



16th Conference on

DATA ANALYSIS METHODS for Software Systems

November 27–29, 2025

Druskininkai, Lithuania,
Hotel “Europa Royale”

Co-Chairmen:

Prof. Gintautas Dzemyda (Vilnius University, Lithuanian Academy of Sciences)
Dr. Saulius Maskeliūnas (Lithuanian Computer Society)

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Event Schedule

Thursday, November 27

11 ⁰⁰ –13 ⁰⁰	Registration Info Desk
13 ⁰⁰ –13 ³⁰	Opening. Welcome and Introductory Remarks
<i>Gintautas Dzemyda</i> “Data Analysis Methods for Software Systems” (Vilnius University)	
13 ³⁰ –14 ³⁰	Plenary Session (Room A)
<i>Yaroslav D. Sergeyev</i> “Numerical Infinities and Infinitesimals in Optimization” (University of Calabria, Italy)	
<i>Petra Dalunde</i> “Mimer – Sweden’s AI Factory Transforming Access to Trustworthy AI” (RISE Research Institutes of Sweden, Sweden)	

1. **Danylo Abramov**, Eimantas Zaranka, Rūta Juozaitienė, Andrius Grigas, Tomas Krilavičius “Yield Estimation in Hydroponic Sprouts from High-Frequency RGB Imaging”
2. **Sasan Ansarian**, Remigijus Paulavičius, Ernestas Filatovas “Quantum Machine Learning for Image Classification in Healthcare: Algorithms, Applications, and Future Prospects”
3. **Karolina Armonaite**, Livio Conti, Camillo Porcaro, Tomas Ruzgas, Franca Tecchio “Neural Dynamics Revealed by Power-Law Analysis of sEEG Across Brain Regions”
4. **Laura Atmanavičiūtė** “Zero-Knowledge Proofs for Digital Image Authenticity”
5. **Kamilija Jablonskaitė**, Ali Aldujeli, Ieva Čiapienė, Ugnė Meškauskaitė, Indrė Matulevičiūtė, Vacis Tatarūnas, Mantas Landauskas “Identification of Target Genetic Variations via the Mathematical Properties of the Genetic Code”
6. **Amanda Balnionyte** “Machine Learning Approaches to Student Dropout Prediction: A Systematic Review (2020–2024)”
7. **Dalia Breskuvienė**, Gintautas Dzemyda “Feature Stability Index (FSI): A Multi-Axis Metric for Assessing Robustness of Features in Imbalanced Fraud Detection”
8. **Martynas Sabaliauskas** “Visualizing and Controlling the Optimization Process of Geometric Multidimensional Scaling”
9. **Edgaras Dambrauskas**, Eglė Rimkienė, Justina Mandravickaitė, Dmytro Klepachevski, Milita Songailaitė, Tomas Krilavičius “Prompt-Based Bias Detection Using Linguistic Metrics”
10. **Boleslovas Dapkūnas**, Romas Baronas, Remigijus Šimkus “Modelling Pattern Formations of Bacteria: Influence of Gravity”

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11. **Andrius Daranda**, *Lina Kankevičienė, J. Daranda* “A Longitudinal Analysis of Temporal Anomaly Detection in Telegram Cybersecurity Channels”
 12. **Hande Safiye Erdal**, *Monika Katilienė, Tomas Krilavičius, Tomas Urbonas* “Predicting Students’ Achievements Using Machine Learning Methods”
 13. **Henrikas Giedra**, *Dalius Matuzevičius* “Evaluation of Multimodal AI Models for Eyeglasses Recognition”
 14. **Ervinas Gisleris**, *Artūras Serackis, Dalius Matuzevičius* “Single-View Depth Map Integration for Robust Eyeglass Temple Extraction”
 15. **Gabrielė Skirmantaitė**, *Gražina Korvel* “Survey of NLP Techniques for Detecting Alport Syndrome in Electronic Health Records” (Vilnius University)

15⁰⁰–15³⁰

Coffee Break

1. **Rūta Juozaitienė**, Ernst C Wit “A Dynamical Network Framework for Relational State Analysis” (Vytautas Magnus University)
2. **Juan C. Santana Santana**, Jose J. Hernandez Cabrera, Jose J. Hernández Gálvez, José Évora Gómez “Context-Aware Modeling of Temporal Semantics for Deferred Reasoning” (Universidad de Las Palmas de Gran Canaria)
3. **Jurgita Markevičiūtė**, Alfredas Račkauskas “Forecasting the Student Pipeline for Lithuanian Universities” (Vilnius University)

1. **Greta Dovidaitytė**, Gražina Korvel “Automatic Propaganda Technique Classification in Lithuanian News Articles Using Pretrained Language Models” (Vilnius University)
2. **Gabrielė Dargė**, **Deividas Valiuška**, Eimantas Zaranka, Ričardas Krikštolaitis, Tomas Krilavičius “CardioCopilot: An AI-Powered Virtual Consultant for Cardiovascular Prevention” (Vytautas Magnus University)
3. **Simonas Šimėnas**, Dmytro Klepachevskyi, Povilas Treigys, Jurgita Markevičiūtė, Jolita Bernatavičienė “Comparative Evaluation of Diffusion-Based ECG Denoising and Hierarchical Kalman Filtering with Online Learned Evolution Priors” (Vilnius University)
4. **Adrija Sipavičiūtė**, Virgilijus Krinickij “Cyber Incident Detection in Network Flow Utilising Machine Learning and Apache Kafka” (Vilnius University)

1. **Arnoldas Budžys**, Juozas Dautartas, Haroldas Jomantas, Viktor Medvedev, Olga Kurasova “AMBER C2: Enhancing Cyber Defence with Ethical Adversarial Machine Learning” (Vilnius University)
 2. **Virgilijus Krinickij**, Linas Bukauskas “Modelling of Cyber Security Attacks in Large Asynchronous Network Flows” (Vilnius University)
 3. **Juozas Dautartas**, Juozapas Rokas Čypas, Viktor Medvedev, Olga Kurasova “Feature Level Deception or When Malware Wears a Mask”
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1. **Emilija Jakuškaitė**, Dovydas Kaunietis, Lukas Velička, Aušra Gadeikytė “Investigation of Heterogeneous Service Times in Outpatient Clinics using Clustering and Discrete-Event Simulation”
2. **Eligius M. T. Hendrix**, Alejandro Fuster-López, Pablo Guerrero-García, Jesus Martínez-Cruz “Recommender Methods Based on Collaborative Filtering in E-Learning”
3. **Kazimieras Bagdonas** “FNDTN Protocol: A Bitcoin-Native Decentralized Scientific Publishing System with Cryptographically Verifiable Peer Review”
4. **Megang N. Junile**, Audrius Kabasinskas “Agent-Based Modelling in Sustainable Finance: A Systematic Literature Review”
5. **Mindaugas Juodis**, Ernestas Filatovas, Remigijus Paulavičius “Toward a Multi-Dimensional Assessment of Blockchain Decentralization: Empirical Evidence and MCDM-Based Integrative Framework”
6. **Robertas Jurkus**, Povilas Treigys, Julius Venskus “Clustering Dynamic Proximity Graphs to Profile Vessel Traffic Density over Time in a Baltic Sea Case Study”
7. **Diana Kalibatiene**, Algirdas Laukaitis, Kęstutis Normantas, **Julius Jancevičius**, Mindaugas Jankauskas, Dovilė Jodenytė “Artificial Intelligence and Multimodal Data Fusion System for Assessing and Detecting Fraud in Applicants’ Videos”
8. **Danguolė Kalinauskaitė**, Milita Songailaitė, Justinas Dainauskas, **Tomas Krilavičius**, Agnė Paulauskaitė-Tarasevičienė “Anonymization Corpus for Automated Anonymization/Encoding of GDPR-Relevant Data”
9. **Michał Kalinowski**, Bożena Kostek “Few-Shot Isolated Sign Language Recognition with SlowFast and Prototypical Networks”

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10. **Gabrielė Kasputytė**, Danylo Abramov, Paulius Savickas, Anton Volčok “AI and Smartwatches for Eating Behavior Detection: Supporting Dementia Caregivers”
 11. **Monika Katilienė**, Anton Volčok, Rasa Erentaitė, Rimantas Vosylis “NO-GAP: AI-Based Analytics for Student Achievement Trends in Lithuanian Schools”
 12. **Dmitrij Kolodynskij** “Simulation of Cyber Incident Response Using Artificial Intelligence”
 13. **Justina Mandravickaitė** “Leveraging LLM Ensembles for KG-Grounded Narrative Extraction: The Case of Disinformation and Trustworthy News”
 14. **Arnas Matusevičius**, Nerijus Šakinis, Linas Urbonas, Gabrielė Kasputytė, Tomas Krilavičius “Moving Forward Sustainable National Forest Inventory in Lithuania with Cutting-Edge Technologies: From Prototype to Wide-Scale Adoption”
 15. **Edita Mažonienė**, Dmitrij Šešok “X-Ray Lung Diseases Classification Using Deep Neural Network”

19⁰⁰–20³⁰

Welcome Party (Hotel Restaurant)



Event Schedule

Friday, November 28

9⁰⁰–10⁰⁰

Plenary Session (Room A)

Hrachya Astsatryan, Yuri Shoukourian, Vladimir Sahakyan, Levon Aslanyan, Hasmik Sahakyan “High-Performance Artificial Intelligence: Bridging Advanced Computing and AI” (National Academy of Sciences of the Republic of Armenia, Armenia)

Verginica Barbu Mititelu “A Fly in the Ointment. Multiword Expressions and Their Challenges for NLP Tools and Tasks” (Romanian Academy, Romania)

10⁰⁰–11⁰⁰

Parallel Oral Session (Room A)

1. **Jan W. Owsiniński**, Jarosław Stańczak, Przemysław Śleszyński, Rafał Wiśniewski “Cluster-Wise Modelling of Migrations at Municipality Level in Poland: Some Observations and Conclusions” (Polish Academy of Sciences)
2. **Juan C. Santana**, **Jose J. Hernandez Cabrera**, Jose J. Hernandez Galvez, José Evora, Juan A. Montiel “Data Analysis Method for Understanding Human States Through Conversations: A Real-World Case in Diabetes Monitoring” (Universidad de Las Palmas)
3. **Audrius Kabašinskas**, Jurgita Černevičienė, Hamza Wasim “Reinforcement of Investment Decision Making Using Sentiment Analysis” (Kaunas University of Technology)

10⁰⁰–11⁰⁰

Parallel Oral Session (Room C)

1. **Marco Marcozzi**, Ernestas Filatovas, Remigijus Paulavičius “Introducing Quantum Machine Learning: Where AI Meets Quantum Computing” (Vilnius University)
2. Ernestas Filatovas, Remigijus Paulavičius, **Dmitry Podkopaev** “Quantum Computing for Vehicle Routing Problems: State of the Art and Challenges” (Vilnius University)

10⁰⁰–11⁰⁰

Parallel Oral Session (Room D)

1. *Mantas Rinkevičius, Oskar Pfeffer, Nando Hegemann, Vaidotas Marozas* “Photoplethysmography-Based Obstructive Sleep Apnea Detection Using ANN: Out of Distribution Study” (Kaunas University of Technology)
2. *Milėta Songailaitė, Veronika Bryskina, Tomas Krilavičius* “Evaluating Open Weight Large Language Models for Disinformation Detection as Assistants” (Vytautas Magnus University)
3. *Rokas Gipiškis, Olga Kurasova* “Evaluation Metrics for Explainable AI” (Vilnius University)

11⁰⁰–11²⁰	Coffee Break
11²⁰–12²⁰	Poster Session (III) (Room B)

1. *Romas Baronas* “Computational Analysis of Mechanisms Governing the Sensitivity and Efficiency of Enzyme-Based Biosensors and Bioreactors”
2. *Gerda Ana Melnik-Leroy, Gediminas Navickas* “Not All Listeners Are the Same: Acoustic Cue Use in Synthetic Speech Quality Judgments”
3. *Jolanta Miliauskaitė, Asta Slotkienė, Susana Moleirinho, António Fernandes, Luís Mendes Gomes, José Machado* “Evolution of Artificial Intelligence in Radiological Detection of Lumbar Disc Hernias: Emphasising Trustworthiness and Explainability”
4. *Karina Kulikauskaitė, Karolis Baranauskis* “Advancing Cybersecurity Competence Assessment Frameworks Integrating Human Factor Dimensions”
5. *Greta Karpavičienė, Algimantas Kriščiukaitis, Reda Čerapaitė-Trušinskienė, Robertas Petrolis, Diana Meilutytė-Lukauskienė, Renata Paukštaitienė* “Peculiarities of CT Volumetric Imaging Towards the Optimal Image-Guided Radiotherapy”
6. *Tautvydas Kvietkauskas, Pavel Stefanovič, Vytas Mulevičius, Artūras Nakvosas* “Efficiency of Vision-Language Models on Image Caption Generation: Case of Lithuanian Language”

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7. **Karolis Lašas** “Graph Topology-Based District Heating Network Preparation for Probabilistic Resilience Assessment”
 8. **Dalius Mažeika**, *Dominykas Volodka* “Correlation-Based Log Data Analysis for Cybersecurity Incident Detection”
 9. **Alfonsas Misevičius**, *Gintaras Palubeckis*, *Dovilė Verenė* “Exploring the Behaviour of the Descent-Ascent Heuristic Optimization Algorithm”
 10. **Tautvydas Naudžiūnas**, *Guoda Perminaitė*, *Povilas Treigys* “A Hybrid CNN and Reinforcement Learning Approach for Parameter Estimation from Magnetic Tweezer Images”
 11. **Aurimas Petrėtis**, *Julius Žilinskas* “Constrained Branch and Bound Algorithm for Modularity Maximisation”
 12. **Eglė Rimkienė**, *Marius Marmakas*, *Rimantė Povilavičienė*, *Justinas Dainauskas*, *Tomas Krilavičius* “Evaluating Recommendation Approaches for Employee Benefit Personalisation”
 13. **Tomas Ruzgas**, *Karolina Armonaitė* “Graph-Theory Based Identification of Company Groups for Tax Evasion Risk”
 14. *Paulius Bundza*, **Justas Trinkūnas** “Explainable Multi-Label Chest X-Ray Analysis for Severity-Aware Triage”
 15. **Darius Sabaliauskas**, *Jolanta Miliauskaitė* “Enhancing Requirements Engineering QA with Retrieval-Augmented Generation and Knowledge Graphs”

11 ²⁰ –12 ²⁰	Parallel Oral Session (Room C)
1. Matas Niewulis, <i>Virgilijus Krinickij, Linas Bukauskas</i> “Forensics of Corpus Messages in Popular Android Device Applications” (Vilnius University) 2. Arina Peržu, <i>Žygimantas Abramikas, Nojus Burdaitis, Giedrė Balčiūnaitė, Sigita Glaveckaitė, Darius Palionis, Nomeda Rima Valevičienė, Jolita Bernatavičienė</i>”Radiomic Texture-Based Clustering of Myocardial Damage Severity from Cardiac MRI” (Vilnius University) 3. Lukas Janušauskas, <i>Robertas Jurkus, Julius Venskus</i> “Detecting Maritime Anomalies Using LSTM and XGBoost Quantile Regression-Powered Prediction Interval Models and Dynamic Thresholding” (Vilnius University) 4. Damian Olgierd Zykovič, <i>Virgilijus Krinickij, Linas Bukauskas</i> “Preventing Memory-Based Data Leaks Through Cryptographic Remote Attestation Mechanisms” (Vilnius University)	
12 ²⁰ –12 ⁴⁰	DAMSS 2025 Photo
12 ⁴⁰ –14 ⁰⁰	Lunch (Hotel Restaurant)

14⁰⁰–15³⁰	Plenary Session (Room A)
<i>Michal Valko</i> “Gamification of Large Language Models” (Google DeepMind, France)	
<i>Marjan Mernik</i> “How Evolutionary Algorithms Can Efficiently Explore and Exploit the Search Space” (University of Maribor, Slovenia)	
<i>Vytenis Šliogeris</i> “Beyond Forgetting: How Elastic Weight Consolidation Enhances New Language Acquisition in LLMs” (Neurotechnology)	
15³⁰–16⁰⁰	Coffee Break
16⁰⁰–16⁵⁰	Discussion Session: Science in Business (Room A)
Speakers will be announced later	
16⁵⁰–17⁰⁰	Closing Session (Room A)

1. **Oskaras Klimašauskas**, *Asta Slotkienė* “Augmentative and Alternative Communication Personalization with PECS Cards: Evaluation of Reinforcement Learning Algorithms”
2. **Juozapas Rokas Čypas**, *Juozas Dautartas, Olga Kurasova, Viktor Medvedev* “Improving Malware Detection by Analyzing Similarities of Multi-Category Benign Software”
3. **Paulina Sabanskytė**, *Mantas Landauskas* “Ranks of Hankel Matrices in Estimation of Remaining Useful Life of Bearings”
4. **Jonas Mindaugas Rimšelis**, *Povilas Treigys, Zigmantas Kęstutis Juškevičius, Jolita Bernatavičienė* “Comparative Analysis of ECG Data Augmentation Methods in Arrhythmia Classification”
5. **Virgilijus Sakalauskas**, *Dalia Kriksciuniene* “Causal Insights into Stroke Mortality Risk Reduction”
6. **Sathuta Piripun Sellapperuma**, *Algirdas Lančinskas* “Multi-Agent System for Location of Park-and-Ride Hubs”
7. **Marius Klumbys**, **Gintautas Šedys**, *Eglė Butkevičiūtė, Tomas Blažauskas* “Human Stress Detection from Body Movement Using Real-Time Video Feed”
8. **Stepas Toliautas**, *Domantas Narkevičius* “Analysing Bulk- and Microviscosity Effects from Multi-Level Computation Results of the Properties of BODIPY-Based Molecular Sensors”
9. **Paulina Trybek**, *Beata Dworakowska, Aleksander Bies, Agata Wawrzkieicz-Jalowiecka* “Time Series–Based Analysis of Ion Channel Gating in Response to Diverse Activation Stimuli”
10. **Gabriela Vdoviak**, *Tomyslav Sledevič* “Fine-Grained Object Detection for Precision Beekeeping”
11. **Julius Venskus**, *Robertas Jurkus, Povilas Treigys, Darius Drungilas* “A Methodological Review of Anomaly Detection Methods for Maritime Hybrid Warfare Analysis”

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12. ***Ilona Veitaitė***, *Audrius Lopata, Saulius Gudas* “Enhancing Financial Insight Through Machine Learning-Driven KPI Correlation Analysis”
 13. ***Eimantas Zaranka***, *Monika Katilienė, Tomas Krilavičius, Tadas Žeimys* “DOGO: Pet Avatar Personalization Utilizing Latent Diffusion Models”
 14. ***Gediminas Navickas***, *Gražina Korvel, Gintautas Tamulevičius* “Initial Study of Lithuanian Emotional Speech Synthesis”
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19⁰⁰–21⁰⁰

Dinner (Hotel Restaurant)



Event Schedule

Saturday, November 29

10⁰⁰–12⁰⁰	General Discussion and Concluding Remarks <i>Round table discussion</i>
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