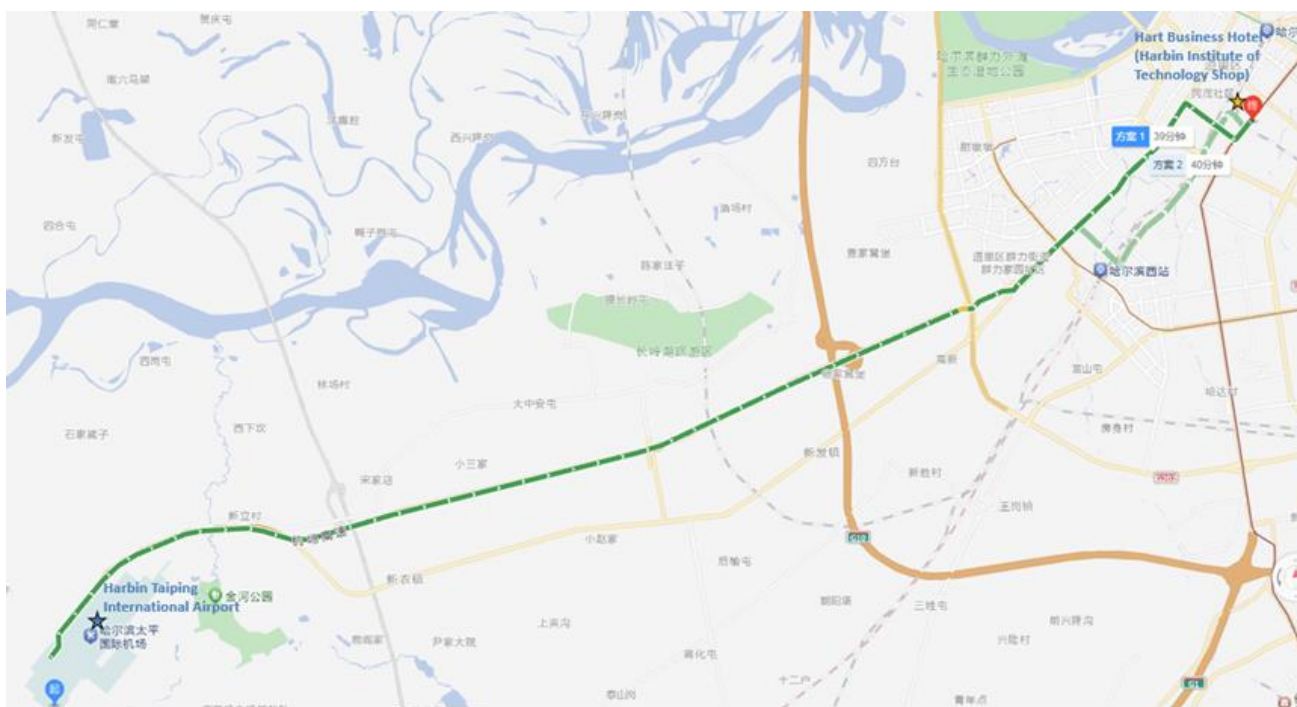
#### Part 2: Harbin

Hart Business Hotel (Harbin Institute of Technology Shop)

### Information for self-approaching to Harbin (if not planning visiting Shanghai)

**Taxi:** Approximately 22 km, about 40 minutes, cost around 85 CNY

**Public Transport:** Take the Airport Shuttle Bus Line 2 to the Harbin University of Science and Technology Metro Station, transfer to Metro Line 1 (bound for Harbin East Railway Station), exit at Harbin Institute of Technology Station (follow the signs to Exit 3), and walk about 320 meters to reach Hart Business Hotel



November 4, 10:00 – 16:00, Harbin Institute of Technology (Activity Center 327, Science Building 401 and 601)

November 5, 10:00 – 16:45, Harbin Institute of Technology (Science Building 401, 601 and 609)

VooV links for the online participants will be shared. Please download VooV in advance.

VooV link Shanghai

VooV link Harbin 401

<https://meeting.tencent.com/dm/kQImedmN3F> VooV Meeting: 312-6727-9374

VooV link Harbin 601

<https://meeting.tencent.com/dm/Jhqjbf6G5GQp> VooV Meeting: 948-3892-6106

**November 4-5 Official IITI Dinner will be held at:**

**Hart Business Hotel**

**Address: No. 108, Xidazhi Street, Nangang District, Harbin**

## Detailed IITI'24 Programme

### PART 1: SHANGHAI

#### Friday, November 1

**Daytime:** Conference registration.

#### Saturday, November 2

**Before 12:00 am** Participation in the opening ceremony of the **International Conference on Scientific** supported by the Ministry of Industry, the Ministry of Education and other relevant departments in China (with a total of 2,000 participants).

A special session of IITI '24.  
Keynotes of the leading Russian and Chinese experts

14:00 – 15:00	Smart Standards for Industry 4.0 and 5.0 based on Knowledge Graphs <b>Valeria Gribova</b> Institute of Automation and Control Processes FEB RAS (IACP FEB RAS), Russia
15:00 – 16:00	How to Simulate Learning Methodology?—On essence of Fundamental Models <b>Zongben Xu</b> Chinese Academy of Sciences, China
16:00 – 16:30	Coffee Break
16:30 – 17:30	AI for Security Event Correlation in Industrial Cyber-Physical Systems: Mathematical Models, Implementations, and Challenges <b>Igor Kotenko</b> Saint-Petersburg Federal Research Center of Russian Academy of Sciences, ITMO University, Russia
17:30 – 18:30	Quantum Scientific Computing <b>Jin Shi</b> School of Natural Sciences at Shanghai Jiao Tong University

#### Sunday, November 3

**Before 12:00 am** A sightseeing tour of Shanghai.

**After 12:00 am** Fly to Harbin (HIT).



**Monday, November 4**

**PART 2: HARBIN**

**Venue:**

- Harbin Institute of Technology (09:00 – 17:00)

**Events:**

- Opening Session
- Machine Learning and It's Applications, Evolutional Modeling and Genetic Algorithms
- Intelligent Information Technologies for Social Science
- Decision-Making Intelligent Systems
- Equations in partial derivatives and their applications, Multiagent Systems

<b>09:00 – 10:00</b>	<b>Registration at Harbin Institute of Technology (Activity Center 327)</b>
<b>09:30 – 10:00</b>	<b>Opening Session IITI'24 (Activity Center 327)</b> <b>Han Jiecai, Sergey Kovalev, Igor Kotenko, Andrey Sukhanov, Zongben Xu, Zhen Liang and Liu Ting</b> <b>VooV Meeting: 948-3892-6106</b>
<b>10:00 – 10:40</b>	<b>Dynamic stability of coalitions structures(Activity Center 327)</b> <b>Vladimir Mazalov</b> <b>Professor of St. Petersburg State University, Russia</b> <b>VooV Meeting: 948-3892-6106</b>
<b>11:30 – 13:00</b>	<b>Session 1 (Science Building 401). Machine Learning and Its Applications.</b> <b>Part 1 VooV Meeting: 312-6727-9374</b> <b>Chairs: Lev Utkin, Zhang Dazhi</b> <b>(Assistant:Fu Guofeng, Wang Luobin)</b> <ol style="list-style-type: none"><li>1. An Explicit Concept-Based Approach for Incorporating Expert Rules into Machine Learning Models (offline) <b>Andrei Konstantinov and Lev Utkin</b></li><li>2. ITLP-Campus: A Dataset for Multimodal Semantic Place Recognition (offline) <b>Alexander Melekhin, Vitaly Bezuglyj, Dmitry Yudin, Ilya Petryashin, Kirill Muravyev, Sergey Linok and Aleksandr Panov</b></li><li>3. Insurance Claims Fraud Detection Based on Machine Learning (online) <b>Igor Kotenko, Ghina Ozdemir, Mhd Wasim Raed, Lham Huseyinov, Elena Fedorchenko and Rafet Akdeniz</b></li><li>4. Application of Machine Learning for High-Speed Flow Modelling Issues(offline) <b>Vladimir Istomin</b></li><li>5. Classification of Mental Stress using an Explainable Machine Learning Approach (online) <b>Fatima Zohra Boulanouar, Mhd Wasim Raed, Ilham Huseyinov, Rafet Akdeniz, Igor Kotenko and Elena Fedorchenko</b></li><li>6. Conditional Variational Autoencoders with Fuzzy Inference (online) <b>Yury Gurov and Danil Khilkov</b></li><li>7. Case-Based Decision Support System in the Field of Tourism (online) <b>Olga A. Nikolaychuk, Yuliya V. Pestova, Dmitriy E. Kosogorov, Alexander I. Pavlov and Ivan Poddubnyy</b></li></ol>

<p>11:30 – 13:00</p>	<p><b>Session 2</b> (Science Building 601). <b>Intelligent Information Technologies for Social Science VooV Meeting: 948-3892-6106</b> <b>Chairs: Li Yao, Li Yin (Assistant:Zhang Kailin, Li Xiangyu)</b></p> <ol style="list-style-type: none"><li>1. Nomination Analysis of Media Profiles of Public Opinion Leaders in Various Cultural Environments based on GPT (offline) <b>Andrey Chechulin, Maxim Kolomeets, Ksenia Namiatova and Dmitrii Gavra</b></li><li>2. Community Theme Analysis: Predicting Career Guidance in Online Social Networks (offline) <b>Artyom Chekalev, Anastasiia Khlobystova and Maxim Abramov</b></li><li>3. Evolution Topic Modeling-based Dynamic Summarization of User Discussions on Social Networks. (offline) <b>Ivan Blekanov</b></li><li>4. Cognitive Dissonance in Solving Planimetric Problems (offline) <b>Kurbatov Sergey and Gilmendinov Mikhail</b></li><li>5. Semantic Based Clusters of VK User’s Avatars and Their Association with the Big Five Personality Profile (offline) <b>Fedor Bushmelev, Valeriia Stoliarova and Tatiana Tulupyeva</b></li><li>6. Intelligent Support for Manuscript Authors using Term Clouds in Scientific Reviews (online) <b>Viktoriya A. Latypova</b></li></ol>
<p>13:00 – 13:30</p>	<p><b>Coffee Break</b></p>
<p>13:30 – 14:45</p>	<p><b>Session 1</b> (Science Building 401). <b>Machine Learning and Its Applications. Part 2 VooV Meeting: 312-6727-9374</b> <b>Chairs: Lev Utkin, Yao Wenjuan (Assistant:Fu Guofeng, Nong Shengzhang)</b></p> <ol style="list-style-type: none"><li>1. Generating Hypotheses Based on the Table Constraint Satisfaction Methods in JSM-systems (online) <b>Alexander Zuenko</b></li><li>2. Synthesis and Analysis of Porous Frame Structures Images Using Machine Learning Methods (online) <b>Artem Poltavskiy, Ekaterina Kolomenskaya, Grigory Beliaevsky, Vera Butova and Maria Butakova</b></li><li>3. Impact of Spectral and Meteorological Data Fusion on the Accuracy of Woody Plant Identification Using Deep Machine Learning Methods (online) <b>Alexandr Alexandrov, Pavel Dmitriev, Anastasia Dmitrieva, Boris Kozlowsky and Artem Poltavskiy</b></li><li>4. Local Patch Active Appearance Model of the Face (online) <b>Aleksandr Borisov and Sergey Makhortov</b></li><li>5. Robust Estimation of Stochastic Data in Machine Learning Systems (online) <b>Agop Khatlamadzhiyan, Sergey Sokolov, Irina Reshetnikova and Olga Sokolova</b></li></ol>

<p><b>14:45 – 15:30</b></p>	<p><b>Session 3</b> (Science Building 401). <b>Evolutional Modeling and Genetic Algorithms</b> #Voov meeting: 312-6727-9374 <b>Chairs: Nadezhda Yarushkina, Liu Wenjie</b> <b>(Assistant: Fu Guofeng, Nong Shengzhang)</b></p> <ol style="list-style-type: none"><li>1. Genetic Algorithm for Phylogenetic Tree Reconstruction (offline) Nadezhda Yarushkina, Nadezhda Korunova and Gleb Guskov</li><li>2. Introducing the Fourth Generation of Memetic Algorithms (online) Maxim Sakharov</li><li>3. Development of a Hybrid Algorithm for Creating Escape Routes based on Fuzzy Control (offline) Leonid Gladkov, Nadezhda Gladkova and Eugene Nuzhnov</li></ol>
<p><b>13:30 – 15:30</b></p>	<p><b>Session 4</b> (Science Building 601). <b>Decision-Making Intelligent Systems.</b> <b>Part 1</b> Voov meeting: 948-3892-6106 <b>Chairs: Konstantin Yakovlev, Guo Zhichang</b> <b>(Assistant: Zhang Kailin, Liu Jingsen)</b></p> <ol style="list-style-type: none"><li>1. Forming a Rule base for Product Lifecycle Management Systems (offline) Liliya Kamaletdinova, Anton Romanov, Aleksey Filippov and Nadezhda Yarushkina</li><li>2. 3d Segmentation Methods of Archaeology Sites using Dynamic Graph CNN and Transformer Architecture (online) Aleksander Vokhmintcev, Mostafa Khater and Mostafa Abotaleb</li><li>3. Evaluating A* and RRT for High-DoF Path Planning (offline) Aleksandr Onegin, Nuraddin Kerimov and Konstantin Yakovlev</li><li>4. Platform Architecture for Human-AI Collaborative Decision Support (online) Alexander Smirnov, Andrew Ponomarev, Tatiana Levashova, Nikolay Teslya and Nikolay Shilov</li><li>5. Design of Control Trajectory Optimization Approach for Models with Unobservable Variables in Intelligent Systems (online) Alexander Tselykh, Vladislav Vasilev and Larisa Tselykh</li><li>6. Exponential Degradation Model based Remaining Life Prediction for Tools of Milling Machine (online) Murshedul Arifeen, Andrei Petrovski, Junayed Hasan and Zeeshan Ahmad</li><li>7. Development of a Program Complex for Diagnosing Electrical Engineering Systems in Conditions of Heterogeneous data (online) Anna Kolodenkova, Svetlana Vereshchagina, Ekaterina Favorskaya, Ekaterina Osipova and Andrey Okhotnikov</li><li>8. A Representation and Retrieval Method for Situations in a Situational Knowledge Base of a CBR System Based on Neural Networks and Contrastive learning (online) Igor Glukhikh and Dmitry Glukhikh</li><li>9. An Efficient Algorithm for Calculating Optical Flow Parameters in Computer Vision Systems (online) Sergey Sokolov, Daniil Marshakov, Agop Khatlamadzhiyan and Irina Reshetnikova</li></ol>

**Monday, November 4**

	<p>10. Data mining for the decision support system of the Expert Scientific Council in higher education (online) <i>Irina Dergacheva, Vladimir Vereskun and Sergey Grishaev</i></p>
<b>15:30 – 16:00</b>	<b>Coffee Break</b>
<b>16:00 – 17:00</b>	<p><b>Session 5</b> (Science Building 401). <b>Equations in partial derivatives and their applications</b> <b>VooV Meeting: 312-6727-9374</b> <b>Chairs: Bi Hui, Li Jia</b> <b>(Assistant: Fu Guofeng, Nong Shengzhang)</b></p> <ol style="list-style-type: none"><li>1. Level Set Method based on Molecular Beam Epitaxy Equation for Image Segmentation. (offline) <i>Di Kuang, Zhichang Guo and Fanghui Song</i></li><li>2. Research on Variational Pan-Sharpening Model with Adaptive Regex Coefficient (offline) <i>Yao Li, Tianyou Ma, Zhichang Guo and Boying Wu</i></li><li>3. Opportunities of machine learning in healthcare: a case of chronic heart failure early diagnosis (offline) <i>Iuliia Balykina</i></li><li>4. A Three-Stage Variational Image Segmentation via SAV Algorithm (offline) <i>Junyi Zhang, Wenjuan Yao and Zhongxiang Zhou</i></li><li>5. A new 8th-order central upwind WENO scheme (offline) <i>Hui Bi, Yining Zhu and Yang Sun</i></li></ol>
<b>16:00 – 17:00</b>	<p><b>Session 6</b> (Science Building 601). <b>Multiagent Systems</b> <b>VooV Meeting: 948-3892-6106</b> <b>Chairs: Guo Zhichang, Li Yao</b> <b>(Assistant: Zhang Kailin, Liu Jingsen)</b></p> <ol style="list-style-type: none"><li>1. Distributed Subgradient Algorithm Over Non-independent Randomly Time-Varying Graphs (offline) <i>Yan Chen, Alexander L. Fradkov, Keli Fu, Xiaozheng Fu and Tao Li</i></li><li>2. Time-Consistency in Dynamic Cooperative Games with Multiple Trajectories (offline) <i>Zekun Li, Yin Li, Wenwen Qiao and Wantong Cheng</i></li><li>3. Ontological model of wheat production process for digital twin of plant (offline) <i>Petr Skobelev, Aleksey Tabachinskiy, Elena Simonova, Anatoly Strizhakov, Evgeny Kudryakov and Anastasiya Galitskaya</i></li><li>4. Agent-Oriented Ontological Engineering for Multiagent Cyber-Physical Systems Utilizing Meta-Associative Graphs (online) <i>Anton Misnik and Vadim Borisov</i></li></ol>

**Tuesday, November 5**

**Venue:**

- Harbin Institute of Technology (10:00 – 16:45)

**Events:**

- Keynotes
- Automation and Intellectualization for Industrial, Transport and Energetic Systems
- Cyber security in Industry 4.0
- Neural and Bayesian Networks
- Intelligent Medical Systems
- Non-Classical Logic and Plausible Inference

<b>10:00 – 11:00</b>	<b>Keynote (Science Building 609)</b> <b>Multimodal 3D Mapping based on Neural Networks</b> <b>Dmitriy Yudin</b> <b>Moscow Institute of Physics and Technology, Moscow, Russia</b> <b>VooV Meeting: 948-3892-6106</b>
<b>11:00 – 12:30</b>	<b>Session 7 (Science Building 401). Automation and Intellectualization for Industrial, Transport and Energetic Systems.</b> <b>Part 1</b> <b>VooV Meeting: 312-6727-9374</b> <b>Chairs: Andrey Sukhanov, Guo Zhichang</b> <b>(Assistant: Fu Guofeng, Zhu Shihui)</b> <ol style="list-style-type: none"><li>1. Using State Transition Diagrams for Automated Knowledge Base Construction (offline) <b>Nikita Dorodnykh and Alexander Yurin</b></li><li>2. Method for Evgeny intellectualization of interaction between a technical system and a user in the natural language of a domain (offline) <b>Sergei Kucherov, Yuri Rogozov, Alexander Sviridov and Artem Borisov</b></li><li>3. Safety Control of the Use of Technical Vision Systems on Hump Humps (offline) <b>Konstantin Kornienko, Pavel Borovlev, Konstantin Maksimov, Ekaterina Melnik and Anna Kataenko</b></li><li>4. Intelligent Approach to Solving the Problem Control over Railway Cars in the Marshalling Yard (offline) <b>Andrew Shulzhenko, Andrey Sukhanov, Maria Butakova and Vladislav Ierusalimov</b></li><li>5. Planning Station Operations based on Actual Station Performance Obtained "From the Wheel" (online) <b>Sergey Kovalev, Andrey Sukhanov, Ivan Olgeyzer and Vladislav Ierusalimov</b></li><li>6. Modeling Pricing in the Transport Services Market: Analysis and Forecasting (online) <b>Vyacheslav Zadorozhniy, Maksim Bakalov, Maksim Kolesnikov and Yulia Bakalova</b></li></ol>

**Tuesday, November 5**

<b>11:00 – 12:30</b>	<b>Session 8</b> (Science Building 601). <b>Cyber security in Industry 4.0</b> <b>VooV Meeting: 948-3892-6106</b> <b>Chairs: Igor Kotenko, Li Jia</b> <b>(Assistant:Zhang Kailin, Zhang Yingfang)</b> <ol style="list-style-type: none"><li>1. Early Detection of Botnets Using Artificial Intelligence Methods (offline) Igor Zelichenok, Ksenia Zhernova, Andrey Chechulin and Lidia Vitkova</li><li>2. System for Detecting Anomalies in Information Security Logs (offline) Alexey Vulfin, Pavel Lozhnikov, Alexey Sulavko, Elena Atarskaya and Anastasiya Kirillova</li><li>3. FedDW: Leveraging Dataset Distillation for Black-Box Watermarking in Federated Learning Models (offline) Dawei Zhou and Jialiang Peng</li><li>4. A Statistical Approach to Evaluation and Selection of Wavelets for Detecting Computer Attacks (online) Igor Kotenko, Igor Saenko and Peter Bortniker</li><li>5. Insider Threat Detection within Operational Technologies using Digital Twins (online) Andrei Petrovski, Igor Kotenko, Murshedul Arifeen, Georgy Abramenko and Pavel Sobolev</li><li>6. Mutual Information based Ensemble Anomaly Detection Strategy for Cyber-Physical Systems (online) Zeeshan Ahmad, Andrei Petrovski, Igor Kotenko, Syed Aziz Shah and Yin Li</li><li>7. Framework for the Development of Anomaly Detection and Classification Models for Cyber-physical Systems (online) Basan Elena, Alexander Basan and Anton Mogilnyy</li></ol>
<b>12:30 – 13:00</b>	<b>Coffee Break</b>

<p>13:00 – 15:00</p>	<p><b>Session 7</b> (Science Building 401). <b>Automation and Intellectualization for Industrial, Transport and Energetic Systems.</b> <b>Part 2</b> <b>VooV Meeting: 312-6727-9374</b> <b>Chairs: Andrey Sukhanov, Yao Wenjuan</b> <b>(Assistant: Fu Guofeng, Yin Guangpu)</b></p> <ol style="list-style-type: none"><li>1. Complexity Estimate of Logical Specifications Execution for Transport Processes Prototyping (online) <b>Vera V. Ilicheva and Alexander N. Guda</b></li><li>2. Neural Network Control of the Transportation Process in Railway Transport: Issues and Future Tasks (online) <b>Enver Mamaev, Olesya Ignatieva, Evgeniia Chebotareva, Dmitry Pritikin and Yuri Bulavin</b></li><li>3. The Development of a Method for Managing Traffic Flows based on an Agent-Based Approach (offline) <b>Leonid Gladkov, Gennady Veselov and Dmitriy Elkin</b></li><li>4. Leveraging Deep Reinforcement Learning for Reducing Longitudinal Train Forces in Railway Systems (online) <b>Yuri Bulavin and Olesya Ignatieva</b></li><li>5. Predictive Control Model using Fuzzy Logic to Optimize Process Parameters (online) <b>Elena Muravyova, Timur Halmurzin, Marsel Sharipov and Aleksandr Dorofeev</b></li><li>6. Construction of a Fuzzy Controller for UAV Angular Orientation under Conditions of Brief High-Intensity Disturbances and Analysis of its Functioning with Various Models of Fuzzy Inference (online) <b>Andrey Kostoglotov, Sergey Lazarenko, Vladimir Zekhtser, Anton Penkov and Marina Nakonechnaya</b></li><li>7. Synthesis of an extrapolator of state parameters of dynamic processes in intelligent transport systems based on the scientific and methodological apparatus of reducing the Lagrange problem to an isoperimetric one (online) <b>Anton Penkov, Andrey Kostoglotov, Vladimir Zekhtser and Marina Nakonechnaya</b></li><li>8. Identifying disturbances in the behavior of technological processes in intelligent monitoring systems (online) <b>Alexander Dolgiy, Alexander Guda and Sergey Kovalev</b></li></ol>
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**Tuesday, November 5**

<b>13:00 – 15:00</b>	<p><b>Session 9</b> (Science Building 601). <b>Neural and Bayesian Networks</b> <b>VooV Meeting: 948-3892-6106</b> <b>Chairs: Dmitriy Yudin, Zhang Dazhi</b> <b>(Assistant: Zhang Kailin, Sakai Emiri)</b></p> <ol style="list-style-type: none"><li>1. Joint Assessment of Automotive Systems Safety and Security using Bayesian Networks (offline) <b>Oleg Kirovskii and Anton Korolev</b></li><li>2. Data Mining Methods Application to Solve the Oil and Gas Flow Regimes of Oil Well Production Classification Problem (offline) <b>Ilya Mikhaylov, Pavel Varshavskii, Marina Fomina and Kirill Sidorov</b></li><li>3. FedPCGA: A Federated Unlearning Method Based on Projected Conflict Gradient Ascent (online) <b>Ying Liu and Jialiang Peng</b></li><li>4. Advanced Metrics for the Detection Problem on Perspective Transformed Images (online) <b>Andrew Ponomarev, Anton Agafonov, Alexander Smirnov, Nikolay Shilov, Andrey Sukhanov and Andrey Shulzhenko</b></li><li>5. Adversarial Adaptive Sampling for Physics Informed Neural network (offline) <b>Yao Li, Yuanxun Xu, Shengzhu Shi and Boying Wu</b></li><li>6. Leveraging Single and Multi-Task Reinforcement Learning algorithms for Autonomous Mobile Aloha Robot (offline) <b>Aditya Narendra, Dmitry Makarov and Alexandr Panov</b></li><li>7. Algebraic Bayesian Networks: Refinement of the Approximate Generation of the Knowledge Pattern Canonical Representation (offline) <b>Artyom Vyatkin and Maxim Abramov</b></li><li>8. Continuous Authentication with Eye Movement Biometrics (offline) <b>Sergei Davydenko and Evgeny Kostyuchenko</b></li><li>9. Signal spreading through a ring of asynchronous threshold elements (online) <b>Oleg Kuznetsov</b></li></ol>
<b>15:00 – 15:30</b>	<b>Coffee Break</b>



<p>15:30 – 16:45</p>	<p><b>Session 10</b> (Science Building 401) <b>Intelligent Medical Systems</b> <b>VooV Meeting: 312-6727-9374</b> <b>Chairs: Valeria Gribova, Li Yao</b> <b>(Assistant: Fu Guofeng, Yin Guangpu)</b></p> <ol style="list-style-type: none"><li>1. Formation of a Dataset for Assessing Fine Motor Skills in Handwriting after a Stroke and an Example of its Application (offline) Evgeny Kostyuchenko, Vera Ezhova, Dariya Koshechko and Sofya Fominykh</li><li>2. Multilevel Categorization as a Tool for Explaining Prognostic Models of Adverse Events in Cardiology (offline) Karina Shakhgeldyan, Boris Geltser, Nikita Kuksin, Igor Domzhalov, Vladislav Rublev and Regina Pak</li><li>3. Predicting Atrial Fibrillation in Patients with Ischemic Heart Disease Based on Multilevel Categorization (offline) Karina Shakhgeldyan, Vladislav Rublev, Nikita Kuksin, Boris Geltser and Regina Pak</li><li>4. Classifier Based on Neural Networks to Determine the Patient's Speech State (offline) Dariya Novokhrestova, Svetlana Tomilina, Pavel Laptev and Evgeny Kostyuchenko</li><li>5. Fuzzy Situational Control at the Stages of the Medical-and-Technological Process: Problems and Possible Solutions (online) Boris Kobrinskii</li></ol>
<p>15:30 – 16:45</p>	<p><b>Session 11</b> (Science Building 601). <b>Non-Classical Logic and Plausible Inference</b> <b>VooV Meeting: 948-3892-6106</b> <b>Chairs: Aleksandr Ereemeev, Shi Shengzhu</b> <b>(Assistant: Zhang Kailin, Sakai Emiri)</b></p> <ol style="list-style-type: none"><li>1. Research and Development of a Temporal Model of Branching Time for the Intelligent Systems of Real-Time (offline) Aleksandr Ereemeev, Ivan Kurilenko and Nikolay Filinov</li><li>2. On Some Possibilities of Using AI Methods in the Search for Cause-and-Effect Relationships in Accumulated Empirical Data (offline) Michael I. Zabezhalo, Alexander A. Grusho, Nick A. Grusho and Elena E. Timonina</li><li>3. Probabilistic Models for Detection of Causal Relationships in Data Sequences (offline) Michael I. Zabezhalo, Alexander A. Grusho, Nick A. Grusho and Elena E. Timonina</li><li>4. The duality problem of intellectual activity (offline) Yuri Rogozov</li><li>5. Causal Relationships as a Basis for Diagnosis and Decision Making (online) Maria Mikheyenkova</li></ol>

**Wednesday, November 6**

## **SCIENTIFIC MEETINGS AND VISITING HARBIN**

**Harbin Institute of Technology (HIT) is a renowned institution with a long history and outstanding academic achievements.**



Established in 1920, HIT has been dedicated to cultivating top-notch talents in various fields. It is known for its strong engineering programs, advanced research facilities, and excellent faculty. The university has made significant contributions to China's scientific and technological progress.

## The HIT Aerospace Museum



The HIT Aerospace Museum is a unique and fascinating place. It showcases the glorious history and remarkable achievements of China's aerospace industry. Inside the museum, you can see a wide range of exhibits, including models of spacecraft, satellites, and rockets. The museum also features interactive displays and educational materials, providing visitors with a deeper understanding of aerospace technology. With its rich collections and engaging exhibits, the HIT Aerospace Museum is a must-visit destination for aerospace enthusiasts and those interested in science and technology.

## Zhongyang Pedestrian Street- A Feel of Russia in China



Zhongyang (central in English) Pedestrian Street, as its name implies, is a pedestrian street located centrally in Harbin City. Here tourists will find beautiful cobble-stoned streets and an amazing amount of old European-style buildings, some of them are in Renaissance style, some are in Baroque... Apart from the architecture, it is also interesting to find dazzling Russian style western restaurants, ice creams shops and souvenir stores selling goods from Russia taking up about half of the stores lined along both sides of the street. Therefore, when stroll this 1.5-kilometer-long street, you sometimes feel you are in China and sometimes as though somewhere in Russia. If you don't know what to do during your free hours in Harbin or want to buy some souvenirs home, this is certainly the place to be, both day and night! And if you happen to visit this street during the Ice and Snow Festival, you will be surprised see the street full of ice sculptures too!

## St. Sophia Church - Bluff your Friends You've Gone to Russia



Located near Zhongyang Street, the Russian Orthodox Church of St Sophia is Harbin's most famous landmark. Though the building's interior was damaged a lot with time fade by, but just being on the plaza and viewing the church from outside is amazing enough. Its distinctive green onion dome, red-brick body and flocks of pigeons make you feel like you are standing by church buildings at the Red Square in Moscow. Therefore, it may be interesting to take selfies with the church and bluff your friends you've gone to Russia. Inside the church there is Harbin Architectural Art Gallery. If you are interested about what Harbin used to be like, you could get a ticket and step inside for more history explore.

Thursday, November 7

# IIIT'24 Closing