



EECSS 2024

PROCEEDINGS OF THE 10TH WORLD CONGRESS ON ELECTRICAL ENGINEERING AND COMPUTER SYSTEMS AND SCIENCE (EECSS 2024)

AUGUST 19 - 21, 2024 | Barcelona, SPAIN

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WELCOME MESSAGE FROM THE CONFERENCE CHAIR

On behalf of the International Academy of Science, Engineering and Technology (International ASET Inc.), the organizing committee would like to welcome you to the 10th World Congress on Electrical Engineering and Computer Systems and Science (EECSS 2024).

EECSS is aimed to become one of the leading international annual congresses in the fields of electrical engineering and computer systems and science. This congress will provide excellent opportunities to the scientists, researchers, industrial engineers, and university students to present their research achievements and to develop new collaborations and partnerships with experts in the field.

In the ninth meeting of this conference, five Plenary Speakers and one keynote speaker will share their expertise with the aim of exposing participants to a wide spectrum of applications, and to foster crosspollination of ideas and develop new research interests. In addition, approximately 93 papers will be presented from professors, students, and researchers across the world.

We thank you for your participation and contribution to the 10th World Congress on Electrical Engineering and Computer Systems and Science (EECSS 2024). We wish you a very successful and enjoyable experience.

Dr. Luigi Benedicenti

*Congress Chair and Proceedings Editor
EECSS 2024*

Dr. Zheng Liu

*Congress Co-Chair and Proceedings Editor
EECSS 2024*

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ABOUT EECSS 2024

- **EECSS is aimed to become one of the leading international annual congresses in the fields of electrical engineering and computer systems and science.**
This congress will provide excellent opportunities to the scientists, researchers, industrial engineers, and university students to present their research achievements and to develop new collaborations and partnerships with experts in the field.
- There are 5 conferences included in the EECSS Congress:
- **CIST 2024** - 9th International Conference on Computer and Information Science and Technology
- **MHCI 2024** - 11th International Conference on Computer and Information Science and Technology
- **MVML 2024** - 10th International Conference on Machine Vision and Machine Learning
- **ICBES 2024** - 11th International Conference on Biomedical Engineering and Systems
- **EEE 2024** - 10th International Conference on Electrical Engineering and Electronics
- While each conference consists of an individual and separate theme, the 5 conferences share considerable overlap, which prompted the organization of this congress. The goal of this undertaking is to bring together experts in each of the specialized fields, and at the same time allow for cross pollinations and sharing of ideas from the other closely related research areas.
- **EECSS** is an acronym for **E**lectrical, **E**ngineering and **C**omputer **S**ystems and **S**cience .
- The proceedings is published in Ottawa, Canada.
- All papers were peer-reviewed
- The congress proceedings is published under an ISSN and ISBN number
- Each paper is assigned a unique DOI number by [Crossref](#)
- The conference proceedings are indexed by [Scopus](#) and [Google Scholar](#)
- The proceedings is permanently archived in [Portico](#) (one of the largest community-supported digital archives in the world)

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PORTICO

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SCIENTIFIC COMMITTEE

We would like to thank the following for accepting to act as a member of the Scientific Committee for the EECSS 2024 Congress:



Dr. Luigi Benedicenti
University of New Brunswick,
Canada
Congress Chair



Dr. Zheng Liu
University of British Columbia,
Canada
Congress Co-Chair

Scientific Committee Members for CIST 2024

- **Dr. José Carlos**, University of Salamanca, Spain
- **Dr. Aparicio Carranza**, New York City College of Technology, USA
- **Dr. Luca Deri**, University of Pisa, Italy
- **Dr. Abdel Aziz Farrag (RET)**, Dalhousie University, Canada
- **Dr. Sanmeet Kaur**, Eastern Washington University, USA
- **Michael N. Vrahatis**, University of Patras, Greece
- **Dr. Neli Zlatareva**, Central Connecticut State University, USA

Scientific Committee Members for MHCI 2024

- **Dr. Zoran Bojkovic**, University of Belgrade, Serbia
- **Dr. Nam Ju Kim**, University of Miami, USA
- **Dr. Dheerendra Mishra**, Maulana Azad National Institute of Technology, India
- **Dr. Hai Long Tran**, DePaul University, USA
- **Dr. Kazuhisa Yanaka**, Kanagawa Institute of Technology, Japan

SCIENTIFIC COMMITTEE

Scientific Committee Members for MVML 2024

- **Dr. Chamil Abeykoon**, The University of Manchester, UK
- **Dr. Jinzhu Gao**, University of the Pacific, USA
- **Dr. Natacha Gueorguieva**, University of Massachusetts Dartmouth, USA
- **Dr. Dalila B. Megherbi**, University of Massachusetts Lowell, USA
- **Dr. Kashif Naseer Qureshi**, University of Limerick, Ireland
- **Dr. KC Santosh**, University of South Dakota, USA
- **Dr. Jacek M. Zurada**, The University of Louisville, USA

Scientific Committee Members for ICBES 2024

- **Dr. Gabriele Candiani**, Politecnico di Milano, Italy
- **Dr. Jordi Fonollosa**, Universitat Politècnica de Catalunya, Spain
- **Dr. Elba Mauriz García**, University of León, Spain
- **Dr. Peter Kneppo**, Czech Technical University, Czech Republic
- **Dr. Ivan T. Lima**, North Dakota State University, USA
- **Dr. Mehrab Mehrvar**, Toronto Metropolitan University, Canada
- **Dr. Michele Oliver**, University of Guelph, Canada

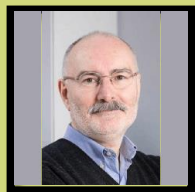
Scientific Committee Members for EEE 2024

- **Dr. Pantelis Capros**, National Technical University of Athens, Greece
- **Dr. Valentina Ciriani**, University of Milan, Italy
- **Dr. Riccardo Colella**, National Research Council (CNR), Italy
- **Dr. Edmond Cretu**, University of British Columbia, Canada
- **Dr. Zhirun Hu**, The University of Manchester, UK

PLENARY AND KEYNOTE SPEAKERS

The keynote information for the 10th World Congress on Electrical Engineering and Computer Systems and Science (EECSS 2024) is as follows:

Plenary Speaker



Dr. Ramón Farré.
Universitat de Barcelona,
Spain
ICBES 2024 Plenary Speaker



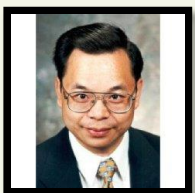
Dr. Jennifer G. Dy.
Universität Bamberg,
Austria
MVML 2024 Plenary Speaker



Dr. Gitta Kutyniok
LMU Munich,
Germany
CIST 2024 Plenary Speaker



Dr. Bela Suki
Boston University,
USA
ICBES 2024 Plenary Speaker



Dr. Simon X. Yang
University of Guelph,
Canada
CIST 2024 Plenary Speaker

Keynote Speakers



Dr. Tom Gross
Universität Bamberg,
Austria
MHCI 2024 Keynote Speaker

ICBES PLENARY SPEAKER



Titles: Open-Source Design of Medical Devices: A Useful Biomedical Engineering Tool for Developing Countries

Dr. Ramón Farré, Universitat de Barcelona, Spain

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Ramon Farré is a Professor of Physiology at the Biophysics and Bioengineering Unit of the University of Barcelona, where he recently was the Head of Studies for its degree in Biomedical Engineering. He has served different officer positions in the European Respiratory Society (ERS), and is an elected fellow of this society and of the American Thoracic Society (ATS). He has received the 2023 ATS Research Innovation and Translation Achievement Award. He has published over 340 peer-reviewed papers on respiratory mechanics (in cells, animal models and patients) and on diagnostic and therapeutic medical devices.

MVML PLENARY SPEAKER



Titles: Interpretable/Explainable AI for Complex Medical Data

Dr. Jennifer G. Dy, Northeastern University, USA

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Jennifer G. Dy is a Full Professor at the Department of Electrical and Computer Engineering, Northeastern University, Boston, MA, where she first joined the faculty in 2002. She received her M.S. and Ph.D. in 1997 and 2001 respectively from the School of Electrical and Computer Engineering, Purdue University, West Lafayette, IN, and her B.S. degree from the Department of Electrical Engineering, University of the Philippines, in 1993. Her research spans both foundations in machine learning and its application to biomedical imaging, health, science and engineering, with research contributions in unsupervised learning, interpretable models, explainable AI, dimensionality reduction, feature selection/sparse methods, learning from uncertain experts, active learning, Bayesian models, deep representation learning, continual learning, and trustworthy AI. She is Director of AI Faculty at the Institute for Experiential AI. She is also the Director of the Machine Learning Lab and is a founding faculty member of the SPIRAL (Signal Processing, Imaging, Reasoning, and Learning) Center at Northeastern. She received an NSF Career award in 2004. She has served or is serving as Secretary for the ICML Board (formerly, International Machine Learning Society), associate editor/editorial board member for the Journal of Machine Learning Research, Machine Learning journal, IEEE Transactions on Pattern Analysis and Machine Intelligence, organizing and or technical program committee member for premier conferences in machine learning, AI, and data mining (ICML, NeurIPS, ACM SIGKDD, AAAI, IJCAI, UAI, AISTATS, ICLR, SIAM SDM), Program Chair for SIAM SDM 2013, ICML 2018, AISTATS 2023, and AAAI 2024. She is an AAAI Fellow

CIST PLENARY SPEAKER



Titles: Reliable AI: From Legal Requirements to Neuromorphic Computing
Dr. Gitta Kutyniok, LMU Munich, Germany

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Gitta Kutyniok (<https://www.ai.math.lmu.de/kutyniok>) currently has a Bavarian AI Chair for Mathematical Foundations of Artificial Intelligence at the Ludwig-Maximilians-Universität München. She received her Diploma in Mathematics and Computer Science as well as her Ph.D. degree from the Universität Paderborn in Germany, and her Habilitation in Mathematics in 2006 at the Justus-Liebig Universität Gießen. From 2001 to 2008 she held visiting positions at several US institutions, including Princeton University, Stanford University, Yale University, Georgia Institute of Technology, and Washington University in St. Louis. In 2008, she became a full professor of mathematics at the Universität Osnabrück, and moved to Berlin three years later, where she held an Einstein Chair in the Institute of Mathematics at the Technische Universität Berlin and a courtesy appointment in the Department of Computer Science and Engineering until 2020. In addition, Gitta Kutyniok held an Adjunct Professorship in Machine Learning at the University of Tromsø from 2019 until 2023. Gitta Kutyniok has received various awards for her research such as an award from the Universität Paderborn in 2003, the Research Prize of the Justus-Liebig Universität Gießen and a Heisenberg-Fellowship in 2006, and the von Kaven Prize by the DFG in 2007. She was invited as the Noether Lecturer at the ÖMG-DMV Congress in 2013, a plenary lecturer at the 8th European Congress of Mathematics (8ECM) in 2021, and the lecturer of the London Mathematical Society (LMS) Invited Lecture Series in 2022. She was also honored by invited lectures at both the International Congress of Mathematicians 2022 (ICM 2022) and the International Congress on Industrial and Applied Mathematics (ICIAM 2023). Moreover, she was elected as a member of the Berlin-Brandenburg Academy of Sciences and Humanities in 2017 and of the European Academy of Sciences in 2022, and became a SIAM Fellow in 2019 and an IEEE Fellow in 2024. She currently acts as LMU-Director of the Konrad Zuse School of Excellence in Reliable AI (reIAI) in Munich, serves as Vice President-at-Large of SIAM, and is spokesperson of the DFG-Priority Program "Theoretical Foundations of Deep Learning" and of the AI-HUB@LMU, which is the

ICBES PLENARY SPEAKER



Titles: On The Role of Biomechanics in
Respiratory Drug Discovery
Dr. Bela Suki, Boston University, USA

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Béla Suki received his PhD from the University of Szeged, Hungary. Currently, he is a professor of Biomedical Engineering at Boston University. He is an elected Fellow of the American Institute for Medical and Biological Engineering and the Biomedical Engineering Society, and also received a presidential award from the National Institutes of Health. He has published over 250 peer-reviewed articles, one book and numerous book chapters in various areas including complexity, respiratory physiology, biomechanics, as well as modeling nonlinear and network phenomena in physiology and mechanobiology.

CIST PLENARY SPEAKER



Titles: Intelligent Sensing and Multi-Sensor Fusion for Various Engineering Systems
Dr. Simon X. Yang, University of Guelph, Canada

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Prof. Simon X. Yang received the B.Sc. degree in engineering physics from Beijing University, China in 1987, the first of two M.Sc. degrees in biophysics from Chinese Academy of Sciences, Beijing, China in 1990, the second M.Sc. degree in electrical engineering from the University of Houston, USA in 1996, and the Ph.D. degree in electrical and computer engineering from the University of Alberta, Edmonton, Canada in 1999. Prof. Yang joined the School of Engineering at the University of Guelph, Canada in 1999. Currently he is a Professor and the Head of the Advanced Robotics and Intelligent Systems (ARIS) Laboratory at the University of Guelph in Canada. Prof. Yang has diversified research expertise. His research interests include robotics, artificial intelligence, sensors and multi-sensor fusion, wireless sensor networks, intelligent control, machine learning, fuzzy systems, intelligent communication and transportation, and computational neuroscience. His significant research contributions can be reflected by his original and innovative work in biologically inspired intelligence with applications to real-time motion planning, tracking and control of various robotic systems, and various other engineering and biomedical systems. He has published over 600 referred papers, including over 330 journal papers. Prof. Yang he has been very active in various professional activities. He serves as the Editor-in-Chief of Intelligence & Robotics, and International Journal of Robotics and Automation; and an Associate Editor of IEEE Transactions on Cybernetics, IEEE Transactions of Artificial Intelligence, and several other journals. He has involved in the organization of many international conferences.

MHCI KEYNOTE SPEAKER



Titles: Interaction Research and Design in a User-Centred and Designerly Way: Keeping the Human(s)-in-the-Loop

Dr. Tom Gross, Universität Bamberg, Austria

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The following papers were presented at the 10th World Congress on Civil, Structural, and Environmental Engineering (EECSS 2024)

Biomedical Engineering & Biomedical Devices

Quantifying Brain Activities and Lower-Limb Movements during Dual Task Activity Assisted with Auditory Biofeedback: A Pilot Study

Authors: Swapno Aditya, Winson Lee, Adam Clarke, Lucy Armitage, Victoria Traynor, Evangelos Pappas, Thanaporn Kanchanawong

The Relationship Among Seated Pressure Distribution, Posture and Discomfort Across A Seated Task: A Pilot Study

Authors: Swapno Aditya, Chloe Pateman, Winson Lee

Differential Effects of Haptic Biofeedback on Gait Performance in Older Adults

Authors: Alexandra Giraldo-Pedroza, Winson Chiu-Chun Lee, Swapno Aditya, Robyn Coman, Gursel Alici

Analysis of Gait Patterns in Neurodegenerative Disorders Among Older Adults: A Ground Reaction Force Data Approach

Authors: K. A. Rahman, E. F. Shair, A. R. Abdullah, T. H. Lee, N. Nazmi, Nafiz Fahad

Comparison of Short Fast Fourier Transform and Continuous Wavelet Transform in Study of Stride Interval

Authors: T.H. Lee, E.F. Shair, A.R. Abdullah, K.A. Rahman¹, N. Nazmi

Leukocyte Activation Assay Using AI-Enhanced Digital Holographic Microscopy

Authors: Kerem Delikoyun, Qianyu Chen, Johannes Krell, Si Ko Myo, Martin Schlegel, Gerhard Schneider, Matthew Cove, John Soong Tshon Yit, Klaus Diepold, Oliver Hayden

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Biomedical Engineering & Biomedical Devices

Design of A Novel Liquid Cooling System In Simulation Environment For Radio Frequency Coils Used In Magnetic Hyperthermia System

Authors: Serhat Ilgaz Yoner, Alpay Ozcan

Using Fixed Probe Geometries with OBI Systems During Measurements from Subjects with Different Forehead Angulations

Authors: Hayrettin Can Sudor, Serhat Ilgaz Yoner, Kurtulus Izzetoglu, Mert Deniz Polat, Emin Aksoy

Reactive Inkjet Printed Silk Stirrers for Rapid Medical Diagnosis

Authors: Deepum Nrupeshbhai Patel, Khushi Issuar

Improving Lung Disease Classification from Chest X-ray Images using an Efficient Clustering Approach

Authors: Aya Hage Chehade, Nassib Abdallah, Jean-Marie Marion, Karim Chéhadé, Mohamad Oueidat, Pierre Chauvet

Multi-Layer Feature Fusion with Cross-Channel Attention-Based U-Net for Kidney Tumor Segmentation

Authors: FNU Neha, Arvind K. Bansal

Assessment of an Integrated Computer Vision and Augmented Reality Approach for Improved Minimally Invasive Spinal Procedures

Authors: Jingwen (Steven) Hui, Songyuan Lu, Eric Lee, Frank Talke

Spectral EEG Microstates for Detection of Mental Disorder

Authors: Vladimir da Rocha Cordeiro Junior, Patrick Marques Ciarelli

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Biomedical Engineering & Biomedical Devices

Melanoma Classification Combining Browning Index and Deep Neural Networks

Authors: Edmilson Queiroz dos Santos Filho, Evandro Ottoni Teatini Salles, Jacques Facon and Patrick Marques Ciarelli

Growth History and Significant Events of Cerebral Aneurysm with Fluid-Structure Interaction Simulations

Authors: Jozsef Nagy, Julia Maier, Wolfgang Fenz, Zoltan Major, Andreas Gruber, Matthias Gmeiner

A Simulation Study of the Effects of Sound Wave Upon the Ureteral Peristalsis

Authors: Poupak Kermani

Imaging and Analysis Applications for Decoding Complex Biological Signaling Profiles

Authors: Mark S. Taylor

Soft and Flexible Photoplethysmography Based On Supercoiled Polymer Waveguides

Authors: Nenad Stanojevic, Tuncay Alan, Sunita Chauhan, Ram Nataraja, Hao Deng

Convolutional networks applied to X-ray images for disease classification

Authors: Jose Alberto Zamora-Justo, Ericka Liseth Gutiérrez Caballero, Guillermo Abraham Salazar Guzmán

Visibility Graph Analysis of Heart Variability Series

Authors: Erika Liseth Gutiérrez Caballero, José Alberto Zamora-Justo, Alejandro Muñoz Diosdado

Wearable Biofeedback Gait Training System: Advancing Mobility Rehabilitation for Individuals with Lower Limb Impairments

Authors: Aliaa Gouda, Jan Andrysek

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Molecular Modelling Of Nanoparticle Delivery through Normal and Cancer Cell Membranes

Authors: Athul Vidya Rajeev, Gaurav Kumar Singh, Himanshu Joshi, Harikrishnan Narayanan Unni

Time Domain Radar Detection of Vital Parameters in a Hospital Bed

Authors: Thomas Hesse, Jannik Heidkamp

Comparative Analysis of Complexity-Image Quality Trade-offs in Ultrasound Systems for Efficient Hardware Implementation

Authors: Zahraa Alzein, Ali Ibrahim, Marco Crocco, Marco Merlanti, Daniele D. Caviglia

Mathematical and Computational Modelling of the Lymphatic System: A Review

Authors: Riana Kandhai, Jacqueline Bridge

ProSpare's tolerability is independent of rectal anatomy

Authors: Aryan Niknam Maleki, George Mylonas, Julia Murray

Impact of Acute Stress on Regional Cerebral Metabolism and Metabolic Connectivity in Takotsubo Cardiomyopathy

Authors: Alejandro Ariza-Carrasco, Thulaciga Yoganathan, David Martínez-Álvarez, José M. Udias, Joaquín L. Herraiz, Bertrand Tavitian, and Maily Pérez-Liva

Finite Element Modelling Of an Anatomically Accurate Human Spinal Cord

Authors: Sriram Hebbalguppe Krishna, Viswanath Chinthapenta, Mohan Raghavan, Harikrishnan Narayanan Unni

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Task-Specific Neural Synchronization and Adaptation to Supernumerary Robotic Finger: An EEG Analysis

Authors: Rateb Katmah, Aamna Al Shehhi, Mohammad I. Awad, Feryal A. Alskafi, Abdul Aziz Hulleck, Herbert F. Jelinek, and Kinda Khalaf

Characterization of a Low-Cost, Handheld Photoacoustic System with Simulations

Authors: Javier García-Muñoz, Alejandro Ariza-Carrasco, Joaquín L. Herraiz, José M. Udías, Paula Ibáñez García and Maily Pérez-Liva

DNA-Origami Based Biosensor for Assembly of Antibody-Protected Bimetallic Nanoclusters as Biorecognition and Transduction Element

Authors: Verónica Mora-Sanz, Laura Saa, Valeri Pavlov, Aitziber L. Cortajarena, Andreas Heerwig, Bergoi Ibarlucea and Nerea Briz

Enzyme Activity Monitoring In Industrial Solid-State Fermentation Processes Based On Colorimetric Loc Compatible with R2R Fabrication

Authors: Verónica Mora-Sanz, Elisabeth Hengge, Álvaro Conde, Maciej Skolimowski, Conor O'Sullivan, Nastasia Okulova, Andoni Rodriguez, Caroline Hennigs, Matija Strbac, Bernd Nidetzky, Goran Bijelic, Nerea Briz

Reducing Sample Selection Bias in Clinical Data through Generation of Multi-Objective Synthetic Data

Authors: Jarren Briscoe, Chance DeSmet, Katherine Wuestney, Assefaw Gebremedhin, Roschelle Fritz, Diane J. Cook

Detecting the Impact of Older Adult Healthy Brain Aging Behaviour Adoption Using Smart Home Technology

Authors: Katherine Wuestney, Regan Jenkins, Brooke F Beech, Roschelle Fritz, Maureen Schmitter-Edgecombe, Diane J Cook

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Smartwatch Behavior Monitoring and Proximity Detection to Predict Biopsychosocial Interaction Experiences of Dyads

Authors: Aiden Walker, Raven Weaver, Maureen Schmitter-Edgecombe, Diane J Cook

Tomographic System Prototype Dedicated To Breast Cancer Detection and Sentinel Lymph Node Identification

Authors: Pamela Vera, Jacobo Sandoval , Daniel Martínez Clara Santos, Isaac Chairez, Alberto Luviano

Analyzing the Relationship between the Autonomic Nervous System and Emotions Using High Temporal Resolution Capacitive Electrocardiography, Facial Expressions, and Respiration Data

Authors: Dansong Li, Satoshi Ishihara, Reiji Hattori, Satoshi Matsunuma

Using Fixed Probe Geometries with OBI Systems During Measurements from Subjects with Different Forehead Angulations

Authors: Hayrettin Can Sudor, Serhat Ilgaz Yoner, Kurtulus Izzetoglu, Mert Deniz Polat, Emin Aksoy

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Machine Vision & Machine Learning

Personalized Fashion Product Recommendations using Transfer Learning and Nearest Neighbors Models

Authors: Ikhlass Boukrouh, Faouzi Tayalati, Abdellah Azmani

Integrating Canny Filter and Convolutional Neural Networks for Quality Defect Detection in Injection Molding Process

Authors: Faouzi Tayalati, Ikhlass Boukrouh, Abdellah Azmani, Monir Azmani

Development of a Multimodal Framework for Deepfake Detection: Combining Visual and Audio Analysis

Authors: Ahmed Ashraf Bekheet, Ghada Khoriba, Amr Sabry

Beyond Sight: Distance-Aware LVMs for Smarter Navigation

Authors: Abdelrahman Saeed, Saher Mohamed, Abdelrahman Lotfy, Kirollos Saleh, Kareem Rezk, Shahenda Hatem, Ghada khoriba, Tamer Arafa

Paintedpillars: Efficient 3D Object Detection Using Only Statistical Processing To Compute Pillar Features with Explicit Class Probability Distributions

Authors: Masayuki Miyama

Advancing Signal Processing through Transfer Learning Innovations in Health industry

Authors: Azadeh Kooshesh, Alke Martens, Robin Nicolay

EPT-MoE: Toward Efficient Parallel Transformers with Mixture-of-Experts for 3D Hand Gesture Recognition

Author: Ahed Alboody, Rim Slama

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Stage U-Net Framework: Streamlining MRI Reconstruction From Under-sampled K-Space

Authors: Aya Mohamed ElBehairy, Inas A. Yassine, and Mustafa Elattar

Multimedia & Human-Computer Interaction

Beyond the Code: Understanding Professional Users' Perspectives on AI Implementation

Authors: Marcela Castro, Leonardo Lisboa, Andre Barcaui

Effective Guidance Information as a Means to Reduce the Cognitive Cost of Secondary Tasks While Driving

Authors: Arun Balakrishna, Tom Gross

A comparative analysis of video and VR safety training: Usability and Perception

Authors: Pranil G C, Ratvinder Grewal

The Power Of Colors To Maximize Attention And Readability In Visual Communication: Insights From An Eye-Tracking Behavioural Study

Authors: Bernardo Figueiredo, Ian Santos, João Garcia, José Borges, Simão Cruz, Ana Teixeira, Sónia Brito-Costa, Hugo Almeida

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Simulated Power Control Balancing for a Solar & Battery Microgrid System

Authors: James Vrtis, Ediz Polat

The Solar Boost: Pushing Hybrid Car Limits With Photovoltaic Energy

Authors: Cristian Helera, Dan Alexandru Stoichescu

Printed Circuit Boards Manufacturing using Electrodeposition Process: An Innovative Numerical Model

Authors: Ilhem Boutana, Oussama Boulouf, Abdessalam Zait

Innovative Integration Of Solar & Wind Energy For Future Automotive Propulsion Systems

Authors: Cristian Helera, Dan Alexandru Stoichescu

Hilbert-Pair Shaped Resonator for Ku-Band Applications

Authors: Mustafa Mahdi Ali, Enrique Márquez Segura, Taha Elwi

Implementation of Service Oriented Architecture for Control Systems: A Hardware Demonstration

Authors: Muhammad Ashhab Khan, Chayakorn Netramai, Ole Greß

Revolutionizing Data Connectivity System with Copper-Clad Aluminum and Lay Length Optimization

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The Rush To Electrical Transportation Vs The Reality Of The Electrical Grid: The Consequences

Authors: Avishai Rash

Searching for Efficient Output Characteristics of Railway Power Station

Authors: Petr Žižlavský, Ladislav Mlynařík

In-situ Repair of Stator Core of Hydro-generator - Establishing the Process

Authors: Pankaj Gupta, Netrapal Singh

Classifying Induction Motor Faults Using Spectrogram Images with Deep Transfer Learning

Authors: Merve Ertargin, Ozal Yildirim, Ahmet Orhan

Design of a tool for end users AMI (Advanced Measurement Systems)

Authors: Tania Alejandra Cárdenas Camelo, Luis Antonio Noguera Vega, Diego Armando Giral Ramírez

Strategy to Reduce the Electric Field in Transmission Lines, Modifying the Geometry of the Tower and Its Bundle Configuration

Authors: Luis Imbachi, Mario Rodriguez

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Path Planning with RRT*M Algorithm in Simulated Human Respiratory Environment

Authors: Yuhao Huang, Xiwen Fan, Kunpeng Wang, Zheng Yang, Sai Cheong Fok

Inter-Subject Lung Respiratory Motion Modeling with Motion Artifacts Reduction

Authors: Ciliang Shao, Hejia Zhang, Jingjing He, Yang Ye, Kunpeng Wang

A BoW-BoC Indexing Method to Enhance Business-Related Document Representation and Retrieval

Authors: Sara Bouzid

Implementation of Digital Twin and Deep Learning for Process Monitoring: Case Study in Injection Molding Manufacturing

Authors: Faouzi Tayalati, Ikhlass Boukrouh, Abdelah Azmani, Monir Azmani

Feature Selection and Classification Performance: A Multi-Dataset Comparative Analysis Using Boruta Algorithm and Random Forest

Authors: Ikhlass Boukrouh, Faouzi Tayalati, Abdellah Azmani

Prediction of Severity Level of Road Traffic Accident in Thailand using Machine Learning

Authors: Supitcha Ratanawimon, Patrawadee Tanawongsuwan

Law, Optimal Control and the Problem of Interpretation in Legal Conflicts In The Healthcare Industry; The Appraisal Of Having An Algorithmic Approach

Authors: Rouzbeh Aghaiebeiklavasani, Gholam Reza Rokni Lamouki

Application of Bayesian Optimization in Neural Networks for Fault Detection in Electro-Hydrostatic Actuators

Authors: Soleiman Hosseinpour, Witold Kinsner, Nariman Sepehri

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Computer & Information Technology

Impact Force Identification in Cobots: a Preliminary Work

Authors: Fabio Zanoletti, Cinzia Amici, Alberto Borboni

Using Linked Data to Build Semantic Web Applications: A Case Study

Authors: Neli Zlatareva, Vincent Capra, Sharayu Khedekar, Ramya Sree Satyavarapu

Extended Information Filter and Extended Kalman Filter Comparison: Selection of the Faster Filter

Authors: Nicholas Assimakis, Maria Adam

Enhancing Model Explainability with CTGAN-LIME: A Novel Approach for Interpretable Machine Learning

Authors: Bodrunnessa Badhon, Ripon K. Chakraborty, Sreenatha G. Anavatti

Enhancing Academic Creativity: Co-Creation and Artificial Intelligence

Authors: Héctor Ramón Rodríguez Maya

CAN-Bus Remote Laboratory on WebLab-Deusto System

Authors: Oleksandr Velihorskyi, Roustiam Chakirov, Christoph Mauel

Smart Cooperatives: Adapting Smart Grid Concepts to Agricultural Cooperatives

Authors: Francisco Mendonca, Nabil Abdennadher, Giovanna Di Mar

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Analysis of the impact of technological advances and new trends on Digital Transformation strategies

Authors: Roa Aleid, Faisal Almisned

Mitigating Container Escape Threats Through Effective Countermeasures: A Survey

Authors: Nada Barnawi, Razan AlTooq, Mohammed Almukaynizi

Information Security Governance Knowledge Sharing: Survey

Authors: Razan AlTooq, Nada Barnawi, Ahmad Alhamed

Secure Chat Application with an End-to-End Encryption

Authors: Harrison Carranza, Miguel Bustamante, Aparicio Carranza, Suryaprakash Muniganti

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Artificial Intelligent & Machine Vision

Human Computer Interaction Based Cao's Kite Craft Experience in Virtual Reality

Authors: Zongze Li, Wei Song, Hou Shu, Ruxin Wang, Lingbo Kang, Mengfan Gao

Acceptance Framework for Collaborative Robots in Traditional Crafts and Handmade in Small Businesses: An Integrated Model

Authors: Banan Bamoallem

Physics-Informed Clustering For Massive Single Photon Emitter Hyperspectral Data Analysis

Authors: Juan Francisco Martínez, José Manuel Llorens, Enrique Navarro, Yolanda González and Benito Alén

[Case Study] Transfer Learning with Inflated 3D CNN for Word-Level Recognition for Azerbaijani Sign Language Dataset

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