


The 1st Conference on Information Technology and Data Science

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Book of abstracts. (https://arato.inf.unideb.hu/biro.piroska/CITDS2020/abstract_citds.pdf)

6th November, FRIDAY

14:00 - 14:40	Replacing the SIR epidemic model with a neural network and training it further to increase prediction accuracy <i>Gergő Bogacsóvics, András Hajdu, Róbert Lakatos, Marcell Beregi-Kovács, Attila Tiba and Henrietta Tomán</i> Chair: István Fazekas (https://unideb.webex.com/unideb/j.php?MTID=mca394baf82e9dbe3c25fd1213f26a18f)		
	Session A Artificial Intelligence and its Application Chair: András Hajdu (https://unideb.webex.com/unideb/j.php?MTID=m403ca4d622b4bda10e47b0d8a23a16f8)	Session B Queueing Theory and its Applications Chair: János Sztrik (https://unideb.webex.com/unideb/j.php?MTID=mb58cb914710a04b11d12dac7f2cc25ec)	Session C Virtual Reality and Related Topics Chair: Attila Gilányi (https://unideb.webex.com/unideb/j.php?MTID=m3936a51b5d64e7728a7f8b53224c330c)
15:00 - 15:20	Investigation of the efficiency of an interconnected convolutional neural network by classifying medical images <i>Oktavian Lantang, György Terdik, András Hajdu and Attila Tiba</i>	On Approximation of Multichannel Stochastic Networks with Merged Set of Nodes <i>Hanna Livinska and Eugene Lebedev</i>	Measuring spatial orientation skills in MaxWhere <i>Borbála Berki and Anna Sudár</i>
15:20 - 15:40	Deep learning based cell classification in case of unbalanced dataset <i>Dávid Kupás and Balázs Harangi</i>	Enhanced heuristic optimization of high order concentrated matrix-exponential distributions <i>Salah Al-Deen Almousa and Miklós Telek</i>	Proposing a complex cognitive desktopvirtual reality test <i>Anna Sudár and Borbála Berki</i>
15:40 - 16:00	Classifying Raman spectroscopy data using machine learning algorithms for diagnosing infection with SARS-COV-2 <i>Róbert István Oniga</i>	Throughput Performance Measurement of the MPT-GRE Multipath Technology in Emulated WAN Environment <i>Szabolcs Szilágyi and Imre Bordán</i>	Examination of viability and utilization of eye tracking in mobile VR applications, analyzation of mobile VR trends <i>Gergő Zilizi and Anett Rácz</i>

16:00 - 16:20	Portfolio Solver for Verifying Binarized Neural Networks <i>Gergely Kovásznai, Gajdár Krisztián and Nina Narodytska</i>	Wavelet and recurrent neural network based performance analysis of fast connectionless data transfers <i>Zoltán Gál, Péter Polgár, Robert Tornai, Tibor Tajti and Gergely Kocsis</i>	Open Data, FAIR Data, Aspects of Research Data Management <i>Márta Virágos</i>
16:30 - 17:00	Trees classification based on Fourier coefficients of the sapflow density flux <i>Dmitry Efrosinin, Irina Gudkova, Natalia Stepanova, Alexey Yaroslavtsev, Konstantin Samouylov and Riccardo Valentini</i>	A Survey of Recent Results in Finite-Source Retrial Queues with Collisions and Impatient Customers in the Orbit <i>János Sztrik and Ádám Tóth</i>	Virtual Reality Exercises for Low Back Pain Patients with Fear of Movements <i>Tomas Larsen, Ilona Helda, Daniel Patel, Harald Soleim and Atle Geitung</i>
17:00 - 17:30	Automatic Text Summarization for Hungarian <i>Zijian Gyózó Yang, Ádám Agócs, Gabor Kusper and Tamás Váradi</i>	Performance Analysis of two-way communication retrial queueing systems with non-reliable server and impatient customers in the orbit <i>Ádám Tóth and János Sztrik</i>	The unique potential of virtual reality in enhancing the ways in which humans communicate through communications technologies <i>Ildikó Horváth</i>
17:40 - 18:00	Hybrid AdaBoost and Naïve Bayes Classifier for Supervised Learning <i>Ahiya Ahammed, Balázs Harangi and András Hajdu</i>	CRC Check in a High-Speed Connectionless File Transfer System <i>Róbert Tornai, Dalma Kiss-Imre and Zoltán Gál</i>	Cybersecurity in virtual reality: a service for developing and deepening students' cyber responsibility <i>Tibor Roskó, Gyöngyi Bujdosó and Cornelia Mihaela Novac</i>
18:00 - 18:20	Ensemble noisy label detection on MNIST <i>István Fazekas, Attila Barta and László Fórián</i>	Encryption in a High-Speed Connectionless File Transfer System <i>Róbert Tornai, Dalma Kiss-Imre and Zoltán Gál</i>	English language learning by visualizing the literary content of a knowledge base in the three-dimensional space <i>István Károly Boda and Erzsébet Tóth</i>
18:20 - 18:40	Deep Learning Based Approach for Detecting Cassini-Huygens Spacecraft Trajectory Modifications <i>Ashraf Aldabbas and Zoltán Gál</i>	A contribution to scheduling of cluster networks with finite-source <i>Attila Kuki, Tamás Bérczes, Ádám Tóth and János Sztrik</i>	Virtual spaces connected to the first National Theater of Hungary <i>Attila Gilányi, Anna Rác, Anna Maria Bólya, János Decsei and Katarzyna Chmielewska</i>
		The impact of servers reliability on the characteristics of cognitive radio systems <i>Hamza Nemouchi, Mohamed Hedi Zaghouani and János Sztrik</i>	

7th November, SATURDAY

09:00 - 09:40	Single Stranded Architectures for Computing <i>Shinnosuke Seki</i> Chair: György Vaszil (https://unideb.webex.com/unideb/j.php?MTID=maefa22e44eda411d58784626a76b0294)		
	Session A Automata, Logic, and Models of Computation Chair: György Vaszil (https://unideb.webex.com/unideb/j.php?MTID=mdbf5d75cd4abc50e30e7397ae160b053)	Session B Network Theory Chair: István Fazekas (https://unideb.webex.com/unideb/j.php?MTID=mla58a2fb50375f32f9554571d9223f6a)	Session C General aspects of information technology Chair: László Szathmáry (https://unideb.webex.com/unideb/j.php?MTID=me73cd2160357f29c032f2651fd9ea75)
10:00 - 10:20	An encoding of the λ-calculus into the calculus of String Multiset Rewriting <i>Péter Batthyányi and Attila Bagossy</i>	Shape of epidemic curves in spatial scale free networks (-10:30) <i>Julia Komjáthy, John Lapinskas, Johannes Lengler and Ulysse Schaller</i>	Error detection and analysis of P4 programs <i>Gabriella Tóth and Máté Tejfel</i>
10:20 - 10:40	Dealing with Uncertainty: a Rough-Set-Based Approach with the Background of Classical Logic <i>Tamás Kádek and Tamás Mihálydeák</i>	10:30 - Preferential attachment random graphs with multiple type elements <i>Ágnes Backhausz, Edit Bognár and Bence Rozner</i>	Platform-independent microbenchmarking in C <i>György Vereb and Attila Bagossy</i>

10:40 - 11:00	Comparison of Similarity-based Rough Sets and Covering Approximation Spaces on Real Data <i>Dávid Nagy and Tamás Mihálydeák</i>		Neuron network model in the study of Smart City ideas <i>Mátyás Varga, Bence Soltész, Norbert Fiedler, Anikó Apró, Balázs Borsos, Gábor Kiss and Zoltán A. Godó</i>
11:00 - 11:20	Introducing w-Horn and z-Horn: A Generalization of Horn and q-Horn Formulae <i>Gábor Kusper, Csaba Biró, Attila Adamkó and Imre Baják</i>	Theoretical and simulation results for a multi-type network evolution model <i>Attila Barta and István Fazekas</i>	Red Flower Hell: a Minecraft MALMÖ Challenge to Support Introductory Programming Courses <i>Norbert Bátfai, Tünde Tutor, Zoltán Bartha and András Czanik</i>
11:30 - 12:00	Exploiting the structure of communication in actor systems <i>Krisztián Schäffer and Csaba István Sidló</i>	A continuous-time random graph model (-11:50) <i>Bettina Porvázsnyik</i>	A Review on Latest Trends in Non-Technical Loss Detection <i>Khawaja Moyeezullah Ghor, Muhammad Awais, Akmal Saeed Khattak, Muhammad Imran, Rabeeh Ayaz Abbasi and László Szathmáry</i>
12:00 - 12:30	Neural networks and the game of life <i>Erik Zoltán Hidi and Géza Horváth</i>	(11:50 -) Genealogical networks: a case study from the perspective of network science <i>Imre Bordán and Imre Varga</i> (12:10 -) A case study of using DiNA - Directed Network Analyzer <i>Gergely Kocsis and Máté Csongor Széll</i>	Machine learning on Android with Oracle Tribuo, SMILE and Weka <i>Máté Szabó</i>
12:30 - 13:00	Analysis of the Triangular Implementation of Game of Life <i>Géza Horváth and Dávid Petrik</i>	Multi Dimensional Analysis of Sensor Communication Processes <i>Mohamed Amine Korteby</i>	

14:00 - 14:40	Predictive Inference Based on Markov Chain Monte Carlo Output <i>Fabian Krüger, Sebastian Lerch, Thordis Thorarinsdottir and Tilmann Gneiting</i> Chair: Sándor Baran (https://unideb.webex.com/unideb/j.php?MTID=mffcac9bdb8008dc2ee43867cf2158ca3)		
	Session A Computational Statistics with Applications Chair: Sándor Baran (https://unideb.webex.com/unideb/j.php?MTID=m5eb07f971c41e33c910e5740ce2053f9)	Session B Embedded System Design and Applications Chair: István Oniga (https://unideb.webex.com/unideb/j.php?MTID=m5478126a3200ca5d23a33a69c4a1f3f9)	Session C Cryptography and Data Security Chair: Attila Pethő (https://unideb.webex.com/unideb/j.php?MTID=m54ba03d3fa82c13825b1a7e5b60a9b7c)
15:00 - 15:20	Simulating differential distributions in Beta-Poisson models, in particular for single-cell RNA sequencing data <i>Roman Schefzik</i>	Multi-Resident location detecting in Smart Home <i>Alexan Anca, Alexandru Alexan and Stefan Oniga</i>	Digit Expansions for Efficient Group Operations <i>Clemens Heuberger</i>
15:20 - 15:40	How well can screening sensitivity and sojourn time be estimated? <i>Ayman Hijazy and András Zempléni</i>	Smartwatch activity recognition using ML.net framework <i>Alexandru Alexan, Alexan Anca and Stefan Oniga</i>	
15:40 - 16:00	Compositional Trend Filtering <i>Christopher Rieser and Peter Filzmoser</i>	Comparison of EEG data processing using feedforward and convolutional neural network <i>Yu Xie, Stefan Oniga and Tamás Majoros</i>	A Provably Secure Authentication for Smart Homes <i>Norbert Oláh and Andrea Huszti</i>
16:00 - 16:20	Testing various numerical methods for the efficient optimization of detailed chemical reaction mechanisms <i>Simret Goitom, Tamás Turányi, Márton Kovács, Máté Papp and László Pál</i>	Motor Imagery EEG Classification using Feedforward Neural Network <i>Tamás Majoros, Stefan Oniga and Yu Xie</i>	A secure electronic exam system using Identity-based Cryptography <i>Ádám Vécsi and Attila Pethő</i>
16:30 - 17:00	Strategies to replace high proportions of zeros in compositional data <i>Peter Filzmoser, Sugnet Lubbe and Matthias Templ</i>	Development of a Man-in-the-Middle Attack Device for the CAN Bus <i>András Gazdag, Csongor Ferenczi and Levente Buttyán</i>	Cryptanalysis of ITRU (-16:50) <i>Hayder Hashim, Alexandra Molnár and Szabolcs Tengely</i>

17:00 - 17:30	A classification tree for functional data <i>Annette Möller and Jan Gertheiss</i>	N-bit per Volt ADC implemented on FPGA and FPAA: Design of the Front End <i>Salam Zayer, Marwah Al-Bayati, György Györök and Ahmed Bouzid</i>	Generalized Middle-Square Method (-17:20) <i>Viktória Padányi and Tamás Herendi</i>
17:40 - 18:00	Truncated generalized extreme value distribution based ensemble model output statistics model for probabilistic wind-speed forecasting <i>Sándor Baran, Patrícia Szokol and Marianna Szabó</i>		TEE Based Protection of Cryptographic Keys on Embedded IoT Devices <i>Máté Zombor, Dorottya Papp and Levente Buttyán</i>
18:00 - 18:20	Post-processing methods for calibrating the wind speed forecasts in central regions of Chile <i>Mailiv Diaz, Orietta Nicolis, Julio Marin and Sándor Baran</i>		Attacking the IEC 60870-5-104 protocol <i>Péter György and Tamás Holczer</i>
18:20 - 18:40	Machine learning-based post-processing of total cloud cover ensemble forecasts <i>Ágnes Baran, Sebastian Lerch, Mehrez El Ayari and Sándor Baran</i>		

8th November, SUNDAY

09:00 - 09:40	Radical digitization through 3D environments -Experiences in the MaxWhere 3D VR platform <i>Péter Baranyi</i> Chair: Attila Gilányi (https://unideb.webex.com/unideb/j.php?MTID=m4f4f86cc7bbfed4c0dad397df729bc49)		
	Session A Computer Graphics and Data Visualization Chair: Roland Kunkli (https://unideb.webex.com/unideb/j.php?MTID=m9b1aa8dccb2887283682794d7bacbdf4)	Session B Smart Cities: Theory and its Applications Chair: Márton Ispány (https://unideb.webex.com/unideb/j.php?MTID=m00f7b8ab5680d5414a9ced6fdd1156d)	
10:00 - 10:20	A possible optimisation procedure for US and MRI tongue contours <i>Réka Trencsényi and László Czap</i>	Possible neural models to support the design of Prime Convo Assistant <i>Norbert Bátfai and Máté Szabó</i>	
10:20 - 10:40	Compute Shader in Image Processing Development <i>Róbert Tornai and Péter Fűrjes-Benke</i>	Inversion of Artificial Neural Networks for WiFi RSSI Propagation Modeling <i>Bence Bogdándy and Zsolt Tóth</i>	
10:40 - 11:00	A study on the intersections of the envelope of RE curves in skinning <i>Kinga Kruppa, Roland Kunkli and Miklós Hoffmann</i>	Tuning of Category Hierarchy Enhanced Classification based Indoor Positioning <i>Judit Tamás and Zsolt Tóth</i>	
11:00 - 11:20	Time Evolution Model for Classifying Files in Antivirus Testing Procedures <i>László Bognár, Antal Joos and Bálint Nagy</i>	Station Based Real Time Trip Planning Algorithm <i>Mustafa Alzaidi and Anikó Vágner</i>	
11:30 - 12:00	Implementing a Barycentric Coordinates-based Visualization Framework for Movement of Microscopic Organisms <i>Andrea Bodonyi, Győző Kurucz, Gábor Holló and Roland Kunkli</i>	Simulation of traffic flow using Markov models <i>Márton Ispány, Norbert Bátfai, Renátó Besenczi, Péter Jeszenszky and Máté Szabó</i>	
12:00 - 12:30	A WebGL-based virtual puzzle game for spatial skill development purposes <i>Bence Dániel Erős and Roland Kunkli</i>		



