

DEXA2023 Conferences & Workshops Program
28-30 August 2023, Penang Malaysia

DAY 1, Monday, 28 August 2023 – in person presentations

Time	Programs			
08:00 – 09:00	Registration and Morning Coffee			
09:00 – 12:00	<p>Opening & Keynote Talks</p> <ul style="list-style-type: none"> • Welcome & Introduction Gabriele Kotsis (Steering Committee Chair) and the PC Chairs • Keynote 1 (50") Physics-informed Machine Learning Stéphane Bressan, National University of Singapore, Singapore • Keynote 2 (50") Data Integration Revitalized: From Data Warehouse Through Data Lake to Data Mesh Robert Wrembel, Poznan University of Technology; Artificial Intelligence and Cybersecurity Center, Poland • Keynote 3 (50") From an Interpretable Predictive Model to a Model Agnostic Explanation by Osmar R. Zaiane, Amii Fellow & Canada CIFAR AI Chair, University of Alberta, Canada 			
12:00 – 13:00	Lunch break			
	Track 1	Track 2	Track 3	Track 4
13:00 – 15:00	<p>DEXA 1 Rule-Based Systems 1 (Paper ID#: 42,76,86,124,143,7)</p>	<p>DAWAK 1 Advanced Analytics & Pattern Discovery (Paper ID#: 64,19,35,13,79,8)</p>	<p>DEXA 2 Neural Networks 1 (Paper ID#: 26,41,99,104,128,148)</p>	<p>EGOVIS 1 e-Government & Strategy (Paper ID#: 1,14,2,13)</p>
	<ul style="list-style-type: none"> • User Interactions-aware Knowledge Graphs for Recommender Systems <i>Ru Wang, Bingbing Dong, Tianyang Li, Meng Wu, Chenyang Bu, Xindong Wu</i> <i>China</i> • How Does the System Perceive Me? -- A Transparent and Tunable Recommender System <i>Mingman Xu, Qiong Chang, Jun Miyazaki</i> <i>Japan</i> • MERIHARI-Area Tour Planning by Considering Regional Characteristics <i>Sotaro Moritake, Hidekazu Kasahara, Qiang Ma</i> <i>Japan</i> 	<ul style="list-style-type: none"> • Hypergraph Embedding Based on Random Walk with Adjusted Transition Probabilities <i>Kazuya Nagasato, Satoshi Takabe, Kazuyuki Shudo</i> <i>Japan</i> • Contextual Shift Method (CSM) <i>Gernot Schmitz, Daniel Wilmes, Alexander Gerharz, Daniel Horn, Emmanuel Müller</i> <i>Germany</i> • Discovery of Contrast Itemset with Statistical Background between Two Continuous Variables <i>Kaoru Shimada, Shogo Matsuno, Shota Saito</i> <i>Japan</i> 	<ul style="list-style-type: none"> • Multi-task Graph Neural Network for Optimizing the Structure Fairness <i>Jiahui Wang, Meng Li, Fangshu Chen, Xiankai Meng, Chengcheng Yu</i> <i>China</i> • Few-Shot Multi-Label Aspect Category Detection Utilizing Prototypical Network with Sentence-Level Weighting and Label Augmentation <i>Zeyu Wang, Mizuho Iwaihara</i> <i>Japan</i> • Toward Healthy Aging: Temporal Regression for Disability Prediction and Warning Decision-Making <i>Jianfei Zhang, Lifei Chen, Shengrui Wang</i> <i>Canada, China</i> 	<ul style="list-style-type: none"> • NSFASonto: An Ontology for South African National Student Financial Aid Scheme Operations <i>Shaneer Luchman, Daniel Mundell, Akaylan Perumal, Jean Vincent Fonou-Dombeu</i> <i>South Africa</i> • The Utilization of Public-Private Partnership Frameworks in the Management of eID Projects <i>Stina Mander, Silvia Lips, Dirk Draheim</i> <i>Estonia</i> • OntoSBehaviour: An Ontology of Students' Behaviours at Institutions of Higher Learning <i>Micara Ramnanan, Jean Vincent Fonou Dombeu</i> <i>South Africa</i>

	<ul style="list-style-type: none"> • Explaining Decisions of Black-box Models using BARBE <i>Mohammad Motallebi, Md Tanvir Alam Anik, Osmar Zaiane</i> Canada • Efficient Video Captioning with Frame Similarity-based Filtering <i>Elyas Rashno, Farhana Zulkernine</i> Canada • Trace-based Anomaly Detection with Contextual Sequential Invocations <i>Qingfeng Du, Liang Zhao, Fulong Tian, Yongqi Han</i> China 	<ul style="list-style-type: none"> • DBGAN: A Data Balancing Generative Adversarial Network for Mobility Pattern Recognition <i>Ke Zhang, Hengchang Liu, Siobhan Clarke</i> Ireland, China • Bitwise: Vertical Mining of Minimal Rare Patterns <i>Elieser Capillar, Chowdhury Abdul Mumin Ishmam, Carson Leung, Adam Pazdor, Prabhanshu Shrivastava, Ngoc Bao Chau Truong</i> Canada • Inter-item time intervals in sequential pattern <i>Thomas Kastner, Hubert Cardot, Dominique H. Li</i> France 	<ul style="list-style-type: none"> • A Label Embedding Method via Conditional Covariance Maximization for Multi-label Classification <i>Dan Li, Yunqian Li, Jun Li, Jianhua Xu</i> China • Integrally Private Model Selection for Deep Neural Networks <i>Ayush K. Varshney, Vicenc Torra</i> Sweden • Gaussian Process Component Mining with the Apriori Algorithm <i>Jan Hüwel, Christian Beecks</i> Germany 	<ul style="list-style-type: none"> • Public Health Data and International Privacy Rules and Practices: A Case Study of Singapore <i>Ali Alibeigi, Abu Bakar Munir</i> Malaysia, Iran
15:00 – 15:30	Coffee break			
15:30 – 17:00	DEXA 3 Data Modeling 1 & Knowledge Representation (Paper ID#: 78,101, 45,)	DAWAK 2 Data Quality (Paper ID#: 5,11,25,38)	DEXA 4 Database Design 1 (Paper ID#: 95,117,129)	EGOVIS 2 Strategy & Artificial Intelligence (Paper ID#: 7,6,16,17)
	<ul style="list-style-type: none"> • Managing Semantic Evolutions in Semi-Structured Data <i>Pedro Nepomuceno, Kelly Braghetto</i> Brazil • Effective and Efficient Heuristic Algorithms for Supporting Optimal Location of Hubs over Networks with Demand Uncertainty <i>Alfredo Cuzzocrea, Luigi Canadè, Giulia Fornari, Vittorio Gatto, Abderraouf Hafsaoui</i> Italy, France • On tuning the sorted neighborhood method for record comparisons in a data deduplication pipeline <i>Pawel Boinski, Witold Andrzejewski, Bartosz Bebel, Robert Wrembel</i> Poland • Semantically Constitutive Entities in Knowledge Graphs <i>Chong Cher Chia, Maksim Tkachenko, Hady Lauw</i> Singapore 	<ul style="list-style-type: none"> • State-Transition-Aware Anomaly Detection Under Concept Drifts <i>Bin Li, Emmanuel Müller</i> Germany • Anomaly Detection in Financial Transactions via Graph-based Feature Aggregations <i>Hewen Wang, Renchi Yang, Jieming Shi</i> Singapore, Hong Kong • Using Ontologies as Context for Data Warehouse Quality Assessment <i>Camila Sanz, Adriana Marotta</i> Uruguay • EXOS: Explaining Outliers in Data Streams <i>Egawati Panjei, Le Gruenwald</i> USA 	<ul style="list-style-type: none"> • NoGar: A non-cooperative game for thread pinning in array databases <i>Simone Dominico, Marco A. Z. Alves, Eduardo Cunha de Almeida</i> Brazil • LHKV: A Key-Value Data Collection Mechanism under Local Differential Privacy <i>Weihao Xue, Yingpeng Sang, Hui Tian</i> China, Australia • Assessing the Effectiveness of Intrinsic Dimension Estimators for Uncovering the Phase Space Dimensionality of Dynamical Systems from State Observations - A Comparative Analysis <i>Félix Chavelli, Zi-Yu Khoo, Jonathan Sze Choong Low, Stephane Bressan</i> Singapore 	<ul style="list-style-type: none"> • Sentiment Analysis Application in E-Commerce Current Models and Future Directions <i>Huang Huang, Adeleh Asemi, Mumtaz Begum Mustafa</i> Malaysia • Evolving Justice Sector: An Innovative Proposal for Introducing AI-based Techniques in Court Offices <i>Flora Amato, Simona Fioretto, Eugenio Forgillo, Elio Masciari, Nicola Mazzocca, Sabrina Merola, Enea Vincenzo Napolitano</i> Italy • Hybrid AI Analysis of the Drug Micro-trafficking in Italy <i>Salvatore Sapienza</i> Italy • Exploring the Potential of AI & MDL for Enhancing E-Government Services: A review paper <i>Asefeh Asemi, Adeleh Asemi, Andrea Kö</i> Malaysia, Hungary
17:30 – 19:30	Welcome Reception @Poolside – Ballroom’s Garden Double Tree by Hilton Penang			

DAY 2, Tuesday, 29 August 2023 – in person presentations

Time	Registration			
	Track 1	Track 2	Track 3	Track 4
08:00 – 09:00	Registration			
09:00 – 10:30	DEXA 5 Data Modeling 2 (Paper ID#: 138,146, 90)	DAWAK 3 Machine Learning 1 (Paper ID#: 24,66,10,69)	DEXA 6 Query Optimization (Paper ID#: 136,73,91,100)	DEXA 7 Database Design 2 (Paper ID#: 6,11,28,57)
	<ul style="list-style-type: none"> • DMIS: Dual Model Index Structure for Enhanced Performance on Complexly Distributed Datasets <i>Lanzhong Liu, Xujian Zhao, Yin Long</i> China • Streaming Data Analytics for Feature Importance Measures in Concept Drift Detection and Adaptation <i>Alizadeh Mansouri, Abbas Javadtalab, Nematollaah Shiri</i> Canada • Co-location pattern mining under the spatial structure constraint <i>Rodrigue Govan, Nazha Selmaoui-Folcher, Aristotelis Giannakos, Philippe Fournier-Viger</i> New Caledonia, France, China 	<ul style="list-style-type: none"> • DAT@Z21: A Comprehensive Multimodal Dataset for Rumor Classification in Microblogs <i>Abderrazek Azri, Cécile Favre, Nouria Harbi, Jerome Darmont, Camille Noûs</i> France • Dealing With Data Bias in Classification: Can Generated Data Ensure Representation and Fairness? <i>Manh Khoi Duong, Stefan Conrad</i> Germany • Random Hypergraph Model Preserving Two-mode Clustering Coefficient <i>Rikuya Miyashita, Kazuki Nakajima, Mei Fukuda, Kazuyuki Shudo</i> Japan • Improving Stochastic Gradient Descent Initializing with Data Summarization <i>Robin Varghese, Carlos Ordonez</i> USA 	<ul style="list-style-type: none"> • Parallel Pattern Enumeration in Large Graphs <i>Abir Farouzi, Xiantian Zhou, Ladjel Bellatreche, Mimoun Malki, Carlos Ordonez</i> France, USA, Algeria • S2CTrans: Building a Bridge from SPARQL to Cypher <i>Zihao Zhao, Xiaodong Ge, Zhihong Shen, Chuan Hu, Huajin Wang</i> China • Rewriting Graph-DB Queries to Enforce Attribute-based Access Control <i>Daniel Hofer, Aya Mohamed, Dagmar Auer, Stefan Nadschläger, Josef Küng</i> Austria • A Polystore Querying System applied to heterogeneous and horizontally distributed data <i>Lea El Ahdab, Olivier Teste, Imen Megdiche, André Péninou</i> France 	<ul style="list-style-type: none"> • A Real-time Parallel Information Processing Method for Signal Sorting <i>Xiaofang Liu, Chaoyang Wang, Xing Fan</i> China • Learning Optimal Tree-based Index Placement for Autonomous Database <i>Xiaoyue Feng, Tianzhe Jiao, Chaopeng Guo, Jie Song</i> China • Social Links Enhanced Microblog Sentiment Analysis: Integrating Link Prediction and Sentiment Connection Weights <i>Xiaomei Zou, Taihao Li, Jing Yang</i> China • Discovering Diverse Information Considering User Acceptability <i>Yuki Ito, Qiang Ma</i> Japan
10:30 – 11:00	Coffee break			
11:00 – 12:30	DEXA 8 Rule-Based Systems 2 (Paper ID#: 33,71,135,34)	DAWAK 4 Machine Learning 2 Advanced Analytics and Pattern Discovery (Paper ID#: 49,16,48,71)	DEXA 9 Knowledge Representation (Paper ID#: 80,93,96,137)	DEXA 10 Deep Learning 1 (Paper ID#: 20,82,115,120)
	<ul style="list-style-type: none"> • Fusing Fine-grained Information of Sequential News for Personalized News Recommendation <i>Jin-cheng Zhang, Azlan Mohd Zain, Kai-Qing Zhou, Xi Chen, Ren-Min Zhang</i> Malaysia, China 	<ul style="list-style-type: none"> • Feature analysis of Regional Behavioral Facilitation Information based on Source Location and Target People in Disaster <i>Kosuke Wakasugi, Futo Yamamoto, Yu Suzuki, Akiyo Nadamoto</i> Japan 	<ul style="list-style-type: none"> • Tour Route Generation Considering Spot Congestion <i>Takeyuki Maekawa, Hidekazu Kasahara, Qiang Ma</i> Japan 	<ul style="list-style-type: none"> • An Efficient Embedding Framework for Uncertain Attribute Graph <i>Ting Jiang, Ting Yu, Xueting Qiao, Ji Zhang</i> China, Australia

	<ul style="list-style-type: none"> • A Finite- Domain Constraint-based Approach on the Stockyard Planning Problem <i>Sven Löffler, Ilja Becker, Petra Hofstedt</i> Germany • Data Analytics Framework for Smart Waste Management Optimisation: A Key to Sustainable Future for Councils and Communities <i>Sabbir Ahmed, Sameera Mubarak, Santoso Wibowo, Jia Tina Du</i> Australia • RD-Classifier: Reduced Dimensionality Classifier for Alzheimer 's Diagnosis Support System <i>Soualihou Ngnamsie Njimbouom, Gelany Aly Abdelkader, Candra Zonyfar, Hyun Lee, Jeong-Dong Kim</i> South Korea 	<ul style="list-style-type: none"> • Exploring Dialog Act Recognition in Open Domain Conversational Agents <i>Maliha Sultana, Osmar Zaiane</i> Canada • UniCausal: Unified Benchmark and Repository for Causal Text Mining <i>Fiona Anting Tan, Xinyu Zuo, See-Kiong Ng</i> Singapore, China • Fair-DSP: Fair Dynamic Survival Prediction on Longitudinal Electronic Health Record <i>Xin Huang, Xiangyang Meng, Ni Zhao, Wenbin Zhang, Jianwu Wang</i> USA 	<ul style="list-style-type: none"> • Feature Selection for Aero-Engine Fault Detection <i>Amadi Gabriel Udu, Andrea Lecchini-Visintini, Hongbiao Dong</i> UK, Nigeria • Tracking Clusters of Links in Dynamic Social Networks <i>Erick Stattner</i> France • Mind In Action: Cognitive Assessment using Action Recognition <i>Sayda Elmi, Sai Karthik Navuluru, Morris Bell</i> USA 	<ul style="list-style-type: none"> • Multi-core Adaptive Merging of the Secondary Index for LSM-based Stores <i>Wojciech Macyna, Michal Kukowski, Michal Zwarzko</i> Poland • CAGAIN: Column Attention Generative Adversarial Imputation Networks <i>Jun Kawagoshi, Yuyang Dong, Takuma Nozawa, Chuan Xiao</i> Japan • Except-Condition Generative Adversarial Network for Generating Trajectory Data <i>Yeji Song, Jihwan Shin, Jinhyun Ahn, Taewhi Lee, Dong-Hyuk Im</i> South Korea
12:30 – 13:30	Lunch break			
13:30 – 15:00	DEXA 11 Neural Networks 2 (Paper ID#: 24,77,75,32)	DAWAK 5 Data Management (Paper ID#: 42,18,82,65)	DEXA 13 Deep Learning 2 (Paper ID#: 122,13,49,50)	DEXA 12 Natural Language Processing (Paper ID#: 18,66,14,44)
	<ul style="list-style-type: none"> • Learnable Filter Components for Social Recommendation <i>XianKun Zhang and WenJie Huang</i> China • A Machine-Learning Framework for Supporting Content Recommendation via User Feedback Data and Content Profiles in Content Managements Systems <i>Debashish Roy, Alfredo Cuzzocrea, ChenDing, Islam Belmerabet</i> Canada, Italy, France • Celestial Machine Learning from Data to Mars and Beyond with AI Feynman <i>Zi-Yu Khoo, Abel Yang, Jonathan Sze Choong Low, Stéphane Bressan</i> Singapore 	<ul style="list-style-type: none"> • Unified views for querying heterogeneous multi-model polystores <i>Lea El Ahdab, Olivier Teste, Imen Megdiche, André Péninou</i> France • RODD: Robust Outlier Detection in Data Cubes <i>Lara Kuhlmann, Daniel Wilmes, Emmanuel Müller, Markus Pauly, Daniel Horn</i> Germany • Data-driven and On-Demand Conceptual Modeling <i>Damianos Chatziantoniou, Verena Kantere</i> Greece, Canada • FLOWER: Viewing Data Flow in ER Diagrams <i>Elijah Mitchell, Nabila Berkani, Ladjel Bellatreche, Carlos Ordóñez</i> USA, Algeria, France 	<ul style="list-style-type: none"> • Next POIs Prediction for Group Recommendations: Influence-based Deep Learning Model <i>Sayda Elmi, Kian Lee Tan</i> USA, Singapore • NExGCN: Modeling Node Importance of Graph Convolution Network by Neighbor Excitation for Recommendation <i>Jingxue Zhang, Ning Wu, Changchun Yang</i> China • Dual Congestion-aware Route Planning for Tourists by Multi-agent Reinforcement Learning <i>Kong Yuntao, Peng Cheng, Nguyen Minh Le, Ma Qiang</i> Japan 	<ul style="list-style-type: none"> • Multi-Feature and Multi-Channel GCNs for Aspect Based Sentiment Analysis <i>WenLong Xi, Xiaoxi Huang, Fumiyo Fukumoto, Yoshimi Suzuki</i> China, Japan • Towards Ensemble-based Imbalanced Text Classification using Metric Learning <i>Takahiro Komamizu</i> Japan • Target and Precursor named entities recognition from scientific texts of high-temperature steel using deep neural network <i>M. Saef Ullah Miah, Junaida Sulaiman, Talha Bin Sarwar, Imam Ul Ferdous, Saima Sharleen Islam, Md. Samiul Haque</i> Bangladesh, Malaysia, Italy

	<ul style="list-style-type: none"> Efficient Machine Learning-Based Prediction of CYP450 Inhibition <i>Gelany Aly Abdelkader, Soualihou Ngnamsie Njimbouom, Prince Gidiglo Delator, Jeong-Don Kim, Tae-Jin Oh</i> South Korea 		<ul style="list-style-type: none"> Subspace Clustering Technique Using Multi-Objective Functions for Multi-class Categorical Data <i>Rahmah Brmawy, Nematollaah Shiri</i> Canada 	<ul style="list-style-type: none"> Enabling PII Discovery in Textual Data via Outlier Detection <i>Md Rakibul Islam, Anne Kayem, Christoph Meinel</i> Germany
15:00 – 15:30	Coffee break			
15:30 – 17:00	IWCFS (Paper ID#: 2,13,5,9,4)	DAWAK 6 Deep Learning & Data Management (Paper ID#: 9,77,59)	AI Sys (Online via Microsoft Teams) (Paper ID#: 3,12,15,10)	DEXA 14 Database Design 3 (Paper ID#: 60,113,141,149)
	<ul style="list-style-type: none"> A Context Ontology-based Model to Mitigate Root Causes of Uncertainty in Cyber-Physical Systems <i>Mah Noor Asmat, Saif Ur Rehman Khan, Atif Mashkoor, Irum Inayat</i> Pakistan, Austria Towards Increasing Safety in Collaborative CPS Environments <i>Marco Stadler, Michael Riegler, Johannes Sametinger</i> Austria An Intermediate Representation for Rewriting Cypher Queries <i>Daniel Hofer, Aya Mohamed, Stefan Nadschläger, Dagmar Auer</i> Austria An Effective Feature Selection for Diabetes Prediction <i>In-ae Kang, Soualihou Ngnamsie Njimbouom, Jeong-Dong Kim</i> South Korea Architecture for Self-protective Medical Cyber-Physical Systems <i>Michael Riegler, Johannes Sametinger, Jerzy W. Rozenblit</i> Austria, USA 	<ul style="list-style-type: none"> Accounting for Imputation Uncertainty During Neural Network Training <i>Thomas Ranvier, Haytham Elghazel, Emmanuel Coquery, Khalid Benabdeslem</i> France DRUM: A real time Detector for Regime shifts in data streams via an Unsupervised and Multivariate framework <i>Adnan Bashir, Trilce Estrada</i> USA Supporting Big Healthcare Data Management and Analytics: The Cloud-Based QFLS Framework <i>Alfredo Cuzzocrea, Selim Soufargi</i> Italy, France 	<ul style="list-style-type: none"> DSD: The Data Source Description Vocabulary <i>Lisa Ehrlinger, Johannes Schrott, Wolfram Wöß</i> Austria Analyzing the Innovative Potential of Texts Generated by Large Language Models: An Empirical Evaluation <i>Oliver Krauss, Michaela Jungwirth, Marius Elflein, Simone Sandler, Christian Altendorfer, Andreas Stoeckl</i> Austria LocBERT: Improving Social Media User Location Prediction using Fine-Tuned BERT <i>Asif Khan, Huaping Zhang, Nada Boudjellal, Arshad Ahmad, Maqbool Khan</i> China, Algeria, Pakistan Measuring Overhead Costs of Federated Learning Systems by Eavesdropping <i>Rainer Meindl, Bernhard A. Moser</i> Austria 	<ul style="list-style-type: none"> Confidential Truth Finding with Multi-Party Computation <i>Angelo Saadeh, Pierre Senellart, Stephane Bressan</i> France, Singapore A Key-Value Based Approach to Scalable Graph Database <i>Zihao Zhao, Chuan Hu, Zhihong Shen, Along Mao, Hao Ren</i> China Bitwise Algorithms to Compute the Transitive Closure of Graphs in Python <i>Xiantian Zhou, Abir Farouzi, Ladjel Bellatreche, Carlos Ordonez</i> USA, France Discovering Top-K Partial Periodic Patterns in Big Temporal Databases <i>Palla Madhavi, Palla Likhitha, Rage Uday Kiran</i> India, Japan
19:30 – 22:30	<ul style="list-style-type: none"> Conference Dinner Norman Revell Award and Roland Wagner Award @Esplanade Ballroom Double Tree Resort by Hilton Penang			