Conference Program
iiWAS 2024 & MoMM 2024
2 – 4 December 2024
Comenius University Bratislava, Faculty of Management
Address: **Odbojárov 10, 820 05 Bratislava 25, Slovak Republic**
(https://www.fm.uniba.sk/en/about-faculty/)

DAY 1: Monday, 2 December 2024

Time	
09:00 – 10:00	**Registration & Morning Coffee** @Foyer of room: D2 - Auditorium Faculty of Management, -1 fl. (UG)
10:00 – 10:30 10:30 – 11:30	Plenary session Room: D2 - Auditorium Faculty of Management, -1 fl. (UG) • **Opening** • **Keynote Talk 1 (iiWAS2024)** **"Harnessing Large Language Models for Entity Processing in Resource-Constrained Environments"** ***Toshiyuki Amagasa**, University of Tsukuba, Japan*
11:30 – 12:30	• **Keynote Talk 2 (MoMM2024)** **"Automatic Speech Recognition in Adverse Acoustic Conditions"** ***Antonio Liotta,** Free University of Bozen-Bolzano, Italy*
12:30 – 13:30	**Lunch break** *@Cafeteria Faculty of Management, -1 fl. (UG)*

	Track 1 Room: C4, 4th fl.	Track 2 Room: C5, 4th fl.	Track 3 Room: C6, 4th fl.
13:30 – 15:00	**MoMM – 1** **Motion and Sensor-Based Applications**	**iiWAS – 1** **Machine Learning for Prediction**	**iiWAS – 2** **Conversational Agents and Chatbots**
	ID#: 98,113,114	ID#: 121,136,143,161	ID#: 124,186,182,138
15:00 – 15:30	**Coffee break @reception foyer 4th fl.**		
15:30 – 17:00	**MoMM – 2** **Medical Data and Cognitive Analysis**	**iiWAS – 3** **Web Intelligence and Search**	**iiWAS – 4** **Data Science in E-commerce and Recommendation Systems**
	ID#: 104,123,125	ID#: 111,114,160	ID#: 126,150,163
18:00 – 20:00	**Welcome Reception** **Moyzes Hall, Faculty of Arts, Comenius University Bratislava** Address: Gondova Street No. 2, SK-811 02 Bratislava 1, Slovakia (https://fphil.uniba.sk/en/services/moyzes-hall/)		

Program Details:

DAY 1: Monday, 2 December 2024

Time | **Descriptions**

09:00 – 10:00 | **Registration & Morning Coffee** *@Foyer of room: D2 - Auditorium Faculty of Management, -1 fl. (UG)*

10:00 – 11:30 | *Plenary sessions @room: D2 -Auditorium Faculty of Management, -1 fl. (UG)*
- **Opening**
- **Keynote Talk** 1 (iiWAS2024)
"Harnessing Large Language Models for Entity Processing in Resource-Constrained Environments"
***Toshiyuki Amagasa,** University of Tsukuba, Japan*
Session Chair: Gabriele Kotsis

| 11:30 – 12:30 | *Plenary sessions @room: D2 -Auditorium Faculty of Management, -1 fl. (UG)* |

- **Keynote Talk 2** (MoMM2024)
  "Automatic Speech Recognition in Adverse Acoustic Conditions"
  Antonio Liotta, Free University of Bozen-Bolzano, Italy
  Session Chair: Gabriele Kotsis

| 12:30 – 13:30 | Lunch break *@Cafeteria Faculty of Management, -1 fl. (UG)* |

------------------------- **Paper Presentations** --

| 13:30 – 15:00 | **MoMM – 1** | **Room: C4, 4ᵗʰ fl.** |

Motion and Sensor-Based Applications
Session Chair: Yusuke Gotoh

- **Investigating Choking Under Pressure in Dance Performance with Motion and Physiological Information Analysis**
  Shuhei Tsuchida, Ayumi Ohnishi, Kae Mukai, Ken Watanabe, Katsumi Watanabe, Tsutomu Terada, Masahiko Tsukamoto
  Japan

- **A Method for Embedding Information into Acceleration Data using Resonant Frequency Sound to Capacitive Accelerometers**
  Takeru Yokoyama, Kazuya Murao
  Japan

- **A method for Estimating the Force Applied on the forearm using PPG Sensors**
  Ryo Watabe, Kazuya Murao
  Japan

| 13:30 – 15:00 | **iiWAS – 1** | **Room: C5, 4ᵗʰ fl.** |

Machine Learning for Prediction
Session Chair: Douglas Scheftner

- **FIEAP: A Machine Learning Approach for Fair and Interpretable Employee Attrition Prediction**
  Ginel Dorleon
  France

- **A Data Science Approach for Predicting Soccer Passes Using Positional Data**
  Sebastian Eigenrauch, Jonas Bischofberger, Arnold Baca, Erich Schikuta
  Austria

- **Vision Transformer Approach to Customer Churn Prediction Radar Chart Image Classification for non-subscription-based e-commerce**
  Sion Coolwijk, Seyed Sahand Ziabari, Francesco Angileri
  Netherlands

- **Sustainability and High-Performance Computing**
  Elio Masciari, Enea Vincenzo Napolitano
  Italy

| 13:30 – 15:00 | **iiWAS – 2** | **Room: C6, 4ᵗʰ fl.** |

Conversational Agents and Chatbots
Session Chair: Vineeta Jain

- **Evolving Applications of Conversational Agents in Healthcare: A Literature Review**
  Vincenza Carchiolo, Michele Malgeri
  Italy

- **Integrating Conversational Pathways with a Chatbot Builder Platform**
  Varshini Prakash, Alex Lambe Foster, Jasmine Noble, Osmar R. Zaiane
  Canada

- **Active Utterance Collection based on Multi-Armed Bandits for Natural Language Understanding in Dialog Systems**
  Rui Yang, Kei Wakabayashi
  Japan

- **Finding Adequate Additional Layer of Auxiliary Task in BERT-Based Multi-Task Learning**
  Takuto Kitamura, Yu Suzuki
  Japan

15:00 – 15:30   Coffee break @*Reception foyer, 4th fl.*

15:30 – 17:00   **MoMM – 2**   **Room: C4, 4th fl.**
Medical Data and Cognitive Analysis
Session Chair: Piotr Urbaniec

- **Mild Cognitive Impairment Prediction Using Facial and Speech Data**
  Chien-Cheng Lee, Wei-Chieh Huang, Yi-Fang Chuang
  Taiwan

- **A Genetic Algorithm-Based Scheduling Method Considering Working Hours for Medical Doctors**
  Subaru Narahashi, Eiji Hirakawa, Akira Uchiyama, Yusuke Gotoh
  Japan

- **Comparing training of Sparse to Classic Neural Networks for Binary Classification in Medical Data**
  Laura Erhan, Antonio Liotta, Lucia Cavallaro
  Italy, Netherlands

15:30 – 17:00   **iiWAS – 3**   **Room: C5, 4th fl.**
Web Intelligence and Search
Session Chair: Abdulrauf Aremu Gidado

- **Towards Website X-Ray for Europe's Municipalities: Unveiling Digital Transformation with Multimodal Embeddings**
  Jonathan Gerber, Bruno Kreiner, Jasmin Saxer, Andreas Weiler
  Switzerland

- **Automatic Extraction of RML-star Mappings from Property Graphs**
  Julián Arenas-Guerrero, Paola Espinoza-Arias
  Spain

- **Top-k on Sequences: A New Approach to Enhanced Similarity Search**
  Sara Jarrad, Hubert Naacke, Stéphane Gançarski
  France

15:30 – 17:00   **iiWAS – 4**   **Room: C6, 4th fl.**
Data Science in E-commerce and Recommendation Systems
Session Chair: Werner Winiwarter

- **Tailored Trip: Advanced Route Planning with Personalization Levels in Focus**
  Rintaro Hirosawa, Kun Yi, Qiang Ma
  Japan

- **Mining Historical Multi-behavior Sequential Patterns for E-commerce Recommendation**
  S. Bandreddy, C. I. Ezeife, Abdulrauf Gidado
  Canada

- **A Serendipitous Recommendation System Considering User Curiosity**
  Zhelin Xu, Atsushi Matsumura
  Japan

18:00 – 20:00   **Welcome Reception**
Moyzes Hall, Faculty of Arts, Comenius University Bratislava
Address: Gondova Street No. 2, SK-811 02 Bratislava 1, Slovakia
(https://fphil.uniba.sk/en/services/moyzes-hall/)
Moyzes Hall is the richly decorated Art Nouveau Hall, located in the main building of the Faculty of Arts, Comenius University near the Danube River. The address of the building is Gondova Street, but actually the Moyzes Hall can be accessed from around the corner from Vajanského Street. Moyzes Hall is named after the Slovak composer Alexander Moyzes (1906–1984).

DAY 2, Tuesday - 3 Dec 2024

Time			
08:30 – 09:00	**Registration** @*Foyer of Room: D2 - Auditorium Faculty of Management, -1 fl. (UG)*		
09:00 – 10:00	*Plenary session* *Room: D2 - Auditorium Faculty of Management, -1 fl. (UG)* • **Keynote Talk 3** *"Towards Explainable AI-Powered Malware Detection"* *Martin Homola, Comenius University Bratislava, Slovakia*		
10:00 – 10:30	**Coffee break** @*Foyer of Room: D2 - Auditorium Faculty of Management, -1 fl. (UG)*		
	Track 1 Room: C4, 4th fl.	**Track 2** Room: C5, 4th fl.	**Track 3** Room: C6, 4th fl.
10:30 – 12:30	**MoMM – 3** **Mobile User Experience and Interaction**	**iiWAS – 5** **AI for Web and Financial Applications**	**iiWAS – 6** **Data-Driven Modeling and Feature Extraction**
	ID#: 103,116,120,127	ID#: 102,125,146,187	ID#: 106,129,141,156,127
12:30 – 13:30	**Lunch break** @*Cafeteria Faculty of Management, -1 fl. (UG)*		
13:30 – 15:00	**MoMM – 4** **Environmental and Eco-Innovations**	**iiWAS – 7** **AI in Natural Language Processing**	**iiWAS – 8** **AI and Ethics**
	ID#: 115,105,106	ID#: 144,191,169	ID#: 120,162,178,190
15:00 – 15:30	**Coffee break** @*reception foyer of 4th fl.*		
15:30 – 17:00	**iiWAS – 9** **Digital Twins and Knowledge Graphs**	**iiWAS – 10** **Time Series and Sequential Data Analysis**	**iiWAS – 11** **AI for Social Issues**
	ID#: 113,172,174	ID#: 108,123,154,131	ID#: 115,135,157
19:00 – 22:00	**Conference Dinner and Best Paper Award Announcement** **Historical Building of Slovak National Council** Address: Župné námestie 591, 811 03 Bratislava, Slovakia		

Program Details:

Time	Descriptions

08:30 – 09:00   Registration @Foyer of *room: D2 - Auditorium Faculty of Management, -1 fl. (UG)*

09:00 – 10:00   *Plenary sessions @room: D2 - Auditorium Faculty of Management, -1 fl. (UG)*

• **Keynote Talk 3** (iiWAS2024)
"Towards Explainable AI-Powered Malware Detection"
Martin Homola, Comenius University Bratislava, Slovakia
Session Chair: Toshiyuki Amagasa

10:00 – 10:30   Coffee break @*Foyer of Auditorium Faculty of Management, -1 fl. (UG)*

------------------------- **Paper Presentations** ---

10:30 – 12:30   **MoMM – 3**   **Room: C4, 4th fl.**

Mobile User Experience and Interaction
Session Chair: Jaroslaw Kobiela

- **Good Vibes! Towards Phone-to-User Authentication Through Wristwatch Vibrations**
  Jakob Dittrich, Rainhard Dieter Findling
  Austria

- **Correlation between gamification and intrinsic motivation with a mobile job-market application**
  Niklas Grossmann, Helmut Hlavacs
  Austria

- **MEUSec – Method for Enhancing User Experience and Information Security**
  Max Sauer, Christoph Becker, Andreas Oberweis, Simon Pfeifer, Jan Sürmeli
  Germany

- **Toward the Implementation of a Cooking Support System Complementing Nonexistent Objects with Virtual Objects**
  Taiki Nihanda, Shoji Sano
  Japan

10:30 – 12:30   **iiWAS – 5**   **Room: C5, 4th fl.**

AI for Web and Financial Applications
Session Chair: Vincenza Carchiolo

- **RUVA - a Radical Universal Visual Annotation for Web-Based Language Learning**
  Werner Winiwarter
  Austria

- **Hybrid edge-cloud federated learning: the case of lightweight smoking detection**
  Amirhossein Douzandeh Zenoozi, Babak Majidi, Lucia Cavallaro, Antonio Liotta
  Italy, Iran

- **Supporting Data Foragers in Scientific Computing Community Ecosystems for life Sciences**
  Hasan M. Jamil
  USA

- **Financial News Classification Using Language Learning Models and Reinforcement Learning**
  William Beckhauser, Renato Fileto
  Brazil

10:30 – 12:30   **iiWAS – 6**   **Room: C6, 4th fl.**

Data-Driven Modeling and Feature Extraction
Session Chair: Ginel Dorleon

- **Advanced Topic Modeling in Genomics: Towards Personalized Dietary Recommendations Through BERTopic Analysis**
  Giovanni M. De Filippis, Antonio M. Rinaldi, Cristiano Russo, Cristian Tommasino
  Italy

- **Anonymization of Unstructured Health Data in Spanish**
  Sergio Ilarri, Carlos Tellería, Marta Morales
  Spain

- **Enhancing Soil Pollution Prediction through Expert-Defined Risk Zones and Machine Learning: A Case Study in the Netherlands**
  Jasper Braakman, Seyed Sahand Mohammadi Ziabari, Ron Korver
  Netherlands

- **Multi-Target Feature Selection Method for Predicting User-Level Psychological Status from Text**
  Danmeng Cai, Kei Wakabayashi, Shaoyu Ye
  Japan

- **A Data Model of a Data Lineage Management System for Database Repair and Simulation**
  Wei Jun Wong, Kyoko Yasuda, Qiong Chang, Jun Miyazaki
  Japan

12:30 – 13:30   Lunch break *@Cafeteria Faculty of Management, -1 fl. (UG)*

13:30 – 15:00   **MoMM – 4**   **Room: C4, 4th fl.**
Environmental and Eco-Innovations
Session Chair: Vitaliy Yakovyna

- **Query by Trash: Encouraging Green Attitudes and Behavior through Eco-News Retrieval in Smart Trash Bins**
  Momo Takeuchi, Yoshiyuki Shoji, Yusuke Yamamoto
  Japan

- **Evaluation of the clustering method used to analyze the proximity of mobile devices using indirect geolocation indicators**
  Jaroslaw Kobiela, Piotr Urbaniec
  Poland

- **Application of Benford's law to the identification of non-authentic digital images**
  Jaroslaw Kobiela, Piotr Dzierwa
  Poland

13:30 – 15:00   **iiWAS – 7**   **Room: C5, 4th fl.**
AI in Natural Language Processing
Session Chair: Naoko Kosugi

- **CLOR - QA: Cross-Lingual Open-Retrieval Question Answering Model with Dynamic Database Integration**
  Sonia Khetarpaul, Vedanta Vivek Patil, Mitra Abhi Sura, Shrey Sharma, Pooja Singh
  India

- **Feature Extraction for Claim Check-Worthiness Prediction Tasks Using LLM**
  Yuka Teramoto, Takahiro Komamizu, Mitsunori Matsushita, Kenji Hatano
  Japan

- **ExtractGPT: Exploring the Potential of Large Language Models for Product Attribute Value Extraction**
  Alexander Brinkmann, Roee Shraga, Christian Bizer
  Germany, USA

13:30 – 15:00   **iiWAS – 8**   **Room: C6, 4th fl.**
AI and Ethics
Session Chair: Tatsuo Nakajima

- **When Good Enough is the Best Option: Use of Digital Sufficiency to Fight Climate Change**
  Nicolas Tirel, Sergio Ilarri, Philippe Roose, Adel Noureddine, Olivier Le Goaër
  Spain, France

- **TippyMirror: Recollecting People's Positive Moments based on Mirror Metaphor**
  Yukina Kato, Risa Kimura, Tatsuo Nakajima
  Japan

- **Traffic Congestion-aware Tourist Route Planning**
  Hiroyuki Tanaka, Hidekazu Kasahara, Qiang Ma
  Japan

- **Training Data for Dialogue Generation Considering Philosophies**
  Masaya Sueyoshi, Tetsuya Kitahata, Akiyo Nadamoto
  Japan

15:00 – 15:30   Coffee break *@reception foyer 4th fl.*

| 15:30 – 17:00 | **iiWAS – 9** | **Room: C4, 4th fl.** |

Digital Twins and Knowledge Graphs
Session Chair: Amin Jalali

- **Using the Digital Twin Collage Model in CollectiveEyes**
  Risa Kimura, Tatsuo Nakajima
  Japan

- **A Method for Integrating Heterogeneous Data into a Knowledge Graph**
  Christoph Göpfert, Sheeba Samuel, Martin Gaedke
  Germany

- **Predicting Knowledge Graph Updates from Edit Histories**
  Maiki Okura, Toshiyuki Amagasa
  Japan

| 15:30 – 17:00 | **iiWAS – 10** | **Room: C5, 4th fl.** |

Time Series and Sequential Data Analysis
Session Chair: Jaroslav Pokorný

- **SISIS: Sequence Indexing for SImilarity Search**
  Sara Jarrad, Hubert Naacke, Stéphane Gançarski
  France

- **Exploratory Data Analysis of Time Series using Pre-segmented Clustering**
  Vineeta Jain, Zihao Huang, Anna Richter, Ulf Wetzker, Andreas Frotzscher
  Germany

- **Uncovering patterns in object-centric process mining: An approach using drill-down and roll-up techniques**
  Najmeh Miri, Amin Jalali
  Sweden

- **Integrating the biological knowledge from protein databases into spatial RNA sequencing analyses**
  Anna Leśniewska, Szymon Dzięgielewski, Elena Melnyk, Michał Jerzy Okoniewski, Robert Wrembel
  Poland, Switzerland

| 15:30 – 17:00 | **iiWAS – 11** | **Room: C6, 4th fl.** |

AI for Social Issues
Session Chair: Pooja Singh

- **HOCON34k: A corpus of Hate speech in Online Comments from German Newspapers**
  Max-Emanuel Keller, Maximilian Auch, Alexander Döschl, Fabian Vlk, Julian Quernheim, Mike Hartmann, Peter Mandl, Alexander Kaul, Markus Franz
  Germany

- **Echo Chambers Detection Through Echo Chambers Equilibrium**
  Amin Mahmoudi
  Poland

- **Online Digital Investigative Journalism using SociaLens**
  Hasan M. Jamil, Sajratul Y. Rubaiat
  USA

| 19:00 – 22:00 | **Conference Dinner and Best Paper Award Announcement** |

Historical Building of Slovak National Council
Address: Župné námestie 591, 811 03 Bratislava, Slovakia

DAY 3, Wednesday - 4 Dec 2024

Time			
08:30 – 09:00	Registration @*Reception Foyer 4th fl.*		
	Track 1 Room: C4, 4th fl.	**Track 2** Room: C5, 4th fl.	**Track 3** Room: C6, 4th fl.
09:00 – 10:30	**MoMM – 5** **Data Generation and Software Systems**	**iiWAS – 12** **Graph Mining and Classification**	**iiWAS – 13** **Digital Transformation in Organizations**
	ID#: 102, 107, 118	ID#: 147,166,171,142	ID#: 132,148,168,173
10:30 – 11:00	Coffee break @reception foyer 4th fl.		
11:00 – 12:30	**MoMM - 6** **Virtual Reality and Multimedia**	**iiWAS – 14** **Blockchain and Cryptocurrencies**	**iiWAS – 15** **Information Integration and Data Mining**
	ID#: 108,124	ID#: 103,119,137	ID#: 170,183
12:30 – 13:30	**CLOSING** @*room: D2 - Auditorium Faculty of Management, -1 fl. (UG)* **&** **LUNCH** @Cafeteria *Faculty of Management, -1 fl. (UG)*		

Program Details:

Time | **Descriptions**

08:30 – 09:00 Registration @*Reception area 4th fl.*

-------------------------- **Paper Presentations** --

09:00 – 10:30   **MoMM – 5**   **Room: C4, 4th fl.**
Data Generation and Software Systems
Session Chair: Max Sauer

- **Cross-Project Software Defect Prediction using Ensemble Model with Individual Data Balancing and Feature Selection**
  Vitaliy Yakovyna, Oleh Nesterchuk
  Ukraine, Poland

- **AUTO-DataGenCARS+: An Advanced User-Oriented Tool to Generate Data for the Evaluation of Recommender Systems**
  María del Carmen Rodríguez Hernández, Sergio Ilarri, Marcos Caballero, Raquel Trillo Lado, Ramón Hermoso, Rafael del Hoyo Alonso
  Spain

- **A Method for Eliminating False Positives of Acceleration-based Gesture Recognition Using Eye Tracking**
  Hinase Kawano, Kazuya Murao
  Japan

09:00 – 10:30   **iiWAS –12**   **Room: C5, 4th fl.**
Graph Mining and Classification
Session Chair: Amin Mahmoudi

- **Combining GraphSAGE and Label Propagation for Node Classification in Graphs**
  Dolly Sharma, Sonia Khetarpaul, Chinmayi Verma, Prateek Jain
  India

- **Person Identification and Position Estimation with Multiple Moving Spherical Cameras**
  Hiroki Oda, Shohei Yokoyama
  Japan

- **Texture-Based Classification of Geo-Fossils**
  Amal Saif, Eman Alnagi, Ashraf Ahmad
  Jordan

- **Integrative Mining Pipeline for Improved Reflections of Course Feedback**
  Prateek Prateek, Neil Allister Pais, Ritu Chaturvedi
  Canada

09:00 – 10:30   **iiWAS – 13**   **Room: C6, 4ᵗʰ fl.**
Digital Transformation in Organizations
Session Chair: Hirotaka Yoshioka

- **Assessing the Suitability of Artificial Intelligence to Accomplish Organizational Finance Tasks**
  Gabriel Smith, Workneh Yilma Ayele
  Sweden

- **Exploring the Role of UML in Data Modelling for NoSQL Databases: Position paper**
  Mohammed el Habib Maicha, Jaroslav Pokorný
  Algeria, Czech Republic

- **Research and Development of an AI Music Therapist - Toward Digital Therapeutics of Music Therapy -**
  Naoko Kosugi, Kentaro Ishii, Naoki Kodama
  Japan

- **Facilitating End-User Development of Websites with Micro-Frontends**
  Jan Ingo Haas, Sheeba Samuel, Martin Gaedke
  Germany

10:30 – 11:00   Coffee break @reception foyer 4th fl.

11:00 – 12:30   **MoMM – 6**   **Room: C4, 4ᵗʰ fl.**
Virtual Reality and Multimedia
Session Chair: Kei Wakabayashi

- **Evaluating the Impact of Color and Sound Combinations on Cognitive Performance in Virtual Reality**
  Ryoma Nakao, Tatsuo Nakajima
  Japan

- **Efficient moving object detection from Ultra-High Resolution omnidirectional video**
  Takuro Ohashi, Shohei Yokoyama
  Japan

11:00 – 12:30   **iiWAS – 14**   **Room: C5, 4ᵗʰ fl.**
Blockchain and Cryptocurrencies
Session Chair: Alexander Brinkmann

- **Ponzi scheme detection and prevention in blockchain platforms using machine learning: A systematic literature review**
  Karen Esther Castro Severiche, Agnes Wahlqvist Odenman, Amin Jalali
  Sweden

- **Incentivise Peer Review without Rewarding: Using OSS-like Citation Pull Request**
  Chiaki Miura, Kensuke Ito
  Japan

- **Cross-Chain Personal Data Exchange on EVM Platforms: Enhancing Transparency, and Equity**
  Triet M. N., Bang L. K., Khanh H. V., Anh T. N., Nhi T. L., Nghiem, P. T., Khiem H. G., Nam T. B.
  Vietnam

11:00 – 12:30	**iiWAS – 15**	**Room: C6, 4th fl.**

Information Integration and Data Mining
Session Chair: Amal Saif

- **Railway systems' ontologies: A literature review and an alignment proposal**
  David Camarazo, Ana Roxin, Mohammed Lalou
  France

- **Synchronization Options and Their Performance Benefits for Spatial Index on Persistent Memory**
  Hirotaka Yoshioka, Yuto Hayamizu, Kazuo Goda, Masaru Kitsuregawa
  Japan

12:30 – 13:30   Closing and Lunch
@ room: D2 - Auditorium Faculty of Management, -1 fl. (UG)
and Cafeteria *Faculty of Management, -1 fl. (UG)*