

7th South-East Europe Design Automation, Computer Engineering, Computer Networks and Social Media Conference

Conference Program



SEEDA – CECNSM
CONFERENCE 2022  |  IEEE
Computational
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7th SEEDA-CECNSM
CONFERENCE 2022

23 – 25 Sep 2022
Science & Technology Park of Epirus,
<Ioannina, Greece/>

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Organized by:

- 
Department of Informatics & Telecommunications
University of Ioannina
- 
Department of Accounting and Finance
School of Economics & Management
University of Ioannina
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Department of Electrical & Computer Engineering
University of Western Macedonia
- 
Department of Informatics
University of Western Macedonia

 ΟΡΓΑΝΩΤΙΚΟ ΣΥΝΤΟΝΙΣΤΙΚΟ ΠΡΩΒΕΙΟ (PCO): MYRTALY CONGRESS IKE
Πλ. Νεομάρτυρος, Ιωάννινα 2, Ιωάννινα, ΤΚ 452 22
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Day 1	Friday 23/09/2022	
14:00 - 14:30	Opening the event	
14:30 – 16:00	Keynote 1 - Human versus Artificial Intelligence in Radiology, Loukas Astrakas Associate Professor of Medical Physics, University of Ioannina Room: A - https://us02web.zoom.us/j/81787299065	
	Topic A: Artificial Intelligence and Applications Chair: P. Karvelis Room: A - https://us02web.zoom.us/j/81787299065	Topic B: Design Optimization and Implementation Chair: E. Karvounis Room: B - https://us02web.zoom.us/j/89271536602
16:00 – 16:15	Cooperative Intelligent Transport Systems Solution: a Cooperative Safety Application Nikos Dimokas, Pavlos Spanidis, Ioannis Tsetsinas, Ioannis Gkragakopoulos, Maria Gemou and Petros Karvelis	Peer to Peer Federated Learning: Towards Decentralized Machine Learning on Edge Devices Aristeidis Karras, Christos Karras, Konstantinos C. Giotopoulos, Dimitrios Tsolis, Konstantinos Oikonomou and Spyros Sioutas
16:15 – 16:30	Object Detection for Low Light Images Dimitrios Mpouziotas, Eleftherios Mastrapas, Nikos Dimokas, Petros Karvelis and Evripidis Glavas	Distributed Gibbs Sampling and LDA Modeling for Large Scale Big Data Management on PySpark Christos Karras, Aristeidis Karras, Dimitrios Tsolis, Konstantinos C. Giotopoulos and Spyros Sioutas
16:30 – 16:45	An overview of power supply technologies for Unmanned Aerial Vehicles (UAVs) and machine vision applications Antonios Pekias, George Maraslidis, Markos Tspouras, Fotis Koumboulis and George Fragulis	High Throughput of Image Processing with Keccak Algorithm using Microprocessor on FPGA Argyrios Sideris, Theodora Sanida, Antonios Chatzisavvas, Michael Dossis and Minas Dasygenis
16:45 – 17:00		A Decision Support System for Monitoring and Control of Thermal Substations in District Heating Networks Vasileios Balafas, Leonidas Zouloumis, Nikolaos Ploskas and Giorgos Panaras
17:00 – 17:15		Parameter Tuning of Linear Programming Solvers Nikolaos Ploskas
17:15 – 17:30	Tracking individuals' health using mobile applications and Machine Learning Giannis Botilias, Lamprini Pappa, Petros Karvelis and Chrysostomos Stylios	beHost: A web application for potential accommodation providers interested in participating in the sharing economy Foteini Tatsi, Fotios Tatsis and Kostas Karamanis
17:30 – 18:00	Coffee break	
	Session A: Technologies Essentials in Education Chair: S. Doukakis, T. Karvounidis, E. Seralidou Room: A - https://us02web.zoom.us/j/81787299065	Session B: Biomedical Technology Chair: A. Tzallas, M. Tspouras, N. Giannakeas Room: B - https://us02web.zoom.us/j/89271536602

18:00 – 18:15	Environmental Awareness in Preschool Education via Educational Robotics and STEAM Education Zoe Christidi and Eleni Christopoulou	Deep Neural Network Applications for Bioinformatics Dimitrios Amanatidis, Konstantina Vaitis and Michael Dossis
18:15 – 18:30	Using STEM Learning Concepts with IoT Technology on the Road of Education for Sustainability: A Short Literature Review Konstantina Maidatsi, Eleni Christopoulou and Konstantinos Oikonomou	Motor Imagery Approach for BCI Game Development Georgios Prapas, Kosmas Glavas, Alexandros T. Tzallas, Katerina Tzamourta, Nikolaos Giannakeas and Markos Tsipouras
18:30 – 18:45	Introducing Algorithmic Thinking in Primary Education in Greece Athanasios Karakostas, Vasilis Liarokapis and Akrivi Vlachou	A bi-directional shortest path calculation speed up technique for RDBMS Kyriakos Koritsoglou, Petros Laskas, Achilles Boursianis, Konstantinos Grigoriadis, Vaios Patras and Ioannis Fudos
18:45 – 19:00	Exploring Pupils' Knowledge and Awareness of E-Waste Recycling in Greece Maria Eftychia Angelaki, Theodoros Karvounidis and Christos Douligeris	A gene visualising database Dimitrios Amanatidis, Kyriakos Kydoniefs and Michael Dossis
	Topic A: <u>Artificial Intelligence and Applications</u> Chair: P. Karvelis Room: A - https://us02web.zoom.us/j/81787299065	Topic B: <u>Design Optimization and Implementation</u> Chair: E. Karvounis Room: B - https://us02web.zoom.us/j/89271536602
19:00 – 19:15	Computational comparison of image preprocessing techniques for plant diseases detection Emmanouil Karantoumanis, Vasileios Balafas, Malamati Louta and Nikolaos Ploskas	Development of a Tool for Auditing Accessibility of Public Infrastructure and Points of Interest in Urban Areas Yiannis Tsampoulatidis, Charisios Achillas, Dimitrios Aidonis, Alexandros Mourouzis and Kyriakos Koritsoglou
19:15 – 19:30	Visible Light Positioning: A Machine Learning Approach Vasileios Rekkas, Sotirios Sotiroudis, David Plets, Wout Joseph and Sotirios Goudos	Evaluation of three structured light 3d scanners for the purpose of augmenting artisanal design and production of silversmithing artefacts in Ioannina Efthimios Apostolakis and Dimosthenis Chatzipanteliadis
19:30 – 20:00	Opening Ceremony Room: A - https://us02web.zoom.us/j/81787299065	
20:00	Cocktail party	

Day 2	Saturday 24/09/2022	
09:30 – 11:00	<p style="text-align: center;">Keynote 2 - Next Generation Internet of Things: Requirements, Applications & Paradigms, Panagiotis Sarigiannidis Associate Professor of Electrical and Computer Engineering, University of Western Macedonia Room: A - https://us02web.zoom.us/j/81787299065</p>	
11:00 – 11:30	Coffee break	
	<p style="text-align: center;">Topic C: <u>e-Health Technologies and Applications</u> Chair: K. Tzimourta & S. Evangelou Room: A - https://us02web.zoom.us/j/81787299065</p>	<p style="text-align: center;">Topic D: <u>Embedded Systems and Applications</u> Chair: C. Douligeris Room: B - https://us02web.zoom.us/j/89271536602</p>
11:30 – 11:45	<p style="text-align: center;">Breast Cancer Classification of Histopathological Images using Deep Convolutional Neural Networks Athanasios Kanavos, Efstratios Kolovos, Orestis Papadimitriou and Manolis Maragoudakis</p>	<p style="text-align: center;">Autonomous Unmanned Ground Vehicle in Precision Agriculture – The VELOS project Antonios Chatzisavvas, Minas Dasygenis and Malamati Louta</p>
11:45 – 12:00	<p style="text-align: center;">A non-invasive closed-loop diagnostic and therapeutic wearable device for diabetic hyperglycemia prevention: System Architecture Vasiliki Fiska, Sofia Evangelou, Nikolaos Giannakeas, Alexandros T. Tzallas, Pantelis Angelidis and Markos G. Tsipouras</p>	<p style="text-align: center;">A Force Estimation Sensor System TestBed for Geological Phenomena Analysis based on Biomimetic Konstantinos Kalovrektis, Apostolos Xenakis, Efthymios Mantalovas, George Stamoulis, Sarantos Psycharis and Niki Evelpidou</p>
12:00 – 12:15	<p style="text-align: center;">ISOMETRIC: An Intelligent System of Outpatient Monitoring Evaluation Towards Rehabilitation In Cloud Athanasios T. Patenidis, Eirini E. Mitsopoulou, Konstantinos Votis and Dimitrios Tzovaras</p>	<p style="text-align: center;">A TinyML-based Alcohol Impairment Detection System For Vehicle Accident Prevention Anargyros Gkogkidis, Vasileios Tsoukas and Athanasios Kakarountas</p>
12:15 – 12:30	<p style="text-align: center;">Variations of pressure data from insoles in normal population during the 10meter walking test and an appropriate parameters' extraction algorithm: a pilot study Dimitris Dimopoulos, Evangelos Kalogirou, Dimitrios N Varvarousis, Vasilis Nakos, Ioannis Manolis, Mohamed Hedi Boughariou, George I Vasileiadis and Avraam Ploumis</p>	<p style="text-align: center;">Radiography Images with Transfer Learning on Embedded System Theodora Sanida, Argyrios Sideris, Antonios Chatzisavvas, Michael Dossis and Minas Dasygenis</p>
12:30 - 12:45	<p style="text-align: center;">A Low Cost IoT TestBed System for Alzheimer's Early Stages Diagnosis in Health 4.0 Application Konstantinos Kalovrektis, Apostolos Xenakis, Dimitra Sofianou, Gavriil Simatos, Georgios Papadopoulos and George Stamoulis</p>	<p style="text-align: center;">Design and implementation of obstacle detection system for powered wheelchairs Giorgos Tatsis, Kyriakos Koritsoglou, Evaggelos Karvounis, Ioannis Fudos, Konstantinos Votis and Dimitrios Tzovaras</p>
12:45 – 13:00	<p style="text-align: center;">Augmented reality training, command and control framework for first responders Oceane Peretti, Yannis Spyridis, Achilleas Sesis, Georgios Efsthathopoulos, Anastasios Lytos, Thomas Lagkas and Panagiotis Sarigiannidis</p>	<p style="text-align: center;">An Intelligent Microprocessor Integrating TinyML in Smart Hotels for Rapid Accident Prevention Angelos Zacharia, Dimitris Zacharia, Aristeidis Karras, Christos Karras, Ioanna Giannoukou, Konstantinos C. Giotopoulos and Spyros Sioutas</p>
13:00 – 13:30	Break	

13:00 – 13:30	<p style="text-align: center;">Topic Poster:</p> <p style="text-align: center;">Reducing Power Consumption in Refrigeration Equipment using IoT Technology: The SmartFridge Project <i>Kyriakos Koritsoglou, Maria Papadopoulou, Achilles Boursianis, Aikaterini Griva, Spyridon Nikolaidis and Sotirios Goudos</i></p> <p style="text-align: center;">Classification and Characterization of Embryo Images for Assisted Reproduction Using Artificial Intelligence and Computer Vision: The SmartEmbryo Project <i>Achilles Boursianis, Maria Papadopoulou, Sotirios Sotiroudis, Lazaros Alexios Iliadis, George Vergos, Themis Gatzoulis, Achilleas Papatheodorou, Kostas Kokkinidis, Spyridon Nikolaidis and Sotirios Goudos</i></p> <p style="text-align: center;">Recognition and Direct Characterization of Cultural Items for the Education and Promotion of Byzantine Music Using Artificial Intelligence: The Ymnodos Project <i>Achilles Boursianis, Maria Papadopoulou, Sotirios Sotiroudis, Lazaros Iliadis, Dimitrios Kampelopoulos, Konstantinos Kokkinidis, Spyridon Nikolaidis and Sotirios Goudos</i></p>	
	<p style="text-align: center;">Session A: Technologies Essentials in Education Chair: S. Doukakis, T. Karvounidis, E. Seralidou Room: A - https://us02web.zoom.us/j/81787299065</p>	<p style="text-align: center;">Session B: Biomedical Technology Chair: A. Tzallas, M. Tsipouras, N. Giannakeas Room: B - https://us02web.zoom.us/j/89271536602</p>
13:30 – 13:45	<p style="text-align: center;">Assessment of data carriers with the SOLO taxonomy in Scratch <i>Theodoros Karvounidis, Anastasios Ladias and Christos Douligeris</i></p>	<p style="text-align: center;">Brain MRI based diagnosis of autoimmune diseases using deep learning <i>Dimitrios Amanatidis, Georgios Chatzisavvas and Michael Dossis</i></p>
13:45 – 14:00	<p style="text-align: center;">Introducing the Fundamentals of Artificial Intelligence to K-12 Classrooms According to Educational Neuroscience Principles <i>Thanassis Drivas and Spyridon Doukakis</i></p>	<p style="text-align: center;">Tourette Syndrome’s Coprolalia Explanation using Bipartite Graph Matching of Thoughts and Game Theoretic Model for Symptoms Minimisation <i>Evangelos Spyrou, Christoforos Nestoris and Chrysostomos Stylios</i></p>
14:00 – 14:15	<p style="text-align: center;">Augmented Reality and Internet of Things Trends in Education <i>Panagiotis Gkotsiopoulos, Eleni Seralidou and Christos Douligeris</i></p>	<p style="text-align: center;">Analysis of Emotions through the Use of Physiological Signals <i>Konstantinos Sakkas, Alexandra Tsogka, Athanasios Gkimitzoudis, Nikolaos Giannakeas, Katerina D. Tzimourta, Markos Tsipouras, Euripidis Glavas and Alexandros Tzallas</i></p>
14:15 – 15:00	<p style="text-align: center;">“Pythagorean Academy” – A game for the teaching of junior high school mathematics using mobile devices <i>Dimitra Tzoumpa, Eleni Seralidou, Athanasios Alougdellis and Christos Douligeris</i></p>	<p style="text-align: center;">Human activity recognition using machine learning techniques <i>Vasileios Nastos, Alexandros Arjmand, Klevis Tsakai, Dimitrios Dimopoulos, Dimitrios Varvarousis, Alexandros Tzallas, Nikolaos Giannakeas, Avraam Ploumis and Christos Gogos</i></p>
15:00 – 15:30	Lunch break	
	<p style="text-align: center;">Session C: Scheduling and Timetabling in Practice and Theory Chair: C. Gogos, C. Valouxis, P. Alefragis Room: A - https://us02web.zoom.us/j/81787299065</p>	<p style="text-align: center;">Session D: Towards the Self-powered IoT Chair: G. Doumenis, I. Masklavanos Room: B - https://us02web.zoom.us/j/89271536602</p>
15:30 – 15:45	<p style="text-align: center;">A mathematical formulation for constructing feasible solutions for the Post Enrollment Course Timetabling Problem <i>Angelos Dimitsas, Christos Valouxis, Vasileios Nastos and Christos Gogos</i></p>	<p style="text-align: center;">Efficiency of SuperCap storage in energy harvesting micropower supplies <i>Ioannis Masklavanos, Christos Koutsos and Gregory Doumenis</i></p>
15:45 – 16:00	<p style="text-align: center;">Sampling Points Selection Algorithm for Advanced Photolithography Process <i>Aris Magklaras, Christos Gogos, Panagiotis Alefragis, Christos Valouxis and Alexios Birbas</i></p>	<p style="text-align: center;">Design and implementation of an indoors light simulator <i>Vasiliki Naskari, Christos Koutsos and Ioannis Masklavanos</i></p>

16:00 – 16:15	Modeling a balanced commute timetabling problem in the context of teaching Integer Programming Christos Gogos, Angelos Dimitsas, Christos Valouxis and Panayiotis Alefragis	Magnetic harvester for autonomous steel health monitoring sensors Angelos Kastsoulas, Polychronis Pattakos, Spyridon Angelopoulos, Aphrodite Ktena and Evangelos Hristoforou
16:15 - 16:45	Automated identification of fraudulent financial statements by analyzing data traces Evangelos Chytis, Vasileios Nastos, Christos Gogos and Angelos Dimitsas	Lightweight operation scheduling for self-powered IoT devices Ioannis Masklavanos and Gregory Doumenis
16:45 – 17:00	Coffee break	
	Topic E: Human-Computer Interaction Chair: M. Vavva Room: A - https://us02web.zoom.us/j/81787299065	Topic F: Mobile, Ad Hoc and Sensor Network Optimization and Management Chair: G. Tsoumanis Room: B - https://us02web.zoom.us/j/89271536602
17:00 – 17:15	Virtual and augmented experience in cultural places: Their integration in the learning process Virtual and augmented Fotios Mposmos, Alexandros Tzallas, Markos Tsipouras and Nikolaos Giannakeas	A Fairness-aware Coverage Algorithm for Drone Swarms Konstantinos Bezas, Georgios Tsoumanis, Kyriakos Koritsoglou, Konstantinos Oikonomou, Alexandros Tzallas, Nikolaos Giannakeas, Markos Tsipouras and Constantinos Angelis
17:15 – 17:30	A survey on the awareness on Virtual Reality, Internet of Things and Blockchain in the 4th IR era Konstantinos Sakkas, Niki Eleni Ntagka, Panagiota Vinni, Paraskevi Artemi, Aristidis Anagnostakis, Nikolaos Giannakeas, Katerina D. Tzimourta, Alexandros Tzallas and Euripidis Glavas	A Proposed Methodology for Enhancing User Experience in Mobile Applications Design for Cultural Promotion Gerasimos Vonitsanos, Yorghos Voutos, Theodor Panagiotakopoulos, Andreas Kanavos and Phivos Mylonas
17:30 – 18:00	An experimental protocol for exploration of stress in an immersive VR scenario with EEG Andreas Miltiadous, Vasileios Aspiotis, Konstantinos Sakkas, Markos Tsipouras, Ai Husein Sami Abosaleh, Nikolaos Giannakeas, Euripidis Glavas and Alexandros Tzallas	Efficient Peer-to-Peer Unicasting for VANET Architectures via Enhanced Monolithic Protocols George Amponis, Thomas Lagkas, Dimitris Karampatzakis, Panagiotis Radoglou Grammatikis, Vasileios Argyriou, Ioannis Moscholios, Sotirios Goudos and Panagiotis Sarigiannidis
18:00 – 18:15	Applied Virtual Reality in 3D Geometry Konstantinos Sakkas, Alexandra Tsogka, Nikolaos Giannakeas, Katerina D. Tzimourta, Alexandros Tzallas and Euripidis Glavas	Scavenging PyPi for VLSI Packages George Kranas, Antonios Dadaliaris, Panagiotis Oikonomou and Michael Dossis
18:15 – 18:30	Civic Fictions: Exploring the Socio-technical Implications of Augmented Reality in Future Cities through Science Fiction Prototyping Al Husein Sami Abosaleh and Vasilis Vlachokyriakos	Safe Driving Mobile Application using Gamification Platon Dimitriadis, Nikos Dimokas and Petros Karvelis
20:30	Dinner	

Day 3	Sunday 25/09/2022	
	<p>Topic G: Industrial informatics Chair: E. Spyrou Room: A - https://us02web.zoom.us/j/81787299065</p>	<p>Topic H: Social Networks, Crowdsourcing, and Crowdsensing Chair: V. Liagkou Room: B - https://us02web.zoom.us/j/89271536602</p>
09:30 – 10:00	<p>A mink-fur farm livestock management platform. The case of WelMink project Evangelos Tsipis, Panagiotis Karagiannis, Malamati Louta and Thomas Kyriakidis</p>	<p>Social Media and Consumer Behaviour: Exploratory Factor Analysis Dimitrios Amanatidis, Ifigeneia Mylona and Michael Dossis</p>
10:00 – 10:15	<p>Open weather data evaluation for crop irrigation prediction mechanisms in the AUGEIAS project Thomai Karamitsou, Dimitrios Seventekidis, Christos Karapiperis, Konstantina Banti, Ioanna Karampelia, Thomas Kyriakidis and Malamati Louta</p>	<p>Global Graph Clustering and Local Graph Exploration for Community Detection in Twitter Christos Karras, Aristeidis Karras, Konstantinos C. Giotopoulos, Ioanna Giannoukou, Dimitrios Tsolis and Spyros Sioutas</p>
10:15 – 10:30	<p>On Decentralizing Federated Reinforcement Learning in Multi-Robot Scenarios Jayprakash S. Nair, Divya D. Kulkarni, Ajitem Joshi and Sruthy Suresh</p>	<p>Developing a news classifier for Greek using BERT George Gkolfopoulos and Iraklis Varlamis</p>
10:30 – 10:45	<p>Retradeables: the first online marketplace for used F-gases in Europe Nikolaos Barmparitsas, Alice Baronchelli, Sotirios Karellas, Platon Pallis and Sotirios Thanopoulos</p>	<p>Greek Parliament Members on Instagram: A study on building a political image Ifigeneia Mylona, Dimitrios Amanatidis and Michael Dossis</p>
10:45 – 11:15	Coffee break	
	<p>Session E: The Challenges for Skillful Training in the Industry 4.0 Era Chair: C. Stylios, V. Liagkou, A. Christopoulos Room: A - https://us02web.zoom.us/j/81787299065</p>	<p>Topic I: Security and Privacy Chair: A. Anagnostakis Room: B - https://us02web.zoom.us/j/89271536602</p>
11:15 – 11:30		<p>Security and Privacy Vulnerabilities in Human Activity Recognition systems Vasiliki Liagkou, Chrysostomos Stylios and Sofia Sakka</p>
11:30 – 11:45	<p>Proposed Industry 4.0 Maintenance framework for critical and demanding infrastructures and processes Vasileios Karaiskos, Nikolaos Zinas, Theodosios Gkamas, Ion-Anastasios Karolos, Christos Pikridas, Nikolaos Vrettos, Vasileios Tsioukas and Sotirios Kontogiannis</p>	<p>Security Revisited: Honeytokens meet Google Authenticator Vassilis Papaspirou, Maria Papathanasaki, Leandros Maglaras, Ioanna Kantzavelou, Christos Douligeris, Mohamed Amine Ferrag and Helge Janicke</p>
11:45 – 12:00	<p>Bringing Educational Neuroscience to Distance Learning with Design Thinking Konstantinos Dimitropoulos, Stylianos Mystakidis and Maria Fragkaki</p>	<p>A peer, “wallet-only” consensus schema for ownership transfer over finite populations</p>

		Aristidis Anagnostakis, Nikolaos Giannakeas, Alexandros Tzallas, Markos Tsipouras and Euripidis Glavas
12:00 – 12:15	Designing a travel Recommender System Spiridoula V. Margariti, George Pachoulas, Giannis Botilias, Dimitrios Salmas and Chrysostomos Stylios	Self-sovereign, verifiable, ubiquitous and privacy preserving public entity documents through the use of blockchain technology Konstantinos Papageorgiou and Georgios Spathoulas
12:15 – 12:30	Supporting Mechatronics Academic Curriculum Beyond Technical Skills Gilberto Marzano	Participatory, location-based systems in community place-making Alexandra Tzanidou and Vasilis Vlachokyriakos
12:30 – 13:00	Break	
13:00 – 14:30	Conference Closing	