

## Program DEXA2022 Conferences & Workshops

22 – 24 August 2022, Vienna, Austria

**Mon, 22 Aug 2022**

Time	Track 1 Room: FESTSAAL 2	Track 2 Room: TC 5.03	Track 3 Room: TC 5.05	Track 4 Room: GALERIE
08:00 – 09:00	REGISTRATION @ TC Hall, TC Building			
09:00 – 09:30	Room: Festsaal 2 OPENING			
09:30 – 10:30	<p><b>DEXA-1 -Virtual*</b> <u>Zoom link</u> Meeting-ID: 989 8194 4495 Password: 591623</p> <p><b>Deep Learning 1</b> Session Chair: Pinar Karagoz</p> <ul style="list-style-type: none"> <li>• Deep Active Learning Framework for Crowdsourcing-enhanced Image Classification and Segmentation <i>Zhiyao Li, Xiaofeng Gao, Guihai Chen</i></li> <li>• Jointly Learning Propagating Features on the Knowledge Graph for Movie Recommendation <i>Yun Liu, Jun Miyazaki, Qiong Chang</i></li> </ul>	<p><b>DAWAK-1</b> <b>Text Analytics 1</b> Session Chair: Johann Gamper</p> <ul style="list-style-type: none"> <li>• DAWAK2022 Welcome Notes <i>Johann Gamper &amp; Robert Wrembel</i></li> <li>• An Integration of TextGCN and Autoencoder into Aspect-based Sentiment Analysis <i>Yi-Hang Tsai, Chia-Ming Chang, Kun-Hsiang Chen, San-Yih Hwang</i></li> <li>• Sarcastic RoBERTa: a RoBERTa-based deep neural network detecting sarcasm on Twitter <i>Maciej Hercog, Piotr Jaroński, Jan Kolanowski, Paweł Mieczyski, Dawid Wiśniewski, Jędrzej Potoniec</i></li> </ul>	<p><b>DEXA-2</b> <b>Knowledge Graphs 1</b> Session Chair: Michele Missikoff</p> <ul style="list-style-type: none"> <li>• Syntax-informed Question Answering with Heterogeneous Graph Transformer <i>Fangyi Zhu, Lok You Tan, See-Kiong Ng, Stéphane Bressan</i></li> <li>• Towards Efficient Human Action Retrieval based on Triplet-Loss Metric Learning <i>Iris Kico, Jan Sedmidubsky, Pavel Zezula</i></li> </ul>	<p><b>DEXA-3</b> <b>Privacy-Preservation Approaches 1</b> Session Chair: Alfredo Cuzzocrea</p> <ul style="list-style-type: none"> <li>• Privacy issues in smart grid data: from energy disaggregation to disclosure risk <i>Kayode Sakariyah Adewole, Vicenc Torra</i></li> <li>• CoK: A Survey of Privacy Challenges in Relation to Data Meshes <i>Nikolai Jannik Podlesny, Anne V.D.M. Kayem, Christoph Meinel</i></li> </ul>
10:30 – 11:00	Coffee Breaks @ FORUM, LC Building			

**Zoom Links to the Virtual sessions:**

\*Track 1: <https://jku.zoom.us/j/98981944495?pwd=dW5oQUJmaDlzbXNNTXZISUZQWUkwdz09>

Meeting-ID: 989 8194 4495

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Color guide:

- Highlighted in **yellow** are Presenting Author
- Highlighted in **light blue** request for virtual presentation

Time	Track 1 Room: FESTSAAL 2	Track 2 Room: TC 5.03	Track 3 Room: TC 5.05	Track 4 Room: GALERIE
11:00 – 12:30	<p><b>DEXA-4 -Virtual*</b> <a href="#">Zoom link</a> Meeting-ID: 989 8194 4495 Password: 591623</p> <p><b>Deep Learning 2</b> Session Chair: Yael Amsterdamer</p> <ul style="list-style-type: none"> <li><b>I-PNN: An Improved Probabilistic Neural Network for Binary Classification of Imbalanced Medical Data</b> <i>Ivan Izonin, Roman Tkachenko, Michal Gregus</i></li> <li><b>DeepCore: A Comprehensive Library for Coreset Selection in Deep Learning</b> <i>Chengcheng Guo, Bo Zhao, Yanbing Bai</i></li> <li><b>Context Iterative Learning for Aspect-Level Sentiment Classification</b> <i>Wenting Yu, Xiaoye Wang, Peng Yang, Yingyuan Xiao, Jinsong Wang</i></li> <li><b>A Divergent Index Advisor Using Deep Reinforcement Learning</b> <i>Zahra Sadri, Le Gruenwald</i></li> </ul>	<p><b>DEXA-5 Neural Networks</b> Session Chair: Toshiyuki Amagasa</p> <ul style="list-style-type: none"> <li><b>Reconciliation of Mental Concepts with Graph Neural Networks</b> <i>Lorenz Wendlinger, Gerd Hübscher, Andreas Ekelhart, Michael Granitzer</i></li> <li><b>Sentiment and Knowledge Based Algorithmic Trading with Deep Reinforcement Learning</b> <i>Abhishek Nan, Anandh Perumal, Osmar R. Zaiane</i></li> </ul> <p><b>PBRE: A Rule Extraction Method from Trained Neural Networks Designed for Smart Home Services</b> <i>Mingming Qiu, Elie Najm, Rémi Sharrock, Bruno Traverson</i></p> <ul style="list-style-type: none"> <li><b>EcoLight: Eco-friendly Traffic Signal Control Driven By Urban Noise Prediction</b> <i>Chahinez Ounoughi, Ghofrane Touibi, Sadok Ben Yahia</i></li> </ul>	<p><b>AI Sys-1</b> Session Chair: Bernhard Moser</p> <ul style="list-style-type: none"> <li><b>Unboundedness of Linear Regions of Deep ReLU Neural Networks</b> <i>Anton Ponomarchuk, Christoph Koutschan, Bernhard Moser</i></li> <li><b>Applying time-inhomogeneous Markov chains to math performance rating</b> <i>Eva-Maria Infanger, Gerald Infanger, Zsolt Lavicza, Florian Sobieczky</i></li> <li><b>A Comparative Analysis of Anomaly Detection Methods for Predictive Maintenance in SME</b> <i>Muhammad Qasim, Maqbool Khan, Waqar Mehmood, Florian Sobieczky, Mario Pichler, Bernhard Moser</i></li> </ul>	<p><b>DLRT-1 DLT and Security</b> Session Chair: Edgar Weippl</p> <ul style="list-style-type: none"> <li><b>Securing File System Integrity and Version History via Directory Merkle Trees and Blockchains</b> <i>Andreas Lackner, Seyed Amid Moeinzadeh Mirhosseini, Stefan Craß</i></li> <li><b>Sending spies as insurance against Bitcoin pool mining block withholding attacks</b> <i>Isamu Okada, Hannelore de Silva, Krzysztof Paruch</i></li> <li><b>Comparison Framework for Blockchain Interoperability Implementations</b> <i>Alexander Neulinger</i></li> </ul>
<b>Lunch @ FORUM, LC Building</b>				
13:30 – 15:00	<p><b>DEXA-6 -Virtual*</b> <a href="#">Zoom link</a> Meeting-ID: 989 8194 4495 Password: 591623</p> <p><b>Smart Cities and Human Computing</b> Session Chair: Rongbo Chen</p> <ul style="list-style-type: none"> <li><b>Effective and Robust Boundary-based Outlier Detection using Generative Adversarial Networks</b> <i>Qiliang Liang, Ji Zhang, Mohamed Jaward Bah, Hongzhou Li, Liang Chang, Rage Uday Kiran</i></li> </ul>	<p><b>DAWAK-2 Text Analytics 2</b> Session Chair: Akrivi Vlachou</p> <ul style="list-style-type: none"> <li><b>A Fast NDFAs-Based Approach to Approximate Pattern-Matching for Plagiarism Detection in Blockchain-Driven NFTs</b> <i>Darius Galis, Ciprian Pungila, Viorel Negru</i></li> <li><b>Text-based Causal Inference on Irony and Sarcasm Detection</b> <i>Recep Firat Cekinel, Pinar Karagoz</i></li> </ul>	<p><b>AI Sys-2</b> Session Chair: Bernhard Moser</p> <ul style="list-style-type: none"> <li><b>A Comparative Study Between Rule-Based and Transformer-Based Election Prediction Approaches: 2020 US Presidential Election as a Use Case</b> <i>Asif Khan, Huaping Zhang, Nada Boudjellal, Lin Dai, Arshad Ahmad, Jianyun Shang, Philipp Haindl</i></li> </ul>	<p><b>DLRT-2 DLT Applications</b> Session Chair: Bernhard Haslhofer</p> <ul style="list-style-type: none"> <li><b>Risks in DeFi-lending protocols - an exploratory categorization and analysis of interest rate differences</b> <i>Marco Huber, Vinzenz Treytl</i></li> <li><b>Battling the Bullwhip Effect with Cryptography</b> <i>Martin Hrušovský, Alfred Taudes</i></li> </ul>

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	<ul style="list-style-type: none"> <li>• <b>Mining Fluctuation Propagation Graph among Time Series with Active Learning</b> <i>Mingjie Li, Minghua Ma, Xiaohui Nie, Kanglin Yin, Li Cao, Xidao Wen, Zhiyun Yuan, Duogang Wu, Guoying Li, Wei Liu, Xin Yang, Dan Pei</i></li> <li>• <b>KAPP: Knowledge-Aware Hierarchical Attention Network for Popularity Prediction</b> <i>Shuodian Yu, Jianxiang Guo, Xiaofeng Gao, Guihai Chen</i></li> <li>• <b>Self-Supervised Learning for Building Damage Assessment from Large-scale xBD Satellite Imagery Benchmark Datasets</b> <i>Zaishuo Xia, Zelin Li, Yanbing Bai, Jinze Yu, Bruno Adriano</i></li> </ul>	<ul style="list-style-type: none"> <li>• <b>A Fast NDFA-Based Approach to Approximate Pattern-Matching for Plagiarism Detection in Blockchain-Driven NFTs</b> <i>Darius Galis, Ciprian Pungila, Viorel Negru</i></li> <li>• <b>Text-based Causal Inference on Irony and Sarcasm Detection</b> <i>Recep Firat Cekineli, Pinar Karagoz</i></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Detection of the 3D Ground Plane from 2D Images for Distance Measurement to the Ground</b> <i>Ozan Cakiroglu, Volkmar Wieser, Werner Zellinger, Adriano Souza Ribeiro, Werner Kloihofner, Florian Kromp</i></li> <li>• <b>Towards Practical Secure Privacy-Preserving Machine (Deep) Learning with Distributed Data</b> <i>Mohit Kumar, Bernhard Moser, Lukas Fischer, Bernhard Freudenthaler</i></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Reporting of Cross-Border Transactions for Tax Purposes via DLT</b> <i>Ivan Lazarov, Quentin Botha, Nathalia Oliveira Costa, Jakob Hackel</i></li> <li>• <b>Taxation of Blockchain Staking Rewards: Propositions based on a Comparative Legal Analysis</b> <i>Pascal René Marcel Kubin</i></li> </ul>
15:00 – 15:30	<b>Coffee Breaks @ FORUM, LC Building</b>			
15:30 – 17:00	<p style="text-align: center;"><b>MLKgraphs</b> Session Chair: <b>Lisa Ehrlinger</b></p> <ul style="list-style-type: none"> <li>• <b>A Lifecycle Framework for Semantic Web Machine Learning Systems</b> <i>Anna Breit, Laura Waltersdorfer, Fajar J. Ekaputra, Tomasz Miksa, Marta Sabou</i></li> <li>• <b>Enhancing TransE to Predict Process Behavior in Temporal Knowledge Graphs</b> <i>Aleksei Karetnikov, Lisa Ehrlinger, Verena Geist</i></li> <li>• <b>An Explainable Multimodal Fusion Approach for Mass Casualty Incidents</b> <i>Zoe Vasileiou, Georgios Meditskos, Stefanos Vrochidis, Nick Bassiliade</i></li> </ul>	<p style="text-align: center;"><b>DAWAK-3</b> <b>Data Warehousing and OLAP</b> Session Chair: <b>Robert Wrembel</b></p> <ul style="list-style-type: none"> <li>• <b>On Decisive Skyline Queries</b> <i>Akrivi Vlachou, Christos Doulkeridis, João B. Rocha-Junior, Kjetil Nørnvåg</i></li> <li>• <b>Safeness: Suffix Arrays driven Materialized View Selection Framework for Large-Scale Workloads</b> <i>Kechar Mohamed, Ladjel Bellatreche</i></li> <li>• <b>A Process Warehouse for Process Variants Analysis</b> <i>Lisana Berberli</i></li> </ul>	<p style="text-align: center;"><b>EGOVIS-1</b> <b>e-Government theoretical background</b> Session Chair: <b>Andrea Kö</b></p> <ul style="list-style-type: none"> <li>• <b>EGOVIS2022 Welcome Notes</b> <i>Andrea Kö</i></li> <li>• <b>Notions of Fairness in Automated Decision Making: An Interdisciplinary approach to Open Issues</b> <i>Yasaman Yousefi</i></li> <li>• <b>Object Relational Mapping vs. Event-Sourcing: Systematic review</b> <i>Michail Pantelelis, Christos Kalloniatis</i></li> <li>• <b>Foundation Models in Healthcare: Opportunities, Biases and Regulatory Prospects in Europe</b> <i>Malwina Anna Wojcik</i></li> </ul>	<p style="text-align: center;"><b>DEXA-7</b> <b>Privacy-Preservation Approaches 2</b> Session Chair: <b>Jakob Hackel</b></p> <ul style="list-style-type: none"> <li>• <b>Why- and How-Provenance in distributed environments</b> <i>Paulo Sérgio Pintor, Rogério Luís De Carvalho Costa, José Moreira</i></li> <li>• <b>Provenance-Based SPARQL Query Formulation</b> <i>Yael Amsterdamer, Yehuda Callen</i></li> <li>• <b>Anonymisation of Heterogeneous Graphs with Multiple Edge Types</b> <i>Guillermo Alamán Requena, Andreas Ekelhart, Rudolf Mayer</i></li> </ul>

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Password: 591623

Time	Track 1 Room: FESTSAAL 2	Track 2 Room: TC 5.03	Track 3 Room: TC 5.05	Track 4 Room: GALERIE
17:00 – 18:00	<p><b>Keynote Talk 1 (Festsaal 2)</b>  <b>Session Chair: Gabriele Kotsis</b>  <b>“Responsible AI”</b>  <b>Ricardo Baeza-Yates</b>  <i>Institute for Experiential AI at Northeastern University, USA</i></p>			
18:00 – 18:30	<p>• <b>Presentation of the OCG Förderpreis 2022</b></p>			
18:30 – 21:00	<p><b>Room: Festsaal 1</b></p> <p>• <b>Welcome Reception and WU Jazz Faculty</b>  • <b>Norman Revell Best Paper Award and Roland Wagner Best Paper Award</b></p>			

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Tue, 23 Aug 2022

Time	Track 1 Room: FESTSAAL 2	Track 2 Room: TC 5.03	Track 3 Room: TC 5.05	Track 4 Room: GALERIE	Track 5 Room: TC 5.13
08:00 – 09:00	REGISTRATION @ TC Hall, TC Building				
09:00 – 10:00	<p>Keynote Talk 2. (Festsaal 2) Session Chair: Alfred Taudes</p> <p><b>“Following the rules: From Policies to Norms”</b> Sabrina Kirrane <i>Institute for Information Systems and New Media @ Vienna University of Economics and Business, Austria</i></p>				
10:00 – 10:30	Coffee Breaks @ FORUM, LC Building				
10:30 – 12:30	<p><b>DEXA-8 -Virtual*</b> <a href="#">Zoom link</a> Meeting-ID: 989 8194 4495 Password: 591623</p> <p><b>Advanced Machine Learning 1</b> Session Chair: <b>Jennifer D'Souza</b></p> <ul style="list-style-type: none"> <li>• <b>A Heterogeneous Network Representation Learning Approach for Academic Behavior Prediction</b> <i>Li Huang, Yan Zhu</i></li> <li>• <b>A Market Segmentation Aware Retail Itemset Placement Framework</b> <i>Raghav Mittal, Anirban Mondal, P. Krishna Reddy</i></li> <li>• <b>Label Selection Algorithm Based on Iteration Column Subset Selection for Multi-label Classification</b> <i>Tao Peng, Jun Li, Jianhua Xu</i></li> </ul>	<p><b>DAWAK-4</b> <b>Feature Selection Algorithms</b> Session Chair: <b>Johann Gamper</b></p> <ul style="list-style-type: none"> <li>• <b>Unsupervised Features Ranking via Coalitional Game Theory for Categorical Data</b> <i>Chiara Balestra, Florian Huber, Andreas Mayr, Emmanuel Müller</i></li> <li>• <b>Feature Selection Under Fairness and Performance Constraints</b> <i>Ginel Dorleon, Imen Megdiche, Nathalie Bricon-Souf, Olivier Teste</i></li> </ul>	<p><b>EGOVIS-2</b> <b>mGovernment and Smart Solutions &amp; Artificial Intelligence and Machine Learning in e-Government Context</b> Session Chair: <b>Rahul Sharma</b></p> <ul style="list-style-type: none"> <li>• <b>Smart solutions in AgriTech: Research Trajectories in the Digital Transition</b> <i>Salvatore Sapienza</i></li> <li>• <b>Hybrid AI to Support the Implementation of the European Directive</b> <i>Monica Palmirani</i></li> </ul>	<p><b>DEXA-9 -Virtual**</b> <a href="#">Zoom link</a> Meeting-ID: 919 0603 7771 Password: 943989</p> <p><b>Advanced Analytics Methodologies and Methods 1 &amp; all</b> Session Chair: <b>Alfredo Cuzzocrea</b></p> <ul style="list-style-type: none"> <li>• <b>Diversity-oriented Route Planning for Tourists</b> <i>Kong Wei Kun, Shuyuan Zheng, Nguyen Minh Le, Qiang Ma</i></li> <li>• <b>Optimizing the Post-disaster Resource Allocation with Q learning: Demonstration of 2021 China Flood</b> <i>Linhao Dong, Yanbing Bai, Qingsong Xu, Erick Mas</i></li> <li>• <b>ARDBS: Efficient Processing of Provenance Queries over Annotated Relations</b> <i>Sareh Mohammadi, Nematollaah Shiri</i></li> </ul>	<p><b>ProTime</b> Session Chair: <b>Florian Sobieczky</b></p> <ul style="list-style-type: none"> <li>• <b>Testing the equality of changepoints</b> <i>Hans Manner</i></li> <li>• <b>Log File Anomaly detection based on Process Mining Graphs</b> <i>Sabrina Luftensteiner, Patrick Praher</i></li> <li>• <b>A Scalable Microservice Infrastructure for Fleet Data Management</b> <i>Rainer Meindl, Konstantin Papesh, David Baumgartner, Emmanuel Helm</i></li> <li>• <b>Learning Entropy: on Shannon vs. Machine-Learning-Based Information in Time Series</b> <i>Ivo Bukovsky, Ondrej Budik</i></li> </ul>

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\*\*Track 4: <https://jku.zoom.us/j/91906037771?pwd=NG1WSTZuQ2xnN0p1OEJXa09ha2I3QT09>

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Time	Track 1 Room: FESTSAAL 2	Track 2 Room: TC 5.03	Track 3 Room: TC 5.05	Track 4 Room: GALERIE	Track 5 Room: TC 5.13
	<ul style="list-style-type: none"> <li>• <b>A learned prefix bloom filter for spatial data</b> <i>Beiji Zou, Meng Zeng, Chengzhang Zhu, Ling Xiao, Zhi Chen</i></li> <li>• <b>Word Alignment based Transformer Model for XML Structured Documentation Translation</b> <i>Jing An, Yecheng Tang, Yanbing Bai, Jiye Li</i></li> <li>• <b>Community Detection in Attributed Networks via Kernel-based Effective Resistance and Attribute Similarity</b> <i>Clara Pizzuti, Annalisa Socievole</i></li> </ul>			<ul style="list-style-type: none"> <li>• <b>CAKE: A Context-Aware Knowledge Embedding Model of Knowledge Graph</b> <i>Jiadong Chen, Hua Ke, Haijian Mo, Xiaofeng Gao, Guihai Chen</i></li> <li>• <b>Intelligent Air Traffic Management System Based on Knowledge Graph</b> <i>Jiadong Chen, Xueyan Li, Xiaofeng Gao, Guihai Chen</i></li> <li>• <b>Alps: An Adaptive Load Partitioning Scaling Solution for Stream Processing System on Skewed Stream</b> <i>Beiji Zou, Tao Zhang, Chengzhang Zhu, Ling Xiao, Meng Zeng, Zhi Chen</i></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Using Property Graphs to Segment Time-Series Data</b> <i>Aleksei Karetnikov, Tobias Rehberger, Christian Lettner, Johannes Himmelbauer, Ramin Nikzad-Langerodi, Günter Gsellmann, Susanne Nestelberger, Stefan Schützeneder</i></li> <li>• <b>A Synthetic Dataset for Anomaly Detection of Machine Behavior</b> <i>Sabrina Luftensteiner, Patrick Praher</i></li> </ul>
12:30 – 13:30	<b>Lunch @ FORUM, LC Building</b>				
Time	Track 1 Room: FESTSAAL 2	Track 2 Room: TC 5.03	Track 3 Room: TC 5.05	Track 4 Room: GALERIE	
13:30 – 15:00	<p style="text-align: center;"><b>IWCFS</b> Session Chair: <b>Johannes Sametinger</b></p> <ul style="list-style-type: none"> <li>• <b>Towards Strategies for Secure Data Transfer of IoT Devices with Limited Resources</b> <i>Nasser S. Albalawi, Michael Riegler, Jerzy W. Rozenblit</i></li> <li>• <b>Application of Validation Obligations to the Security Domain</b> <i>Sebastian Stock, Atif Mashkoor, Alexander Eged</i></li> <li>• <b>Mode Switching for Secure Edge Devices</b> <i>Michael Riegler, Johannes Sametinger, Christoph Schönegger</i></li> </ul>	<p style="text-align: center;"><b>DAWAK-5</b> <b>Time Series Processing</b> Session Chair: <b>Witold Andrzejewski</b></p> <ul style="list-style-type: none"> <li>• <b>Interpretable Input-Output Hidden Markov Model-Based Deep Reinforcement Learning for the Predictive Maintenance of Turbofan Engines</b> <i>Ammar N. Abbas, Georgios C. Chasparis, John D. Kelleher</i></li> <li>• <b>Pathology Data Prioritisation: A Study Using Multi-Variate Time Series</b> <i>Jing Qi, Girvan Burnside, Frans Coenen</i></li> <li>• <b>Outlier/Anomaly detection of univariate time series: A dataset collection and benchmark</b> <i>David Muhr, Michael Affenzeller</i></li> </ul>		<p style="text-align: center;"><b>DEXA-10</b> <b>Knowledge Graphs 2</b> Session Chair: <b>Osmar R. Zaiane</b></p> <ul style="list-style-type: none"> <li>• <b>Automated Process Knowledge Graph Construction from BPMN models</b> <i>Stefan Bachhofner, Elmar Kiesling, Kate Revoredo, Philipp Waibel, Axel Polleres</i></li> <li>• <b>Analysis of Extracellular Potential Recordings by High-Density Micro-electrode Arrays of Pancreatic Islets</b> <i>Jan David Hüwel, Anne Gresch, Tim Berger, Martina Düfer, Christian Beecks</i></li> <li>• <b>The Digitalization of Bioassays in the Open Research Knowledge Graph</b> <i>Jennifer D'Souza, Anita Monteverdi, Muhammad Haris, Marco Anteghini, Kheir Eddine, Markus Stocker, Vitor A.P. Martins Dos Santos, Sören Auer</i></li> </ul>	
15:00 – 15:30	<b>Coffee Breaks @ FORUM, LC Building</b>				

Time	Track 1 Room: FESTSAAL 2	Track 2 Room: TC 5.03	Track 3 Room: TC 5.05	Track 4 Room: GALERIE
15:30 – 17:30	<p style="text-align: center;"><b>DEXA-11</b> <b>Advanced Machine Learning 2</b> Session Chair: <b>Patitapaban Palo</b></p> <ul style="list-style-type: none"> <li>• <b>Detecting Simpson's Paradox: A Machine Learning Perspective</b> <i>Rahul Sharma, Huseyn Garayev, Minakshi Kaushik, Sijo Sijo Arakkal Peious, Prayag Tiwari, Dirk Draheim</i></li> <li>• <b>Accurately Predicting User Registration in Highly Unbalanced Real-World Datasets from Online News Portals</b> <i>Eva-Maria Spitzer, Oliver Krauss, Andreas Stöckl</i></li> <li>• <b>ReferEmo: A Referential Quasi-Multimodal Model for Multilabel Emotion Classification</b> <i>Alvaro Esperanca, Xiao Luo</i></li> </ul>	<p style="text-align: center;"><b>DAWAK-6</b> <b>Schema Discovery and Construction</b> Session Chair: <b>Robert Wrembel</b></p> <ul style="list-style-type: none"> <li>• <b>Automatic Machine Learning-based OLAP Measure Detection for Tabular Data</b> <i>Yuzhao Yang, Fatma Abdelhédi, Jérôme Darmont, Franck Ravat, Olivier Teste</i></li> <li>• <b>Discovering Overlapping Communities based on Cohesive Subgraph Models over Graph Data</b> <i>Said Jabbour, Mourad Kmimich, Badran Raddaoui</i> <ul style="list-style-type: none"> <li>• <b>Discovery of Keys for Graphs</b> <i>Morteza Alipourlangouri, Fei Chiang</i></li> </ul> </li> </ul>	<p style="text-align: center;"><b>DEXA-12</b> <b>Time Series, Streams and Event Data</b> Session Chair: <b>Alfredo Cuzzocrea</b></p> <ul style="list-style-type: none"> <li>• <b>Clustering-based Cross-sectional Regime Identification for Financial Market Forecasting</b> <i>Rongbo Chen, Mingxuan Sun, Kunpeng Xu, Jean-Marc Patenaude, Shengrui Wang</i></li> <li>• <b>Latent Relational Point Process: Network Reconstruction from Discrete Event Data</b> <i>Guilherme Augusto Zagatti, See-Kiong Ng, Stéphane Bressan</i></li> <li>• <b>InTrans: Fast Incremental Transformer for Time Series Data Prediction</b> <i>Savong Bou, Toshiyuki Amagasa, Hiroyuki Kitagawa</i></li> <li>• <b>A Knowledge-driven Business Process Analysis Methodology</b> <i>Michele Missikoff</i> <ul style="list-style-type: none"> <li>• <b>What Logical Model is Suitable for Relational Trajectory Data Warehouses? Application to Agricultural Autonomous Robots</b> <i>Konstantinos Oikonomou, Georgia Garani, Sandro Bimonte, Robert Wrembel</i></li> </ul> </li> </ul>	<p style="text-align: center;"><b>EGOVIS-4 -Virtual**</b> <b>Zoom link</b> Meeting-ID: 919 0603 7771 Password: 943989</p> <p style="text-align: center;"><b>mGovernment and smart solutions &amp; all</b> Session Chair: <b>Darius Galis</b></p> <ul style="list-style-type: none"> <li>• <b>Good Practices of User Experience and Design Research for Mobile and Electronic Governmental Services</b> <i>Rachelle Sellung, Marie Hölscher, Lisa Burgstaller-Hochenwarter</i></li> <li>• <b>Semantic Annotation of Parliamentary Debates and Legislative Intelligence Enhancing Citizen Experience</b> <i>Stéphane Gagnon, Sabrina Azzi</i></li> <li>• <b>Comparative analysis of classification algorithms applied to circular trading prediction scenarios</b> <i>Douglas Silva, Sergio T. Carvalho, Nadia Silva</i></li> <li>• <b>Towards a method for the formulation of an EGOV strategy considering International Rankings</b> <i>Wagner S. Araujo, Delfina Soares, João Carvalho</i></li> <li>• <b>Can the GDPR Allay Privacy Concerns Towards Smart Products? The Effect of a Compliance Seal on Perceived Data Security, Trust, and Intention to Use</b> <i>Oliver Michler, Christian Stummer, Reinhold Decker</i></li> <li>• <b>Derogations Analysis of European Legislation through Hybrid AI Approach</b> <i>Monica Palmirani, Davide Liga</i></li> </ul>
18:00 – 21:00	<p><b>Conference Dinner @ Schweizerhaus</b> address: Prater 116, A-1020 Wien</p>			

**Zoom Links to the Virtual sessions:**

**\*\*Track 4:** <https://jku.zoom.us/j/91906037771?pwd=NG1WSTZuQ2xnN0p1OEJXa09ha2l3QT09>

Meeting-ID: 919 0603 7771 Password: 943989

Wed, 24 Aug 2022

Time	Track 1 Room: FESTSAAL 2	Track 2 Room: TC 5.03	Track 3 Room: TC 5.05	Track 4 Room: GALERIE	Track 5 Room: TC 5.13
08:00 – 09:00	REGISTRATION @ TC Hall, TC Building				
09:00 – 10:00	<p>Keynote Talk 3 (Festsaal 2) Session Chair: Robert Wrembel</p> <p><b>“Big Data Integration”</b> Philippe Coudre-Mauroux <i>The eXascale Infolab at the University of Fribourg, Switzerland</i></p>				
10:00 – 10:30	Coffee Breaks @ FORUM, LC Building				
10:30 – 12:30	<p><b>DEXA-14</b> <b>Sequences and Graphs</b> Session Chair: <b>Savong Bou</b></p> <ul style="list-style-type: none"> <li>• <b>Extending Authorization Capabilities of Object Relational/Graph Mappers by Request Manipulation</b> <i>Daniel Hofer, Stefan Nadschläger, Aya Mohamed, Josef Küng</i></li> <li>• <b>Fault Detection in Seismic Data using Graph Attention Network</b> <i>Patitapaban Palo, Aurobinda Routray, Sanjai Kumar Singh</i></li> <li>• <b>Comparison of Sequence Variants and the Application in Electronic Medical Records</b> <i>Yuqing Li, Hieu Hanh Le, Ryosuke Matsuo, Tomoyoshi Yamazaki, Kenji Araki, Haruo Yokota</i></li> <li>• <b>Hypergraphs as Conflict-free Partially Replicated Data Types</b> <i>Aruna Bansal</i></li> </ul>	<p><b>DAWAK-7</b> <b>Pattern Discovery &amp; Machine Learning</b> Session Chair: <b>Niccolo Marastoni</b></p> <ul style="list-style-type: none"> <li>• <b>Explainable Recommendations for Wearable Sensor Data</b> <i>Niccolò Marastoni, Barbara Oliboni, Elisa Quintarell</i></li> <li>• <b>Mahalanobis Distance Based K-Means Clustering</b> <i>Paul O. Brown, Meng Ching Chiang, Shiqing Guo, Yingzi Jin, Carson K. Leung, Evan L. Murray, Adam G.M. Pazdor, Alfredo Cuzzocrea</i></li> </ul>	<p><b>ARTE-1</b> Session Chair: <b>Rudolf Ramler</b></p> <ul style="list-style-type: none"> <li>• <b>Twenty Years of Successful Translational Research - A Case Study of Three COMET Centers</b> <i>Katja Bühler, Cornelia Travnicek, Veronika Nowak, Edgar Weippl, Lukas Fischer, Rudolf Ramler, Robert Wille</i></li> <li>• <b>An untold tale of scientific collaboration: SCCH and AC2T</b> <i>Somayeh Kargaran, Anna-Christina Glock, Bernhard Freudenthaler, Manuel Freudenberger, Martin Jech</i></li> <li>• <b>A Technology Transfer Portal to Promote Industry-Academia Collaboration in South-Tyrol</b> <i>Roberto Confalonieri, Andrea Janes</i></li> <li>• <b>Building a YouTube Channel for Science Communication</b> <i>Frank Elberzhager, Patrick Mennig, Phil Stüpfert</i></li> </ul>	<p><b>DEXA-13 -Virtual**</b> <b>Zoom link</b> Meeting-ID: 919 0603 7771 Password: 943989</p> <p><b>Warehousing Methodologies &amp; all</b> Session Chair: <b>Oliver Krauss</b></p> <ul style="list-style-type: none"> <li>• <b>BPF: An Effective Cluster Boundary Points Detection Technique</b> <i>Vijdan Khaliq, Hiroyuki Kitagawa</i></li> <li>• <b>A Method for Summarizing Trajectories with Multiple Aspects</b> <i>Vanessa L. Machado, Ronaldo dos Santos Mello, Vânia Bogorny</i></li> <li>• <b>Skeleton-based Mutual Action Recognition Using Interactive Skeleton Graph and Joint Attention</b> <i>Xiangze Jia, Ji Zhang, Zhen Wang, Yonglong Luo, Fulong Chen, Gaoming Yang</i></li> </ul>	<p><b>TrustBus</b> <b>Session 1</b> Session Chair: <b>Steven Furnell</b></p> <p><b>TrustBus 2022 Welcome Notes</b> <i>Sokratis Katsikas and Steven Furnell</i></p> <ul style="list-style-type: none"> <li>• <b>PriPoCoG: Guiding Policy Authors to Define GDPR-Compliant Privacy Policies</b> <i>Jens Leicht, Maritta Heisel and Armin Gerl</i></li> <li>• <b>Closing the Gap between Privacy Policies and Privacy Preferences with Privacy Interfaces</b> <i>Stefan Becher, Felix Bölz and Armin Gerl</i></li> <li>• <b>A Constructive Approach for Raising Information Privacy Competences: The Case of Escape Room Games</b> <i>Thanos Papaioannou, Aggeliki Tsohou, Georgios Bounias and Stylianos Karagiannis</i></li> </ul>



Time	Track 1 Room: FESTSAAL 2	Track 2 Room: TC 5.03	Track 3 Room: TC 5.05	Track 4 Room: GALERIE	Track 5 Room: TC 5.13
	<ul style="list-style-type: none"> <li>Quality versus speed in energy demand prediction. Experience report from an R&amp;D project <i>Witold Andrzejewski, Jędrzej Potoniec, Maciej Drozdowski, Jerzy Stefanowski, Robert Wrembel, Paweł Stąpf</i></li> </ul>	<ul style="list-style-type: none"> <li>Grapevine Phenology Prediction: A Comparison of Physical and Machine Learning Models <i>Francisco J. Lacueva-Pérez, Sergio Ilarri, Juan J. Barriuso, Joaquín Balduque, Gorka Labata, Rafael del Hoyo</i></li> </ul>	<ul style="list-style-type: none"> <li>Introduction of visual regression testing in collaboration between industry and academia <i>Thomas Wetzlmaier, Claus Klammer, Hermann Haslauer</i></li> <li>On the Creation and Maintenance of a Documentation Generator in an Applied Research Context <i>Bernhard Dorninger, Michael Moser, Josef Pichler, Michael Rapp, Jakob Sautter</i></li> </ul>	<ul style="list-style-type: none"> <li>An Error-Bounded Space-Efficient Hybrid Learned Index with High Lookup Performance <i>Yuquan Ding, Xujian Zhao, Peiquan Jin</i></li> <li>Sequence Recommendation Model with Double-layer Attention Net <i>Weilun Li, Peng Yang, Xiaoye Wang, Yingyuan Xiao</i></li> <li>SLA-Aware Cloud Query Processing with Reinforcement Learning-based Multi-Objective Re-Optimization <i>Chenxiao Wang, Le Gruenwald, Laurent d'Orazio</i></li> </ul>	
12:30 – 13:30	<b>Lunch @ FORUM, LC Building</b>				

### Zoom Links to the Virtual sessions:

**\*Track 1:** <https://jku.zoom.us/j/98981944495?pwd=dW5oQUJmaDIzbXNNTXZISUZQWUkwdz09>

Meeting-ID: 989 8194 4495 Password: 591623

**\*\*Track 4:** <https://jku.zoom.us/j/91906037771?pwd=NG1WSTZuQ2xnN0p1OEJXa09ha2I3QT09>

Meeting-ID: 919 0603 7771 Password: 943989

Time	Track 1 Room: FESTSAAL 2	Track 3 Room: TC 5.05	Track 5 Room: TC 5.13
13:30 – 15:00	<p style="text-align: center;"><b>DAWAK-8 -Virtual*</b> <a href="#">Zoom link</a> Meeting-ID: 989 8194 4495   Password: 591623</p> <p style="text-align: center;"><b>Machine Learning &amp; all</b> Session Chair: <b>Witold Andrzejewski</b></p> <ul style="list-style-type: none"> <li>• <b>OpBerg: Discovering causal sentences using optimal alignments</b> <i>Justin Wood, Nicholas Matiasz, Alcino Silva, William Hsu, Alexej Abyzov, Wei Wang</i></li> <li>• <b>Multi-label Online Streaming Feature Selection Algorithms via Extending Alpha-Investing Strategy</b> <i>Tianqi Ji, Xizhi Guo, Yunqian Li, Dan Li, Jun Li, Jianhua Xu</i></li> <li>• <b>OPTIMA: Framework Selecting Optimal Virtual Model to Query Large Heterogeneous Data</b> <i>Chahrazed B. Bachir Belmehdi, Abderrahmane Khiat, Nabil Keskes</i></li> <li>• <b>Q-VIPER: Quantitative Vertical Bitwise Algorithm to Mine Frequent Patterns</b> <i>Thomas J. Czubryt, Carson K. Leung, Adam G.M. Pazdor</i></li> <li>• <b>Enhanced Sliding Window-Based Periodic Pattern Mining from Dynamic Streams</b> <i>Evan W. Madill, Carson K. Leung, Justin M. Gouge</i></li> </ul>	<p style="text-align: center;"><b>ARTE-2</b> Session Chair: <b>Lukas Fischer</b></p> <ul style="list-style-type: none"> <li>• <b>Data Integration, Management, and Quality: From Basic Research to Industrial Application</b> <i>Lisa Ehrlinger, Christian Lettner, Werner Fragner, Günter Gsellmann, Susanne Nestelberger, Franz Rauchenzauner, Stefan Schützeneder, Martin Tiefengrabner, Jürgen Zeindl</i></li> <li>• <b>From Data to Decisions - Developing Data Analytics Use-Cases in Process Industry</b> <i>Johannes Himmelbauer, Michael Mayr, Sabrina Luftensteiner</i></li> <li>• <b>Towards the Digitalization of Additive Manufacturing</b> <i>Carlos González-Val, Christian-Eike Precker, Santiago Muiños-Landin</i></li> <li>• <b>Vibration analysis for rotatory elements wear detection in paper mill machine</b> <i>Amaia Arrregi, Iñaki Inza, Iñigo Bediaga</i></li> <li>• <b>Challenges in Mass Flow Estimation on Conveyor Belts in the Mining Industry: A Case Study</b> <i>Bernhard Heinzl, Christian Hinterreiter, Michael Roßbory, Christian Hinterdorfer</i></li> <li>• <b>Introducing Data Science Techniques into a Company Producing Electrical Appliances</b> <i>Tim Kreuzer, Andrea Janes</i></li> </ul>	<p style="text-align: center;"><b>TrustBus</b> <b>Session 2</b> Session Chair: <b>Sokratis Katsikas</b></p> <ul style="list-style-type: none"> <li>• <b>Mitigating Sovereign Data Exchange Challenges: A Mapping to Apply Privacy- and Authenticity-Enhancing Technologies</b> <i>Kaja Schmidt, Gonzalo Munilla Garrido, Alexander Mühle and Christoph Meinel</i></li> <li>• <b>Sandboxing for Threat Detection and Mitigation for IoT</b> <i>Simão Silva, Patrícia R. Sousa, João S. Resende and Luís Antunes</i></li> <li>• <b>Homomorphic encryption in manufacturing compliance checks</b> <i>Aikaterini Triakosia, Panagiotis Rizomiliotis, Konstantinos Tserpes, Cecilia Tonelli, Valerio Senni and Fabio Federici</i></li> </ul>
15:00 – 15:30	<b>Coffee Breaks @ FORUM, LC Building</b>		

#### Zoom Links to the Virtual sessions:

**\*Track 1:** <https://jku.zoom.us/j/98981944495?pwd=dW5oQUJmaDIzbXNNTXZlSUZQWUkwdz09>

Meeting-ID: 989 8194 4495      Password: 591623

**\*\*Track 4:** <https://jku.zoom.us/j/91906037771?pwd=NG1WSTZuQ2xnN0p1OEJXa09ha2l3QT09>

Meeting-ID: 919 0603 7771      Password: 943989

Time	Track 1 Room: FESTSAAL 2	Track 2 Room: TC 5.03	Track 3 Room: TC 5.05
15:30 – 17:30	<p style="text-align: center;"><b>DEXA-15</b> <b>Advanced Analytics Methodologies and Methods II</b> Session Chair: <b>Jing Qi</b></p> <ul style="list-style-type: none"> <li>• <b>Analytical Algebra: Extension of Relational Algebra</b> <i>Jakub Peschel, Michal Batko, Pavel Zezula</i></li> <li>• <b>BLOCK-OPTICS: An efficient density-based clustering based on OPTICS</b> <i>Kota Yukawa, Toshiyuki Amagasa</i></li> <li>• <b>What's Next? Predicting Hamiltonian Dynamics from Discrete Observations of a Vector Field</b> <i>Zi-Yu Khoo, Delong Zhang, Stéphane Bressan</i></li> <li>• <b>A Fuzzy Satisfaction Concept Based-Approach for Skyline Relaxation</b> <i>Mohamed Haddache, Allel Hadjali, Hamid Azzoune</i> <ul style="list-style-type: none"> <li>• <b>Quasi-Clique Mining for Graph Summarization</b> <i>Antoine Castillon, Julien Baste, Hamida Seba, Mohammed Haddad</i></li> </ul> </li> </ul>	<p style="text-align: center;"><b>DEXA-16</b> <b>Efficient Data Processing Techniques</b> Session Chair: <b>Aruna Bansal</b></p> <ul style="list-style-type: none"> <li>• <b>Accelerated Parallel Hybrid GPU/CPU Hash Table Queries with String Keys</b> <i>Tobias Groth, Sven Groppe, Thilo Pionteck, Franz Valdiek, Martin Koppehel</i></li> <li>• <b>Towards Efficient Discovery of Periodic-Frequent Patterns in Dense Temporal Databases using Complements</b> <i>P. Veena, Sreepada Tarun, R. Uday Kiran, Minh-Son Dao, Koji Zettsu, Yutaka Watanobe, Ji Zhang</i> <ul style="list-style-type: none"> <li>• <b>Continuous Similarity Search for Text Sets</b> <i>Yuma Tsuchida, Kohei Kubo, Hisashi Koga</i></li> </ul> </li> <li>• <b>Exploiting Embedded Synopsis for Exact and Approximate Query Processing</b> <i>Hiroki Yuasa, Kazuo Goda, Masaru Kitsuregawa</i></li> </ul>	<p style="text-align: center;"><b>ARTE-3</b> Session Chair: <b>Rudolf Ramler</b></p> <ul style="list-style-type: none"> <li>• <b>A Table Extraction Solution for Financial Spreading</b> <i>Duc Tuyen Ta, Siwar Jendoubi, Aurélien Baelde</i></li> <li>• <b>Synthetic Data in Automatic Number Plate Recognition</b> <i>David Brunner, Fabian Schmid</i></li> <li>• <b>Fast and Automatic Object Registration for Human-Robot Collaboration in Industrial Manufacturing</b> <i>Manuela Geiß, Martin Baresch, Georgios Chasparis, Edwin Schweiger, Nico Teringl, Michael Zwick</i></li> <li>• <b>Collaborative aspects of solving rail-track multi-sensor data fusion</b> <i>Florian Kromp, Fabian Hinterberger, Datta Konanur, Volkmar Wieser</i></li> </ul>
17:30 – 18:00	<b>CLOSING @ Festsaal 2</b>		

Color guide:

- Highlighted in **yellow** are Presenting Author
- Highlighted in **light blue** request for virtual presentation