



IEEE



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Politehnica
Timișoara

SACI 2021

**15th IEEE International Symposium on
Applied Computational Intelligence and
Informatics**

Original plan: Timișoara, Romania
Finally: via Zoom
May 19-21, 2021



FINAL PROGRAM

SACI 2021 PROCEEDINGS

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<http://conf.uni-obuda.hu/saci2021>

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Date and Place

SACI 2021 will take place on Zoom platform. Please log on to: <https://zoom.us/j/94306365034> (CEST time zone) during May 19-21, 2021.

Official Language

The official language of the symposium is English. All presentations, including discussions and submissions, must be made in the official language. No translation will be provided.

Proceedings

Each accepted paper reaching us in time will be published on pendrive proceedings that will be submitted to IEEE Conference Center.

Presentation

Authors can use either ppt files or pdf files for presentation.

SACI 2021 TECHNICAL PROGRAM

<https://zoom.us/j/94306365034> (CEST time zone)

May 19, Wednesday

9:00 – 9:30

OPENING CEREMONY

*Levente Kovács, Liviu Marsavina, Marius-George Marcu,
Tamás Haidegger, Radu-Emil Precup*

9:30 – 10:10

PLENARY SESSION I



AI vs AI (Augmenting [Human] Intellect vs Artificial Intelligence)

Florin Gheorghe Filip

The Romanian Academy, Bucharest, Romania

Session Chair: *Radu-Emil Precup*

10:10 – 10:50

PLENARY SESSION II



Automating Glucose Control in Type 1 Diabetes

Jorge Bondia

Instituto Universitario de Automática e Informática Industrial,
Universitat Politècnica de València, València, Spain

Centro de Investigación Biomédica en Red de Diabetes y
Enfermedades Metabólicas Asociadas (CIBERDEM), Madrid,
Spain

Session Chair: *Levente Kovács*

10:50 – 11:50 [W1] Session on Intelligent Mechatronics

Session Chair: *Iosif Szeidert*

10:50 – 11:05 Study on Fingerprint Authentication Systems using Convolutional Neural Networks

Delia Moga, Ioan Filip

Politehnica University of Timisoara, Timisoara, Romania

11:05 – 11:20 Analysis of Monetary Policy Decisions of the National Bank of Romania with Text Mining Techniques

***Cristian-Vasile Pop, Radu-Emil Precup,
Liviu Ioan Cădăriu-Brăiloiu***

University Politehnica of Timișoara, Romania

11:20 – 11:35 G Suite Configuration for Education and Teaching Mechatronics

Marius-Florin Crainic*, Stefan Ioan Faur**, Stefan Preitl*

* University Politehnica of Timișoara, Romania

** Mihai Viteazul College, Ineu, Arad, Romania

11:35 – 11:50 Two-Wheeled Self-Balancing Robot

***Flavius-Cătălin Paulescu, Iosif Szeidert, Ioan Filip,
Cristian Vasar***

University Politehnica of Timișoara, Romania

11:50 – 13:20 [W2] Session on Informatics I

Session Chair: *Joanna Isabelle Olszewska*

- 11:50 – 12:05 **Middle School Arithmetic Auto-Generative Learning Objects to Support Learning in the COVID-19 Pandemic**
Felicia-Mirabela Costea, Ciprian-Bogdan Chirila, Vladimir-Ioan Crețu
University Politehnica of Timișoara, Romania
- 12:05 – 12:20 **ICT-supported Learning: Concepts going viral**
Andrea Tick
Óbuda University, Budapest, Hungary
Judit Beke
Budapest Business School, Budapest, Hungary
- 12:20 – 12:35 **Benefits of using a Web Application for Bidding Household Activities**
Cristian Vesa, Loredana Stanciu
Politehnica University Timisoara, Timisoara, Romania
- 12:35 – 12:50 **A Novel Hybrid AF/DF Cooperative Communication Scheme for Power Domain NOMA**
Mahnoor Ajmal, Muhammad Zeeshan
National University of Sciences & Technology, Islamabad, Pakistan
- 12:50 – 13:05 **SapiMouse: Mouse Dynamics-based User Authentication Using Deep Feature Learning**
Margit Antal, Norbert Fejér, Krisztian Buza
Sapientia Hungarian University of Transylvania, Târgu Mures, Romania
- 13:05 – 13:20 **Human Computer Interaction Feedback Based-On Data Visualization Using MVAR and NN**
J. I. Olszewska
University of West Scotland, UK

13:20 – 14:35 [W3] Session on Computational Intelligence I

Session Chair: *Octavian Pastravanu*

13:20 – 13:35 Developing Novel Activation Functions in Time Series Anomaly Detection with LSTM Autoencoder

Marina Adriana Mercioni, Stefan Holban

Politehnica University Timișoara, Timișoara, Romania

13:35 – 13:50 Using Machine Learning Algorithms to create a Credit Scoring Model for mobile money users

Monica Charles Mhina, Fabrice Labeau

McGill University, Montreal, QC, Canada

13:50 – 14:05 On CNN Applied to Speech-to-Text – Comparative Analysis of Different Gradient Based Optimizers

Theodora Gaiceanu, Octavian Pastravanu

Technical University “Gheorghe Asachi” of Iasi, Romania

14:05 – 14:20 Computation of COVID-19 Epidemiological Data in Hungary using Dynamic Model Inversion

Balázs Csutak, Péter Polcz, Gábor Szederkényi

Pázmány Péter Catholic University, Budapest, Hungary

14:20 – 14:35 An Intelligent Traffic Congestion Detection Approach based on Fuzzy Inference System

Mehran Amini, Miklos F. Hatwagner

Szechenyi Istvan University, Gyor, Hungary

Gergely Cs. Mikulai

Doctoral School of Regional Sciences and Business Administration, Budapest, Hungary

Laszlo T. Koczy

Szechenyi Istvan University, Gyor, Hungary

Department of Telecommunications and Media Informatics, Budapest, Hungary

14:35 – 15:05

[W4] Special Session on 'Recent Developments of Engineering Supported Biomedical Sciences' – Organized by Levente Kovács, Zoltán Karádi, György Eigner, Attila Tóth and Zoltán Vizvári)

Session Chair: *Levente Kovács*

Application of Heuristic Optimization in Bioimpedance Spectroscopy Evaluation

*Ákos Odry**, *Zoltan Vizvari***, *Nina Gyorfi***, *Levente Kovács****,
*György Eigner****, *Mihaly Klincsik***, *Zoltan Sari***, *Péter Odry*****,
*Attila Toth***

*University of Szeged, Szeged, Hungary

** University of Pécs, Pécs, Hungary

***Óbuda University, Budapest, Hungary

**** University of Dunaújváros, Dunaújváros, Hungary

Reproducibility Analysis of Mobile Robots Movement by IMU Sensor Measurements

*István Kecskés**, *Robert Bacsa***, *Péter Odry**, *Zoltan Vizvari****,
*Attila Toth****

* University of Dunaújváros, Dunaújváros, Hungary

** Amateur Radio Union of Serbia, Backa Topola, Serbia

*** University of Pecs, Pecs, Hungary

Gastrointestinal Microbiome Depletion Modifies Behavioral Processes without Changing Body Composition

Kitti Mintál, *Zoltán Vizvári*, *Edina Hormay*, *Anita Kovács*, *Anita Bufa*,
Tamás Marosvölgyi, *László Lénárd*, *Zoltán Karádi*, *Attila Tóth*

University of Pécs, Pécs, Hungary

Investigation of a Bioimpedance-based Measurement Method of Diaphragmatic Muscle Movements during Respiratory Characteristics

*Attila Toth**, *Istvan Ruzsics**, *Zsuzsanna Helyes**, *Kata Cseko**,
*Janos Varga***, *Andrea Fekete***, *Renata Cserjesi****, *Zoltan Vizvari**

*University of Pecs, Pecs, Hungary

** University of Semmelweis, Budapest, Hungary

*** ELTE, Budapest, Hungary

Preparation and Validation of Self-developed Bioimpedance Electrode Array for Measurement of Tumor Cells

Lili Nadasdi*, Gergo Maczko*, Nina Gyorfi*, Kristof Tenzlinger*, Akos Odry**, Peter Odry, Aleksandar Szechenyi*, Zoltan Karadi*, Jozsef Pal*, Attila Toth*, Zoltan Vizvari****

*University of Pecs, Pecs, Hungary

** University of Szeged, Szeged, Hungary

*** University of Dunaujvaros, Dunaujvaros, Hungary

Development of Bioimpedance-based Measuring Systems for Diagnosis of Non-alcoholic Fatty Liver Disease

Nina Gyorfi*, Akos Odry**, Zoltan Karadi*, Peter Odry, Tibor Szakall****, Bojan Kuljic****, Attila Toth*, Zoltan Vizvari****

* University of Pécs, Pecs, Hungary

** University of Szeged, Szeged, Hungary

*** University of Dunaujvaros, Dunaujvaros, Hungary

**** Subotica Tech, Subotica, Serbia

Proof of Concept Clinical Trial of Bioimpedancebased NAFLD Diagnosis Technique

Nina Gyorfi*, Akos Odry**, Zoltan Karadi*, Peter Odry, Andras Vereczkei*, Bojan Kuljic****, Zoltan Vizvari*, Attila Toth****

* University of Pecs, Pecs, Hungary

** University of Szeged, Szeged, Hungary

*** University of Dunaujvaros, Dunaujvaros, Hungary

**** Subotica Tech, Subotica, Serbia

Comparative Electrical Impedance Spectroscopy Study of Graphene and Indium Tin Oxide Electrodes during Low Frequency Measurements

Alexandra Julia Hencz*, Gabor Szilagyi*, Nina Gyorfi*, Kristof Tenzlinger*, Aleksandar Szechenyi*, Akos Odry**, Peter Odry, Zoltan Karadi*, Zoltan Vizvari*, Attila Toth*, Jozsef Pal****

* Univeristy of Pecs, Pecs, Hungary

** University of Szeged, Szeged, Hungary

*** University of Dunaujvaros, Dunaujvaros, Hungary

Development of a Bioimpedance Measuring Plate for the Study of Hypoxic and Hyperoxic Conditions in Cell Cultures

Nora Filotas*, Reka Helt*, Alexandra Julia Hencz*, Kristof Tenzlinger*, Akos Odry**, Peter Odry, Zoltan Karadi*, Zoltan Vizvari*, Attila Toth*, Nina Gyorfi*, Aleksandar Szechenyi*, Jozsef Pal****

*University of Pecs, Pecs, Hungary

** University of Szeged, Szeged, Hungary

*** University of Dunaujvaros, Dunaujvaros, Hungary

The Development of Graphene-coated Measuring Plate for the Investigation of “Dark” Neurons with Electrical Impedance Spectrum (EIS) Measurement

Kiara Berta*, Reka Varga*, Nina Gyorfi*, Kristof Tenzlinger*, Akos Odry**, Peter Odry, Aleksandar Szechenyi*, Zoltan Karadi*, Attila Toth*, Zoltan Vizvari*, Jozsef Pal****

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** University of Szeged, Szeged, Hungary

*** University of Dunaujvaros, Dunaujvaros, Hungary

15:05 – 16:35 [W5] Session on Intelligent Manufacturing Systems and Intelligent Control

Session Chair: *Péter Galambos*

15:05 – 15:20 Generic Control Loop Model for Fluctuation Analysis in Production Systems

*Rocky Telatko**, *Steffen Ihlenfeldt***, *Dirk Reichelt**

*University of Applied Sciences, Dresden, Germany

**TU Dresden, Dresden, Germany

15:20 – 15:35 Towards Digitalization of Steel Melt Shop: A modelbased Approach

Anurag Nandwana, *Gautham Madenoor Ramapriya*,
Ulaganathan Nallasivam

Corporate Research Center, ABB, GISPL, Bangalore, India

Tarun Mathur

Metals Digital Portfolio, ABB Germany, Mannheim, Germany

Praveen KC

Digital Lead HUB IMEA, ABB India Limited, Peenya Industries Area, Bangalore, India

15:35 – 15:50 Pragmatical Approach To Speaker Industrial Testing

Árpád Gajdáci

Óbuda University, Székesfehérvár, Hungary

15:50 – 16:05 Decreasing the Computational Demand of Unscented Kalman Filter based Methods

József Kuti, *Péter Galambos*

Óbuda University, Budapest, Hungary

16:05 – 16:20 Model Integrated PhD Research Project Using Engineering Platform in the Cloud

László Horváth

Óbuda University, Budapest, Hungary

16:20 – 16:35 Obstacle Avoidance for Line-Following AGV with Local Maps

Matevž Bošnjak, *Igor Škrjanc*

Faculty of Electrical Engineering, University of Ljubljana, Slovenia

May 20, Thursday

9:00 – 10:30 **[T1] Session on Computational Intelligence II**

Session Chair: *Stefan Holban*

9:00 – 9:15 **Ensemble Algorithm using Transfer Learning for Sheep Breed Classification**

Divyansh Agrawal, Sachin Minocha

Galgotias University, Greater Noida, India

Suyel Namasudra

National Institute of Technology Patna, Bihar, India

Sathish Kumar

Cleveland State University, USA

9:15 – 9:30 **An Emotional Topic Recommendation Chat Assistant**

Xiao zhuhanling

Shanghai Pinghe School, China

9:30 – 9:45 **Comparison of Full Factorial DoE and SSTE®**

Endre Laguel

Mechanical Engineer, Hatvan, Hungary

Tamás Szakács

Óbuda University, Budapest, Hungary

9:45 – 10:00 **Improving Students' Performance by Interpretable Explanations using Ensemble Tree-Based Approaches**

Alexandra Vultureanu-Albiși, Costin Bădică

University of Craiova, Craiova, România

10:00 – 10:15 **Continuous Natural Language Processing Pipeline Strategy**

István Pölöskei

adesso Hungary Kft., Budapest, Hungary

10:15 – 10:30 **Soft-Clipping Swish: A Novel Activation Function for Deep Learning**

Marina Adriana Mercioni, Stefan Holban

Politehnica University Timisoara, Timisoara, Romania

10:30 – 11:45

[T2a] Special Session on PhD Student Research in Applied Informatics I (organized by László Horváth)

The session was organized by the Doctoral School of Applied Informatics and Applied Mathematics, Óbuda University, Budapest, Hungary

Session Chair: **László Horváth**

10:30 – 10:45

A Receding Horizon-type Solution of the Inverse Kinematic Task of Redundant Robots

Hazem Issa, Bence Varga, József K. Tar

Óbuda University, Budapest, Hungary

10:45 – 11:00

Mechanical Impulse Technique Used to determine the Elastic Characteristics of Welded Steel Bars of Concrete Reinforcements Compared with those Obtained by Analytical, Numerical and Experimental Methods

Raul Moisa, Sergiu Gălăţanu, Dorin Simoiu, Claudiu Voica, Ion Craştiu, Liviu Bereteu

Politehnica University of Timisoara, Timisoara, Romania

11:00 – 11:15

Review of Industry 4.0 Security Challenges

Katalin Ferencz, József Domokos, Levente Kovács

Óbuda University, Budapest, Hungary

11:15 – 11:30

Distorsion Prediction of Additive Manufacturing Process using Machine Learning Methods

Zoltán Biczó, Imre Felde, Sándor Szénási

Óbuda University, Budapest, Hungary

11:30 – 11:45

Influence of the Temperature on the Open-Circuit Voltage and Short-Circuit Current of a yellow colorized Dye Sensitized Solar Cell using Correlation Approach

Zoltan Varga, Ervin Racz

Óbuda University, Budapest, Hungary

10:30 – 12:30 [T2b] Introduction to the Methodology of Systematic Reviews HECON Educational Workshop

Session Chair: ***Márta Péntek***

Workshop link: <https://meet.google.com/eyd-bxxe-bbw>

**10:30 – 11:00 Development of Medical Devices and Software, Why are Systematic Reviews Needed?
Overview or Recent Projects, Experiences and Challenges**
György Eigner, Tamás Haidegger
Óbuda University, Budapest, Hungary

11:00 – 11:30 Introduction to Evidence-based Medicine, Clinical Studies and Health Outcomes Measurement
László Gulácsi
Óbuda University, Budapest, Hungary

11:30 – 12:00 Conducting Systematic Reviews I from Design to Data Extraction (Research Question, PICOS, Literature Search, Eligibility Criteria, PRISMA Flowchart)
Márta Péntek
Óbuda University, Budapest, Hungary

12:00 – 12:30 Conducting systematic reviews II from Quality Assessment to Synthesis of Results (Risk of Bias, Meta-Analysis Methods, Publication Bias, Reporting of Results)
Zsombor Zrubka
Óbuda University, Budapest, Hungary

11:45 – 13:00 **[T3] Session on Systems Engineering**

Session Chair: *Dragos Dobrean*

11:45 – 12:00 **Optimal Energetic Zone of Wind Turbine for Sinusoidal Wind Speed**

Antonio M. F. Luputi, Marius Babescu, Horia Ciocârlie
The Polytechnic University of Timișoara, Timișoara, Romania

12:00 – 12:15 **A Study on Distributed Fault-Tolerant Service Architectures for Critical Software Systems**

Ioan Cristian Schuszter
University of Petrosani

Marius Cioca
"Lucian Blaga" University of Sibiu

12:15 – 12:30 **Sensitivity of the Structural Behavior of SAC305 Interconnects on the Variations of Creep Parameters**

Ramiro S Vargas C, Viktor Gonda
Óbuda University, Budapest, Hungary

12:30 – 12:45 **Implementing a System for Diagnosing Pulmonary Fibrosis using Hough Algorithm**

Cristina-Maria Stancioi, Iulia Clitan, Abrudean Mihai, Vlad Muresan, Mihaela-Ligia Unguresan
Technical University of Cluj-Napoca, Cluj-Napoca, Romania

12:45 – 13:00 **Importance of Software Architectures in Mobile Projects**

Dragoș Dobrean, Laura Dioșan
Babes Bolyai University, Cluj Napoca, Romania

13:00 – 14:15 **[T4] Special Session on Intelligent Vehicle Engineering (organized by Edit Laufer)**

Session Chair: *Edit Laufer*

13:00 – 13:15 **Hierarchical Organization of Control and Sensory System of an Electric Vehicle**

István Nagy

Óbuda University, Budapest, Hungary

13:15 – 13:30 **Determination of Extreme Values in Autonomous Driving Based on Multifractals and Dynamic Scaling**

József Z. Szabó, Péter Bakucz

Óbuda University, Budapest, Hungary

13:30 – 13:45 **Can Bus Communication Demonstration Tool for Education**

Ahmed Al-Areqi, Tamás Szakács

Óbuda University, Budapest, Hungary

13:45 – 14:00 **Reliability of a Transport Node based on Fuzzy Fault Tree Analysis**

József Z. Szabó, Péter Bakucz

Óbuda University, Budapest, Hungary

14:00 – 14:15 **Fuzzy-based Braking System Model in Driver Assisted Technology**

Zsombor Geczi, Edit Toth-Laufer

Óbuda University, Budapest, Hungary

14:15 – 15:45

[T5] Session on Computational Intelligence III

Session Chair: *Dan Ionescu*

14:15 – 14:30

ResNet Neural Network Hyperparameter Tuning for Rigid Pavement Failure Assessment

*Helarf Calsina Condori, Jose Cruz de la Cruz,
Wilson Mamani Machaca*

Universidad Nacional del Altiplano, Puno, Perú

14:30 – 14:45

Classification of Malaria-Infected Cells using Convolutional Neural Networks

Katarina Mitrović, Danijela Milošević

University of Kragujevac, Serbia

14:45 – 15:00

A Platform to Manage the End-to-End Lifecycle of Batch-Prediction Machine Learning Models

Adrian-Ioan Argesanu

Baker Hughes Process & Pipeline Services, Karlsruhe, Germany

Gheorghe-Daniel Andreescu

Politehnica University Timisoara, Romania

15:00 – 15:15

Exam Subjects Generation During COVID-19 Pandemics for FCPL Discipline

Ciprian-Bogdan Chirila, Oana-Sorina Chirila

University Politehnica of Timișoara, Romania

15:15 – 15:30

Accelerating Data Ingress for Range-Scan Optimized HBase Instances

Adrian-Ioan Argesanu

Baker Hughes Process & Pipeline Services, Karlsruhe, Germany

Gheorghe-Daniel Andreescu

Politehnica University Timisoara, Timisoara, Romania

15:30 – 15:45

A CNN Approach to Micro-Expressions Detection

*Satya Chandrashekhara Ayyalasomayajula, Bogdan Ionescu,
and Dan Ionescu*

University of Ottawa, Ottawa, Ontario, Canada

15:45 – 17:00 **[T6] Special Session on PhD Student Research in Applied Informatics II (organized by László Horváth)**

The session was organized by the Doctoral School of Applied Informatics and Applied Mathematics, Óbuda University, Budapest, Hungary

Session Chair: **Márta Takács**

15:45 – 16:00 **Simplification on Mobile Devices Reduces Personal (Cyber) Safety**

Anikó Szarvák, Valéria Póser, Miklós Kozlovsky

Óbuda University, Budapest, Hungary

16:00 – 16:15 **Reactive Magnetron Sputtering: an Offline Parameter Identification Method**

András Kelemen

Sapientia Hungarian University of Transylvania, Cluj-Napoca, Romania

Róbert Rossi Madarász

Óbuda University, Budapest, Hungary

16:15 – 16:30 **Open Issues in Agri-food Robot Standardization—the Red Meat Sector**

Kristóf Takács*, Alex Mason, Luis Eduardo Cordova-Lopez**, Tamás Haidegger***

*Óbuda University, Budapest, Hungary

**Norwegian University of Life Science (NMBU), Ås, Norway

16:30 – 16:45 **Real-Time Locating System and Digital Twin in Lean 4.0**

Tuan-anh Tran*, Tamás Ruppert, György Eigner***, János Abonyi****

* Vietnam Maritime University, Hai Phong City, Vietnam

** University of Pannonia, Veszprem, Hungary

*** Óbudai University, Budapest, Hungary

16:45 – 17:00 **Investigation of High-Growth Firms in the SMEsector via the Perspective of Owners and CEOs using Wordclouds**

Ferenc Tolner*,, György Eigner**, Balázs Barta*, Márta Takács****

*Pannon Business Network Association, Szombathely

** Óbuda University, Budapest, Hungary

May 21, Friday

9:00 – 11:00 **[F1] Special Session on PhD Student Research in Applied Mathematics (organized by Alexandru Kristály)**

The session was organized by the Doctoral School of Applied Informatics and Applied Mathematics, Óbuda University, Budapest, Hungary

Session Chair: **Alexandru Kristály**

9:00 – 9:15 **Knowledge Estimation with HPV and Cervical Cancer Risk Factors Using Logistic Regression**
Ogbolu Melvin Omone*, **Alex Ugochukwu Gbenimachor****,
Levente Kovács*, **Miklós Kozlovsky***
*Óbuda University, Budapest, Hungary
**Sapienza Università di Roma, Rome, Italy

9:15 – 9:30 **Accelerated Reduced Gradient Algorithm for Solving the Inverse Kinematic Task of Redundant Open Kinematic Chains**
Hazem Issa, **Bence Varga**, **József K. Tar**
Óbuda University, Budapest, Hungary

9:30 – 9:45 **On Uniform Stability with Growth Rates in Banach Spaces**
Rovana Boruga(Toma), **Diana Ioana Borlea(Pătraşcu)**,
Daniela Maria - Magdalena Toth
West University of Timișoara, Timișoara, Romania

9:45 – 10:00 **Interdisciplinary Optimization of Security Operations Centers with Digital Assistant**
Bence Tureczki, **Katalin Szenes**
Óbuda University, Budapest, Hungary

- 10:00 – 10:15 **Three Isometrically Equivalent Models of the Finsler-Poincaré Disk**
Ágnes Mester, Alexandru Kristály
Óbuda University, Budapest, Hungary; and Babeş-Bolyai University, Cluj-Napoca, Romania
- 10:15 – 10:30 **Analytical, Numerical and Experimental Analysis of the Dynamic Behavior of a Cutting Tool**
Claudiu Voica, George Belgiu, Dorin Simoiu, Robert Parmanche, Ion Craştiu, Liviu Bereteu
Politehnica University Timișoara, Romania
- 10:30 – 10:45 **A Non-Smooth Neumann Problem on Compact Riemannian Manifolds**
Károly Szilák
Óbuda University, Budapest, Hungary
- 10:45 – 11:00 **Fuzzy Model for Common Vulnerability Scoring System**
Mera Saulaiman, Márta Takács, Miklos Kozlovsky
Óbuda University, Budapest, Hungary
Akos Csilling
Engineering Center Budapest, Robert Bosch Kft, Budapest, Hungary

11:00 – 12:00 **[F2] Special Session on Optimization Methods (organized by Sándor Szénási)**

Session Chair: **Gábor Kertész**

- 11:00 – 11:15 **Evaluation of GPU Virtualisation Approaches for Machine Learning Enhanced Debugging of Cloud Orchestration**
Márk Emődi, József Kovács, Róbert Lovas
Institute for Computer Science and Control (SZTAKI), Eötvös Loránd Research Network (ELKH), Hungary
Sándor Szénási
Óbuda University, Hungary
- 11:15 – 11:30 **Quantity Analysis on the Chaining of Repetition Free Words Considering the VDE Composition Rule**
István Finta, Lóránt Farkas
Nokia, Bell Labs, Budapest, Hungary
Sándor Szénási
Óbuda University, Budapest, Hungary
- 11:30 – 11:45 **Hungarian Traffic Sign Detection and Classification using Semi-Supervised Learning**
Levente Kovács and Gábor Kertész
Óbuda University, Budapest, Hungary
- 11:45 – 12:00 **Adaptive Fireworks Algorithm to solve 2D Inverse Heat Conduction Problem**
Ákos Szabó-Gali, Imre Felde, Sándor Szénási
Óbuda University, Budapest, Hungary

12:00 – 13:15 **[F3] Session on Computational Intelligence IV**

Session Chair: *Vladimir-Ioan Cretu*

12:00 – 12:15 **Predict Stock Market Prices with Recurrent Neural Networks using NASDAQ Data Stream**

Adam Kovacs, Bence Bogdandy, Zsolt Toth

Eszterhazy Karoly University, Eger, Hungary

12:15 – 12:30 **Modified Distance Metric That Generates Better Performance For The Authentication Algorithm Based On Free-Text Keystroke Dynamics**

Augustin-Catalin Iapa, Vladimir-Ioan Cretu

Politehnica University Timisoara, Timisoara, Romania

12:30 – 12:45 **Automatic Mask Detecion using Convolutional Neural Networks and Variational Autoencoder**

Mxolisi Silabela, Bence Bogdandy, Zsolt Toth

Eszterhazy Karoly University, Eger, Hungary

12:45 – 13:00 **Scalable Graph Convolutional Variational Autoencoders**

Dániel Unyi, Bálint Gyires-Tóth

Budapest University of Technology and Economics, Budapest, Hungary

13:00 – 13:15 **Machine Learning based Prediction of GDP using FAO Agricultural Data Set for Hungary**

Adedeji Charles Adeyemo, Bence Bogdandy, Zsolt Toth

Eszterhazy Karoly University, Eger, Hungary

13:15 – 14:30 [F4] Session on Informatics II

Session Chair: *Rita Fleiner*

13:15 – 13:30 Feature Learning for Accelerometer based Gait Recognition

Szilárd Nemes

Babeş-Bolyai University, Cluj-Napoca, Romania

Margit Antal

Sapientia Hungarian University of Transylvania, Tirgu-Mures, Romania

13:30 – 13:45 Modular Education Framework Supported by IT Project Management Methods

Judit Módné Takács, Nikoletta Tolner, Gábor Tamás Orosz, Monika Pogatsnik

Obuda University Szekesfehervar, Hungary

13:45 – 14:00 Performance Comparison between S3, HDFS and RDS Storage Technologies for Real-Time Big-Data Applications

Alaa Jamal, Rita Fleiner, Eszter Kail

Obuda University, Budapest, Hungary

14:00 – 14:15 Synthesis of *Merging* Algorithms on Binary Trees using Multisets in *Theorema*

Isabela Drămnesc

West University, Timișoara, Romania

Tudor Jebelean

Johannes Kepler University, Linz, Austria

14:15 – 14:30 Seat Transfers in the Course Allocation Mechanism of Eötvös Loránd University

Attila Rusznák*, Péter Biró**, Rita Fleiner*

*Obuda University Budapest, Hungary

**Corvinus University of Budapest Budapest, Hungary

14:30 – 15:45

[F5] Session on Intelligent Robotics

Session Chair: *Csaba Hajdu*

14:30 – 14:45

Robot Environment Representation Based on Quadtree Organization of Fuzzy Signatures

Ahmet Mehmet Karadeniz, Csaba Hajdu, László T. Kóczy, Áron Ballagi

Széchenyi István University, Győr, Hungary

14:45 – 15:00

Multi-Constrained Voronoi-Based Task Allocator for Smart-Warehouses

George Oliveira, Patricia D. M. Plentz, Jônata Tyska Carvalho

Federal University of Santa Catarina – UFSC, Florianópolis, Brazil

15:00 – 15:15

Decaying Clipping Range in Proximal Policy Optimization

Mónika Farsang, Luca Szegletes

Budapest University of Technology and Economics, Budapest, Hungary

15:15 – 15:30

Computational Capacity Analysis of Platforms for Low-Cost Autonomous Ultraviolet Germicidal Robots

Sergio Genilson Pflieger, Patricia Della Mea Plentz

Federal University of Santa Catarina, Florianópolis, Santa Catarina, Brasil

15:30 – 15:45

eGauss+ Evolving Clustering in Classification

Igor Škrjanc

University of Ljubljana, Faculty of Electrical Engineering, Slovenia

Thank you for your contribution!

See you next year at SACI 2022!

NEXT EVENTS

INES 2021

25th IEEE International Conference on Intelligent Engineering Systems 2021



July 7-9, 2021

Budapest, Hungary



online event

<http://www.ines-conf.org>



SISY 2021

IEEE 19th International Symposium on Intelligent Systems and Informatics
Subotica, Serbia

September 16-18, 2021



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JUNE 2, 2021

Online event

<http://conf.uni-obuda.hu/sisy2021>

CANDO EPE 2021

4th International IEEE Conference AND Workshop in Óbuda on Electrical and Power Engineering



AUTHORS SCHEDULE

Full paper submission: August 23

Notification: September 20

Final paper submission: October 18

Welcome to CANDO EPE 2021!

Authors are welcome to submit original and unpublished papers and attend the IEEE 4th International Conference AND workshop in Óbuda on Electrical and Power Engineering (CANDO EPE 2021) to be held on November 17-18, 2021 in Budapest, Hungary.

<http://conf.uni-obuda.hu/Kando2021>

**Paper submission
deadline:
July 30**

CINTI 2021

21st IEEE International Symposium on
Computational Intelligence and Informatics

November 18 - 20, 2021



<http://conf.uni-obuda.hu/cinti2021>

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