# MLIS 2023

## The 5th International Conference on Machine Learning and Intelligent Systems

November 17th-20th, 2023

Macao, China/Online via MS TEAMS

# Conference Program

Singidunum University

Bosen Academic Research Institute

澳門會展旅遊業協會

ASSOCIACAO DOS SECTORES DE CONVENCOES, EXPOSICOES E TURISMO DE MACAU

MACAO ASSOCIATION OF CONVENTION, EXHIBITION & TOURISM SECTORS

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# Part I Conference Schedule

| **Friday, November 17th, 2023** | **Lobby of Regency Art Hotel** |
|---|---|
| 14:00-19:00 | Onsite Registration |
| 15:00-18:00 | Online MS TEAMs Testing<br>*http://www.academicconf.com/teamslink?confname=MLIS2023* |

**Notes for offline participants:**

1. **Please show us the acceptance letter or paper ID for registration;**
2. **Please take the name card during conference, Macao Pass[1] for meals and field visit tickets while joining the field visit.**

| **Saturday, November 18th, 2023** | **Drawing Room, Regency Art Hotel** |
|---|---|
| ***Online MS Teams Link: http://www.academicconf.com/teamslink?confname=MLIS2023*** | |

**Welcome and Plenary Speeches are chaired by:**

***Prof. Milan Tuba, Singidunum University, Serbia***

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|---|---|
| 09:00-09:05 | **WELCOME SPEECH** |
| 09:05-09:45 | **Keynote Speech 1: Machine Learning for Intelligence Systems with Digital Images**<br>***Prof. Milan Tuba**, Singidunum University, Serbia* |
| 09:45-10:25 | **Keynote Speech 2: On INTERBEING: The Symbiosis between INTERnet and Human BEING in the Metaverse**<br>***Prof. Martin Maier**, Institut National de la Recherche Scientifique (INRS), Canada* |
| 10:25-10:50 | **Group Photo & Coffee Break** |
| 10:50-11:30 | **Keynote Speech 3: Future Intelligent Applications Based on Mobile Clouds and Software-Defined Networks**<br>***Prof. Dr. Habil Sergei Gorlatch**, University of Muenster, Germany* |
| 11:30-12:00 | **Poster Presentations** |
| 12:00-14:00 | **LUNCH BREAK (*A Pousada* Café 玲瓏閣餐廳)** |
| 14:00-18:10 | **Oral Session 1: Intelligent Manufacturing and Intelligent System** |
| 18:30 | Gather at the Lobby of Regency Art Hotel, **Set off on time at 18:30** to Macao Tower |

[1] Macao Pass will be provided during registration for dinner on November 19th and Lunch on November 20th. Macao Pass can be used in Public Transit, Convenience Store, Supermarket, Café and Self-service Vending Machine in Macao.

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|---|---|
| 18:30-21:00 | **Buffet Dinner at Macao Tower (With Buffet Dinner Ticket)** |
| 21:00 | Gather at the Ground Floor of Macao Tower, **Set off on time at 21:00**, Back to Regency Art Hotel |

## Sunday, November 19th, 2023 Drawing Room, Regency Art Hotel

***Online MS Teams Link: http://www.academicconf.com/teamslink?confname=MLIS2023***

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|---|---|
| 09:00-12:30 | **Oral Session 2: Machine Learning and Practical Application** |
| 12:30-14:00 | **LUNCH BREAK (*A Pousada* Café 玲瓏閣餐廳)** |
| 14:00-18:40 | **Oral Session 3: Data Processing and Mathematics** |

## Monday, November 20th, 2023 Macao City, China

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|---|---|
| 09:00 | Gather at the Lobby of Regency Art Hotel, **Set off on time at 09:00** |
| 09:00-16:00 | **One Day Field Visit of Macao City (with Field Visit Ticket)** |
| 16:00 | Gather at the Ground floor of Venetian Macao, **Set off on time at 16:00**, Back to Regency Art Hotel |

# Part II Keynote Speeches

## Keynote Speech 1: Machine Learning for Intelligence Systems with Digital Images

***Prof. Milan Tuba***

***Computer Science and Mathematics, Head of the Artificial Intelligence Project, Singidunum University, Serbia***

**Biography:** Milan Tuba, Professor of Computer Science and Mathematics, Head of the Artificial Intelligence Project at Singidunum University and Vice-Rector of Research at Sinergia University, is included in both versions of the Stanford University list of 2% of the most influential scientists in the world in all disciplines, one for contribution during the entire career and other for contribution in the previous year (for years 2020, 2021 and 2022). He was Vice Rector for International Relations, Singidunum University, Belgrade, Head of the Department for Mathematical Sciences at State University of Novi Pazar and Dean of the Graduate School of Computer Science at John Naisbitt University. Prof. Tuba is the author or coauthor of around 300 scientific papers (cited more than 6,500 times, h-index 48) and editor, coeditor or member of the editorial board or scientific committee of number of scientific journals, Springer books, congresses and international conferences. He was invited and delivered more than 60 keynote and inaugural lectures at international conferences. He received B. S. in Mathematics, M. S. in Mathematics, M. S. in Computer Science, M. Ph. in Computer Science, Ph.D. in Computer Science from University of Belgrade and New York University. From 1983 to 1994 he was in the U.S.A. at Vanderbilt University in Nashville and Courant Institute of Mathematical Sciences, New York University and later as Assistant Professor of Electrical Engineering at Cooper Union School of Engineering, New York. During that time, he was the founder and director of Microprocessor Lab and VLSI Lab, leader of the NSF scientific projects and theses supervisor. He was the mentor of dozens of doctoral and master's dissertations at the Faculty of Mathematics University of Belgrade, Singidunum University, University of Sarajevo, State University of Novi Pazar, John Nesbitt University and University of East Sarajevo. He was teaching more than 20 graduate and undergraduate courses, from VLSI Design and Computer Architecture to Computer Networks, Operating Systems, Artificial Intelligence, Image Processing, Calculus and Queuing Theory at numerous universities in Europe and the USA. Prof. Tuba is a member of the National Agency for Accreditation of Universities of the Republic of Serbia. His research interest includes Artificial Intelligence, Deep Learning, Neural Networks, Nature-inspired Optimization Algorithms, Image Processing, Computer Networks. Senior Member IEEE, ACM, AMS, SIAM, IFNA, Executive Board of IASEI. More information about Prof. Milan Tuba could be found via https://eng.singidunum.ac.rs/profile/mtuba

**Abstract:** Many current intelligence systems such as autonomous vehicles, security applications, automated diagnostic systems, and others, have digital image classification as a crucial part. Over time, extensive research efforts have introduced many classification techniques but convolutional neural networks (CNNs) brought a revolution in the field and have become a superior method that has drastically improved classification accuracy. Topics that have been the subject of research for years are

nowadays one-hour classes for even undergraduates. However, new research topics were introduced along with convolutional neural networks. For example, the problem of finding the optimal CNN configuration and architecture is exponentially hard since there are numerous hyperparameters such as the number, type and order of layers, number of neurons in each layer, kernel size, optimization algorithm, padding, stride, and many others, that should be fine-tuned. Additionally, this tuning has to be done for each classification problem. For this exponentially hard problem often a rather crude method is used that guesses good starting values and estimates better values for the hyper-parameters (guestimating). Another method that is commonly used is grid search. Since this is an optimization problem, some recent studies tested different optimization metaheuristics such as swarm intelligence algorithms. The usage of swarm intelligence algorithms for finding CNNs' configuration is extremely time-consuming but the improvement of the classification accuracy can be significant. This talk will cover recent advantages and challenges of CNN such as finding the optimal configuration problem of unknown features, and more.

## Keynote Speech 2: On INTERBEING: The Symbiosis between INTERnet and Human BEING in the Metaverse

***Prof. Martin Maier***

***Institut National de la Recherche Scientifique (INRS), Montreal, QC, H5A 1K6, Canada***

**Biography:** Martin Maier is a full professor with the Institut National de la Recherche Scientifique (INRS), Montréal, Canada. He was educated at the Technical University of Berlin, Germany, and received MSc and PhD degrees both with distinctions (summa cum laude) in 1998 and 2003, respectively. He was a recipient of the two-year Deutsche Telekom doctoral scholarship from 1999 through 2001. In 2003, he was a postdoc fellow at the Massachusetts Institute of Technology (MIT), Cambridge, MA. He was a visiting professor at Stanford University, Stanford, CA, 2006 through 2007. He was a co-recipient of the 2009 IEEE Communications Society Best Tutorial Paper Award. Further, he was a Marie Curie IIF Fellow of the European Commission from 2014 through 2015. In 2017, he received the Friedrich Wilhelm Bessel Research Award from the Alexander von Humboldt (AvH) Foundation in recognition of his accomplishments in research on FiWi-enhanced mobile networks. In 2017, he was named one of the three most promising scientists in the category "Contribution to a better society" of the Marie Skłodowska-Curie Actions (MSCA) 2017 Prize Award of the European Commission. In 2019/2020, he held a UC3M-Banco de Santander Excellence Chair at Universidad Carlos III de Madrid (UC3M), Madrid, Spain. He is co-author of the book "Toward 6G: A New Era of Convergence" (Wiley-IEEE Press, January 2021) and author of the sequel book "6G and Onward to Next G: The Road to the Multiverse" (Wiley-IEEE Press, February 2023).

**Abstract:** The advent of smart wearables such as Apple's recently announced first spatial computer Vision Pro equipped with 3D cameras entails that the Internet will no longer be at arm's length. With the rise of the emerging Metaverse, the future 3D Internet will be about being inside the Internet rather than simply looking at it from a 2D phone or computer screen. In the coming age of hyperintelligence, new cybernetic organisms will emerge from existing AI systems. These hyperintelligent cybernetic organisms will soon think thousands then millions of times faster than us and they will regard us humans as we now regard plants, though both are anticipated to live together in a mutually beneficial symbiosis. This keynote will elaborate on the symbiosis of Inter(net) and (human) being in the context of the future Metaverse's so-called Virtual Society, giving rise to the powerful concept of Interbeing, a word that is not in the dictionary yet. AI software solutions will thereby play a central role in filling out these virtual worlds of the Metaverse, powered by human participation and human-in-the-loop/AI interactions with a range of constantly evolving AIs, ranging from intelligent smart contracts to novel life-like digital organisms that exploit generative AI models to produce clever solutions that AI researchers did not consider, had thought impossible, or even outwitting us humans.

## Keynote Speech 3: Future Intelligent Applications Based on Mobile Clouds and Software-Defined Networks

***Prof. Dr. Habil. Sergei Gorlatch***

***University of Muenster, Germany***

**Biography:** Sergei Gorlatch is Full Professor of Computer Science at the University of Muenster (Germany) since 2003. Earlier he was Associate Professor at the Technical University of Berlin, Assistant Professor at the University of Passau, and Humboldt Research Fellow at the Technical University of Munich, all in Germany. Prof. Gorlatch has more than 200 peer-reviewed publications in renowned international books, journals and conferences. He was principal investigator in several international research and development projects in the field of software for parallel, distributed, Grid and Cloud systems, machine learning, and networking, funded by the European Community and by German national bodies.

**Abstract:** We consider an emerging class of challenging intelligent applications called Real-Time Online Interactive Applications (ROIA). ROIA are networked applications connecting a potentially very high number of users who interact with the application and with each other in real time, i.e., a response to a user's action happens virtually immediately. Typical representatives of ROIA are multiplayer online computer games, advanced simulation-based e-learning and serious gaming. All these applications are characterized by high performance and QoS requirements, such as: short response times to user inputs (about 0.1-1.5 s); frequent state updates (up to 100 Hz); large and frequently changing numbers of users in a single application instance (up to tens of thousands simultaneous users). This talk will address two challenging aspects of future cyber-applications: a) using Mobile Cloud Computing for allowing high application performance when a ROIA application is accessed from multiple mobile devices, and b) managing dynamic QoS requirements of ROIA applications by employing the emerging technology of Software-Defined Networking (SDN).

# Part III Poster Session

## Poster Presentation Guidelines

**Materials Provided by the Conference Organizer:**

- ✧ X Racks & Base Fabric Canvases (60cm×160cm, see the figure)
- ✧ Adhesive Tapes or Clamps

**Materials Provided by the Presenters:**

- ✧ Home-made Posters
- ✧ Posters printed by MLIS 2023 Committee

**Requirements for the Posters:**

- ✧ Materials: not limited, can be posted on the Canvases
- ✧ Size: 60cm×160cm
- ✧ Horizontal Head: please make the conference name 'MLIS 2023' and the paper number '**ML******' as the head of the poster in order to make all the posters unified

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## Poster Presentations

**Time:** 11:30-12:00, November 18th, 2023 **Location:** Drawing Room, Regency Art Hotel

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|---|---|
| ML1648 | **Autologous collagen induced chondrogenesis for knee cartilage regeneration**<br>*Prof. Seok Jung Kim, The Catholic University of Korea, Republic of Korea* |
| ML1649 | **Improved healing of rabbit patellar tendon defects after an atelocollagen injection**<br>*Prof. Jaewoong Jung, The Catholic University of Korea, Republic of Korea* |
| ML1652 | **Measurement of winter air infiltration and its impact on energy consumption in the transportation hub's transfer hall**<br>*Dr. Nan Yu, North China Institute of Science and Technology, China* |
| ML1669 | **Anomaly detection method in wheel flats using signal processing and deep learning techniques**<br>*Dr. Jeong Seo Koo, Seoul National University of Science and Technology, Republic of Korea* |
| ML1691 | **A survey on gait recognition against occlusion: taxonomy, dataset and methodology**<br>*Mr. Tianhao Li, North China University of Technology, China* |
| ML1668 | **Green´s Function associated with a vertical jump of a person using a load cell platform**<br>*Dr. Edgar Saucedo-Casas, Universidad Autónoma de Aguascalientes, Mexico* |
| ML1692 | **First-order linear ordinary differential equation for regression modelling**<br>*Dr. Sie Long Kek, Universiti Tun Hussein Onn Malaysia, Malaysia* |
| ML1672 | **CalÍOpe: the knowledge platform of the library system of Federal University of Amazonas - Brazil**<br>*Dr. Rosenira Izabel De Oliveira, Federal University of Amazonas, Brazil* |

# Part IV Oral Sessions

## General Guidelines

- ✧ **All presentation times are shown in China Standard Time (GMT+8:00);**
- ✧ Duration for Invited Oral Presentation: 20 Minutes of Presentation including 3-5 Minutes of Q&A;
- ✧ Duration for Regular Oral Presentation: 15 Minutes of Presentation including 2-3 Minutes of Q&A;
- ✧ All presenters are requested to reach the Session Room prior to the schedule time and complete their presentation on time;
- ✧ Presenters should prepare Power Pointer or PDF Files for Presentation with Paper ID (**ML******) marked in the last page;

## Offline Oral Presentation Guidelines

**Devices Provided by the Conference Organizer:**

- ✧ Laptops (with MS-Office & Adobe Reader) & Projectors & Screen
- ✧ Laser Sticks
- ✧ Microphones
- ✧ Please send us the PowerPoint once it is ready and have the PPT back up in a U-disk. For presenters who do not send the PowerPoint, please save it in the laptop of the corresponding session 15 min in advance. Kindly tell the Session Chair (before the start of your session) that you are present.

## Online Oral Presentation Guidelines

- ✧ Online Oral Presentation will be conducted via Microsoft Teams Meeting.
- ✧ If a presenter is not able to show up via Teams, the session chair / conference secretary will play the pre-recorded video presentation during his/her scheduled presentation time, if listeners have questions about the presentation, please contact the conference secretary to forward the questions.
- ✧ If a presenter cannot show up on time or has problem with internet connection, the session chair has the right to rearrange his/her presentation, and let the next presentation start.

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## Best Oral Presentation Selection Procedure

**ONE best presentation** will be selected from EACH session based on the following criteria:

- ✓ Research Quality
- ✓ Presentation Performance
- ✓ Presentation Language
- ✓ PowerPoint Design
- ✓ **Effective Communications**

## Selection Procedure

- ➢ An assessment sheet (see below) will be delivered to listeners before the session starts;
- ➢ When the session finishes, each listener is required to fill the sheet (he/she can vote for two excellent presentations) and give it to the Session Chair;
- ➢ For the online presenters, the assessment sheet would be sent in advance via e-mail. Kindly send us the filled form in electronic version within ONE HOUR after the session completed;
- ➢ The Session Chair will count the votes and select one best oral presentation with more votes. If

there is a tie, the Session Chair will make the final decision.

**Best Oral Presentations Award**

- ✓ The Best Oral Presenter from each session will receive an official certificate and a free registration to the MLIS 2024.
- ✓ The awards will be announced at the official website after the conference.

## Samples of Assessment Sheet

**MLIS2023 Oral Presentation Assessment**

Dear participants,
Thanks for your support. Kindly read the instructions below for best oral presentation selection:

- You could select two best oral presentations with this form, and kindly fill in the form when all the speakers finish the presentations;
- 3 Best Oral presentation would be selected separately from Session 1 to Session 3;
- To ensure the fairness of the selection, one person could fill in only one form, kindly fill in the form by yourself and fill in your paper/abstract ID;

**You can refer to the following criteria for best oral selection:**

| Items | Assessment |
|---|---|
| Content | Right, Logical, Original, Well-Structured |
| Language | Standard, Clear, Fluent, Natural |
| Performance | Spirited Appearance, Dress Appropriately, Behaves Naturally |
| PowerPoint | Layout, Structure, Typeset, Animation, Multimedia |
| Reaction | Build a Good Atmosphere, Speech Time Control Properly |

**Please write down the paper ID and give reasons for your recommendation**:

| Paper ID | Reasons |
|---|---|
| | |
| | |

Evaluated by (Paper ID: )

**Note: Please fill it out and give it to the Session Chair or assistant so that the Best Oral could be selected.**

# Session 1_ Intelligent Manufacturing and Intelligent System

**Time:** 14:00-18:10 November 18th, 2023 (China Standard Time (UTC/GMT+8:00)
**Online Room Link:** http://www.academicconf.com/teamslink?confname=MLIS2023
**Offline Location:** Drawing Room, Regency Art Hotel
**Session Chairs:**
*14:00-15:55 Prof. Jing-Jia Luo, Nanjing University of Information Science & Technology, China*
*16:10-18:10 Prof. Junhao Geng, Northwestern Polytechnical University, China*

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|---|---|---|
| 14:00-14:20 | ML1687 **(Invited)** | **Intelligent connection: industrial augmented reality technology for multi-scale electrical wiring interconnection systems**<br>*Prof. Junhao Geng, Northwestern Polytechnical University, China* |
| 14:20-14:35 | ML1667 | **Variational contrastive attention for weakly-supervised defect detection and localization**<br>*Prof. Sung Ho Park, Tech University of Korea, Republic of Korea* |
| 14:35-14:50 | ML1625 | **TopicBank: Collection of coherent topics using multiple model training with their further use for topic model validation**<br>*Mr. Vasiliy Alekseev, Moscow Institute of Physics and Technology, Russia* |
| 14:50-15:05 | ML1609 | **Contribution to a better digital transformation implementation: an integrative approach**<br>*Dr. Houda Mahboub, Mohammed V University in Rabat, Morocco* |
| 15:05-15:25 | ML1586 **(Invited)** | **To discover novice expert paradigm: sequence-based time-domain and graph-based frequency-domain analysis method of eye movement**<br>*Prof. Weiwei Yu, Northwestern Polytechnical University, China* |
| 15:25-15:40 | ML1635 | **Method to estimate catchment areas of urban rail transit stations using mobile phone signaling data**<br>*Dr. Peipei Peng, Southeast University, China* |
| 15:40-15:55 | ML1602 | **Anomaly detection in autoencoder generated network structure of internet traffic data**<br>*Mihai Condrat, Safetech Innovations S.A., Romania* |
| 15:55-16:10 | | **TEA BREAK** |
| 16:10-16:25 | ML1697 | **Solving Inverse Problems with REINFORCE**<br>*Dr. Chen Xu, Shenzhen MSU-BIT University, China* |
| 16:25-16:40 | ML1663 | **Lightweight model-based intelligent recognition of aviation connector's contacts for AR guidance**<br>*Mr. Yuntao Wang, Northwestern Polytechnical University, China* |
| 16:40-16:55 | ML1664 | **Research on accurate registration of small cabin cable for AR guidance**<br>*Mr. Kui Han, Northwestern Polytechnical University, China* |

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| 16:55-17:10 | ML1665 | **Outlet recognition based on deep learning and sensors for large-scale cable laying**<br>*Mr. Mengbo Chen, Northwestern Polytechnical University, China* |
| 17:10-17:25 | ML1670 | **Remaining useful life estimation of lenses for an ion beam etching tool in semiconductor manufacturing using deep convolutional neural networks**<br>*Dr. Jian Wan, Aston University, UK* |
| 17:25-17:40 | ML1615 | **Smart Mountain: A solution based on a low-cost embedded system to detect urban traffic in natural parks**<br>*Dr. Eduardo Filipe Rodrigues Peixoto, Universidade do Minho, Portugal* |
| 17:40-17:55 | ML1611 | **Usage of machine learning methods for cause-effect graph feasibility prediction**<br>*Dr. Ehlimana Krupalija, University of Sarajevo, Bosnia and Herzegovina* |
| 17:55-18:10 | ML1583 | **Personalized recommendation system for health improvement**<br>*Dr. Xiaolie Lin, Hitachi China Research Laboratory, China* |

# Session 2_ Machine Learning and Practical Application

**Time:** 09:00-12:30 November 19th, 2023 (China Standard Time (UTC/GMT+8:00)
**Online Room Link:** http://www.academicconf.com/teamslink?confname=MLIS2023
**Offline Location:** Drawing Room, Regency Art Hotel
**Session Chair:** *Prof. Dimiter Velev, University of National and World Economy, Bulgaria*

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|---|---|---|
| 09:00-09:20 | ML1694 **(Invited)** | **Threats intelligence and machine learning fusion**<br>*Prof. Hamed Taherdoost, University Canada West, Canada* |
| 09:20-09:35 | ML1605 | **On the machine learning neural networks for accuracy improvement of acoustic wave propagation in an ice-covered ocean**<br>*Dr. Lakmali Weerasena, University of Tennessee – Chattanooga, USA* |
| 09:35-09:50 | ML1686 | **Use of machine deep learning for climate forecasts**<br>*Prof. Jing-Jia Luo, Nanjing University of Information Science & Technology, China* |
| 09:50-10:05 | ML1677 | **Essentials for developing an educational course in artificial intelligence in cybersecurity for managers**<br>*Prof. Dimiter Velev, University of National and World Economy, Bulgaria* |
| 10:05-10:20 | ML1680 | **A conceptual framework for solving ethical issues in generative artificial intelligence**<br>*Prof. Plamena Zlateva, University of National and World Economy, Bulgaria* |
| 10:20-10:35 | ML1671 | **A comprehensive review of deep learning in EEG-based emotion recognition: classifications, trends, and practical implications**<br>*Mr. Weizhi Ma & Mr. Tianhao Li, North China University of Technology, China* |
| 10:35-10:50 | | **TEA BREAK** |
| 10:50-11:05 | ML1673 | **Automated pricing and replenishment decision for vegetable products based on hybrid machine learning models**<br>*Ms. Yujia Zheng & Mr Tianhao Li, North China University of Technology, China* |
| 11:05-11:20 | ML1693 | **A framework for multi-institutional collaboration for pneumonia screening by means of federated learning**<br>*Dr. Agung Alfiansyah, Universitas Prasetiya Mulya, Indonesia* |
| 11:20-11:40 | ML1579 **(Invited)** | **On the learnability of differential equation-based neural networks**<br>*Prof. Hirotada Honda, Toyo University, Japan* |
| 11:40-12:00 | ML1568 **(Invited)** | **Prediction of early-stage endometriosis cancer using generalized fuzzy machine learning technique**<br>*Prof. Vijay Kumar, Manav Rachna International Institute of Research & Studies, India* |
| 12:00-12:15 | ML1597 | **Multimodal emotion recognition based on brain-inspired and brain-like methods**<br>*Dr. Binqiang Wang, Shandong Massive Information Technology Research Institute, China* |
| 12:15-12:30 | ML1639 | **Better realization of mobile cloud computing using mobile network computers**<br>*Prof. Zhaoming Guo, Yan'an University, China* |

# Session 3_ Data Processing, Mining and Mathematics

**Time:** 14:00-18:40 November 19th, 2023 (China Standard Time (UTC/GMT+8:00)
**Online Room Link:** http://www.academicconf.com/teamslink?confname=MLIS2023
**Offline Location:** Drawing Room, Regency Art Hotel
**Session Chairs:**
*14:00-16:00 Prof. Basim Najim AL-Din, University of Tabriz, Iran*
*16:15-18:40 Prof. Behzad Djafari Rouhani, University of Texas, USA*

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|---|---|---|
| 14:00-14:15 | ML1627 | **A deep fake detection system using diffusion model based on graph based image segmentation**<br>*Prof. Basim Najim AL-Din, University of Tabriz, Iran* |
| 14:15-14:30 | ML1565 | **A quantitative comparison of classification methods for plant leaf images**<br>*Dr. Bui Hai Phong, Hanoi Architectural University, Vietnam* |
| 14:30-14:45 | ML1555 | **Sentence similarity using modified latent semantic analysis and semantic relations**<br>*Dr. NishyReshmi S, APJ Abdul Kalam Technological University, India* |
| 14:45-15:00 | ML1606 | **Satiric content detection through linguistic feature**<br>*Dr. Antonella Pascuzzo, Università degli Studi di Salerno, Italy* |
| 15:00-15:15 | ML1603 | **Social web analysis for decision support: a case study**<br>*Dr. Manuela Freire, University of Coimbra, Portugal* |
| 15:15-15:30 | ML1537 | **Discovering insights via hybrid thematic analysis: a case study on disaster risk reduction and management for Legazpi City, Albay**<br>*Mr. Myron Darrel Montefalcon, National University, Philippines* |
| 15:30-15:45 | ML1640 | **Meet-continuous codomain lattice and fuzzy set inequations**<br>*Dr. Vanja Stepanovic, Belgrade University, Serbia* |
| 15:45-16:00 | ML1682 | **Godel filters in residuated lattices**<br>*Dr. Pupaza Anca-Maria, University of Craiova, Romania* |
| 16:00-16:15 | | **TEA BREAK** |
| 16:15-16:35 | ML1570 **(Invited)** | **Interpreting machine learning models for survival analysis: a study of cutaneous melanoma using the SEER database**<br>*Mr. Carlos Hernández-Pérez, Universitat Politècnica de Catalunya, Spain* |
| 16:35-16:50 | ML1628 | **Stability and longitudinal resonances of the Kapitsa pendulum**<br>*Dr. Tatyana Tovstik, Institute for Problems in Mechanical Engineering RAS, Russia* |
| 16:50-17:05 | ML1695 | **Extremal graphs of bipartite graphs of given diameter for two indices on resistance-distance**<br>*Dr. Yunchao Hong, China University of Mining and Technology, China* |

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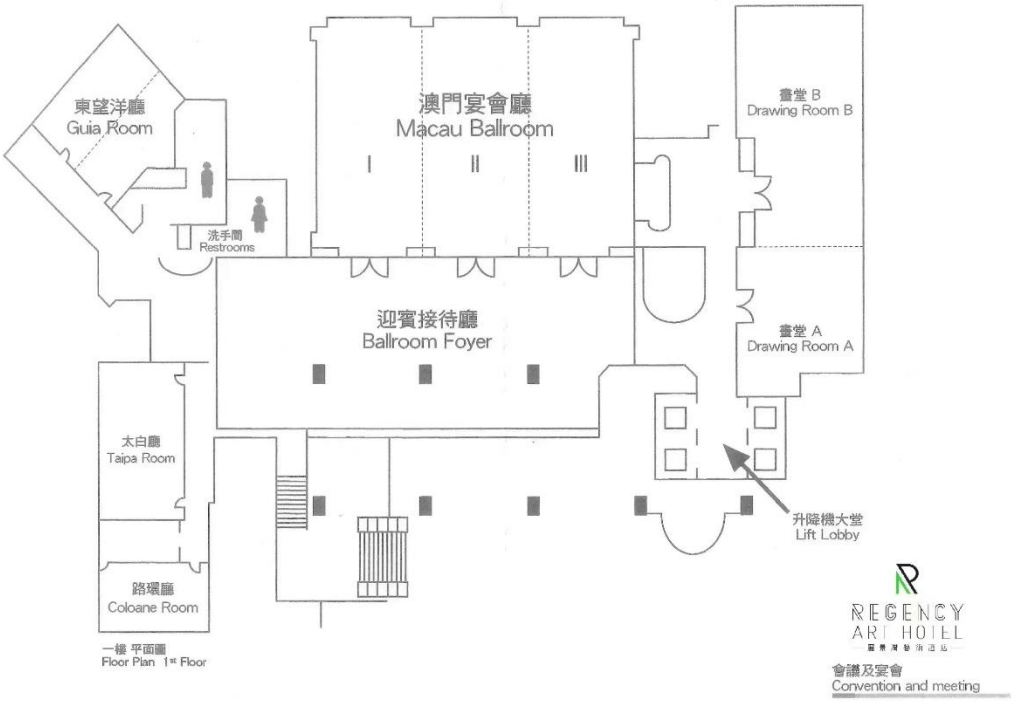
| 17:05-17:20 | ML1666 | **Analytics for AI related applications of multidimensional multitape finite automata**<br>*Prof. Samvel Shoukourian, Yerevan State University, Armenia* |
| 17:20-17:35 | ML1608 | **Clustering methods for spherical data: an overview and alternative approach**<br>*Dr. Sungsu Kim, University of Wisconsin-Green Bay, USA* |
| 17:35-17:55 | ML1592<br>**(Invited)** | **Fixed point theorems for φ-nonexpansive sequences in banach spaces**<br>*Prof. Behzad Djafari Rouhani, University of Texas, USA* |
| 17:55-18:10 | ML1591 | **Estimating the optimal population upper bound for spatial scan methods**<br>*Dr. Mohammad Meysami, Clarkson University, USA* |
| 18:10-18:25 | ML1629 | **AI and IoT architecture based on markov blankets**<br>*Dr. Francesco Rago, Megatris Comp. LLC, USA* |
| 18:25-18:40 | ML1613 | **Development and application of an inexpensive near-infrared digital camera for fire detection and monitoring**<br>*Prof. Michael Wing, Oregon State University, USA* |

# Part V Conference Venue

## Regency Art Hotel 麗景灣藝術酒店

**Website:** www.regencyarthotel.com.mo/index.php/
**Address:** 2 Estrada Almirante Marques Esparteiro, Taipa, Macao
**Tel.:** 853 2883 1234

## Brief Introduction




The Regency Art Hotel offers a 6 meters high ballroom with a total area of 349 square meters pillar-less design and 4 multi-purpose function rooms equipped with audio-visual equipment. Chinese and Western or buffet menus are available to cater to all functions. Our experienced banquet team will go the extra mile to ensure the success of your event. It is the ideal venue for business meetings and private events from 10 to 300 persons.

## Access to Venue

**1. Macao Airport (澳门国际机场) & Taipa Ferry Terminal (澳门凼仔客运码头) — Regency Art Hotel Macao**

• About 4 KM
• Approx. 8 minutes by taxi
• Approx. 20 – 30 minutes by bus No. MT1

**2. Border Gate Terminal (澳门关闸)（注：大陆方向为拱北口岸） — Regency Art Hotel Macao**

• About 10 KM
• Approx. 20 - 30 minutes by taxi
• Approx. 45 - 60 minutes by bus No. 25B or No. 25.

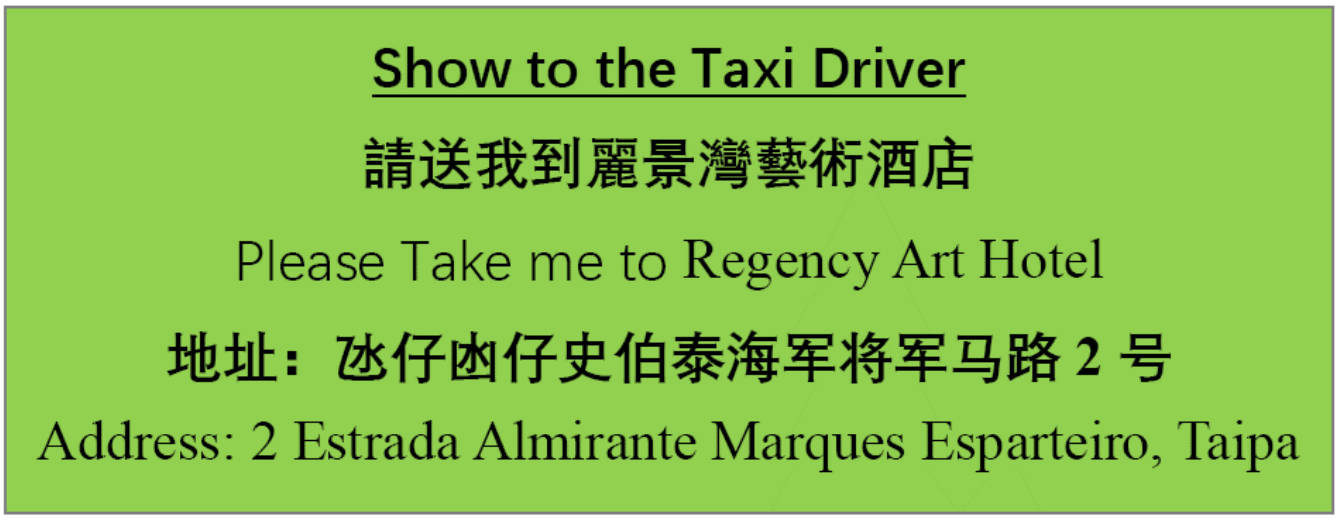
**3. Hong Kong- Zhuhai-Macao Bridge Frontier Port (港珠澳大桥澳门口岸) — Regency Art Hotel Macao**

• About 16 KM
• Approx. 30 - 35 minutes by taxi
• Approx. 40 - 50 minutes. Take bus No.102X, get off at Chun Lai Garden (泉澧花园), walk about 380m to Regency Art Hotel Macao.

**4. Cotai Frontier Post (路氹边检大楼)（莲花口岸）— Regency Art Hotel Macao**

• About 4 KM
• Approx. 8 - 15 minutes by taxi
• Approx. 40 - 45 minutes by bus No.25, No.25B or No.26A

## Download the following picture if you need to take a taxi:



# Part VI Acknowledgements

On behalf of the MLIS 2023 Organizing Committee, we would like to take this opportunity to express our sincere gratitude to our participants. Without their support and contributions, we would not be able to hold the conference successfully in this special year. We would also like to express our acknowledgments to the Technical Program Committee members who have given their professional guidance and valuable advice as reviewers. Below are the lists of the Technical Program Committee members. For those who contribute to the success of the conference organization without listing their names here, we would love to say thanks as well.

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