

## Day 1 – Thursday, September 28

### 09.00 – 09.30 Opening

**Mirjana Ivanovic**

Greetings from the General Chair

**Katerina Kabassi, Phivos Mylonas, Jaime Caro**

Greetings from the Program Committee Chairs

**Kitty Panourgia**

Greetings from the Organization Chair

### 09.30 – 10.30 Keynote Speech

**Prof. Stefano A. Cerri**, University of Montpellier, France

Title: Towards foundational principles in Interactive AI: From stamp collecting to Physics

### 10.30 – 12.30 Session 1 : Advances in AI

Session Chair : TBA

**Alexander Anokhin, Tatyana Ereshchenko, Danila Parygin, Danila Khoroshun and Polina Kalyagina**

Applying Machine Learning and Agent Behavior Trees to Model Social Competition

**Chloe de Leon and Richard Bryann Chua**

Secure Genotype Imputation Using the Hidden Markov Model with Homomorphic Encryption

**Dmitry Sasov, Anastasia Donsckaia, Yulia Orlova, Alexander Zubkov, Anna Kuznetsova and Victor Noskin**

Identification of the problem of neural network stability in breast cancer classification by histological micrographs

**Amreen Batool and Yung-Cheol Byun**

Augmented Intelligence Assisted Deep Learning Approach For Multi-Class Skin Cancer Classification

**Erika Rhae Magabo, Anna Liza Ramos, Aaron De Leon and Christian Arcedo**

Combining Convolutional Neural Networks and Rule-Based Approach for Detection and Classification of Tomato Plant Diseases

**Orestis Papadimitriou, Athanasios Kanavos, Phivos Mylonas and Manolis Maragoudakis**

Classification of Alzheimer's Disease Subjects from MRI using Deep Convolutional Neural Networks

**Sadiqa Jafari and Yung Cheol Byun**

Enhancing Predictive Battery Maintenance through the Use of Explainable Boosting Machine

**Aliza Lyca Gonzales, Anna Liza Ramos, Jephtha Michail Lacson, Regie Boy Furigay and Kyle Spencer Go**

Optimizing Image and Signal Processing through the Application of Various Filtering Techniques: A Comparative Study

### 12.30 – 13.00 Break

### 13.00 – 15.00 Session 2 : Advances in Software Engineering

Session Chair : TBA

**Glendel Calvo and Jasmine Malinao**

Mapping hierarchies and dependencies from Robustness Diagram with Loop and Time Controls to Class Diagram

**Vladislav Sukhoverkhov and Anton Anikin**

Development of a module for generating function header tasks through the analysis of textual comments

**Djaber Guassmi, Dehimi Nour El Houda and Mekhlouf Derdour**

Testing open multi-agent systems

**Jorelyn Concepcion, Aurelio Vilbar, Lynnette Matea Camello and Charmaine Lee Cabrera**

Integrating CAD to University's Social Enterprise to Promote Local Weavers' Livelihood and Traditional Craft Preservation

**Cris Niño Sulla and Jasmine Malinao**

Mapping of Robustness Diagram with Loop and Time Controls to Petri Net with Considerations on Soundness

**Stergios Palamas, Yorghos Voutos, Paraskevi Zygoura, Phivos Mylonas and Vasileios Chasanis**

Using Web Technologies to Implement a Modular Integrated System for Augmented Tourism Destinations

**Kliezl Eclipse and Jasmine Malinao**

Model Decomposition of Robustness Diagram with Loop and Time Controls to Sequence Diagrams

**Boukelloul Soufiene, Dehimi Nour El Houda and Dardour Mekhlouf**

Testing multi-agent systems using the mutation analysis technique

15.00 – 15.30

Break

15.30 – 17.30

**Session 3 : Data Analysis and Knowledge Representation**

Session Chair : TBA

**Lamia Bendebane, Zakaria Laboudi and Asma Saighi**

Mental Disorders Prediction from Twitter Data: Application to Syndromic Surveillance Systems

**Aydin Ozan Cetintas and Halit Apaydin**

Modeling and Prediction of Meteorological Parameters Using the Arima and LSTM Methods: Sivas Province Case

**Dimitrios Tsakiridis and Anastasios Vasileiadis**

A Computing System for the recording and integrating medical data of patients undergoing hemodialysis treatment

**Konstantinos Gratsos, Stefanos Ougiaroglou and Dionisis Margaritis**

A web tool for k-means clustering

**Jannie Fleur Orano, Jerome Jack Napala, Jonah Flor Oraño and Janrey Elecito**

Automated Coral Lifeform Classification using YOLOv5: A Deep Learning Approach

**Michalis Feidakis, Gregoris Maros and Angelos Antikantzidis**

A Deep learning model to recognise facial emotion expressions

**Polina Galyanina, Natalya Sadovnikova, Tatiana Smirnova, Artyom Zalinyan and Ekaterina Baranova**

Ontological Model of Knowledge Representation for Assessing the City Visual Environment Quality

**Alexander Katyshev, Anton Anikin and Alexey Zubankov**

Bidirectional Transformers as a Means of Efficient Building of Knowledge Bases: A Case Study with XLM-RoBERTa

17.30 – 19.30

**Session 4 : Educational Technologies and AI in Education I**

Session 4 & 5 will  
be held in parallel

Session Chair : TBA

**Fateh Benkhalfallah and Mohamed Ridda Laouar**

Artificial Intelligence-Based Adaptive E-Learning Environments

**Kenneth Louis Cavanlit, Ericka Mae Encabo and Aurelio Vilbar**

Using Recorded Lectures in Teaching Higher Education in an Online Remote Learning Context

**Aurelio Vilbar**

Hybrid-Service Learning during Disasters: Coaching Teachers Develop Sustainability-Integrated Materials

**Zoe Kanetaki, Sebastien Jacques, Constantinos Stergiou and Panagiotis Panos**

National Unemployment Recovery Initiative NextGenerationEU: Social Impact of Lifelong Learning in Computer Aided Design

**Loubert John P. Go, Ericka Mae Encabo, Aurelio P. Vilbar and Yolanda R. Casas**

Social Media to Develop Students' Creative Writing Performance

**Crysali Therese Dayaganon, Judith Aleguen, Marichou Carreon, Virginia Albarracin and Aurelio Vilbar**

Using CAD to Preserve Local Traditional Weaving Craft in Teaching Mathematics

**Konstantinos Chytas, Anastasios Tsolakidis, Evangelia Triperina, Nikitas N. Karanikolas and Christos Skourlas**

An Integrated Platform for Educational and Research Management Using Institutional Digital Resources

**Hadjer Mosbah, Karima Boussaha and Samia Drissi**

Rescue Under-Motivated Learners Who Studied Through MOOCs by Prediction and Intervention

**17.30 – 19.30**

**Session 5 : Educational Technologies and AI in Education II**

Session 4 & 5 will  
be held in parallel

Session Chair : TBA

**Sandra Katz, Pamela Jordan, Patricia Albacete and Scott Silliman**

Debriefings on Prehospital Care Scenarios in MedDbriefer—A Tool to Support Peer Learning

**Elias Dritsas, Maria Trigka and Phivos Mylonas**

Mental Confusion Prediction in e-Learning Contexts with EEG and Machine Learning

**Yavor Dankov**

The Game Designer's Perspectives and the DIZU-EVG Instrument for Educational Video Games

**Maria-Sofia Georgopoulou, Christos Troussas and Cleo Sgouropoulou**

A Conceptual Framework for a Critical Approach to the Digital World: Integrating Digital Humanities and Informal Learning into Educational Design

**Yavor Dankov**

The Designer-Oriented Process Analysis of Utilizing the DIZU-EVG Instrument for Educational Video Games

**Jeremy King L. Tsang, Gorge Lichaël Vann N. Vedasto, Jozelle C. Addawe, Jaime D.L. Caro and Richelle Ann B. Juayong**

Iskowela: Student Recruitment Platform and Marketing Tool for Educational Institutions

**Houssam Ahmed Amin Bahi, Karima Boussaha and Zakaria Laboudi**

Meta-Features based architecture for the automatic se-lection of prediction models for MOOCs

**Chrysa Fraggista, Akrivi Krouska, Christos Troussas and Cleo Sgouropoulou**

Exploring the use of augmented reality in teaching history to students with attention-deficit hyperactivity disorder

## Day 2 – Friday, September 29

**09.00 – 10.00**

**Keynote Speech**

**Prof. Michael L. Tee**, University of the Philippines Manila

Title: Healthcare in the time of AI

**10.00 – 12.00**

**Session 6 : Emerging Technologies and Ecosystems**

Session Chair : TBA

**John Christidis, Helen C. Nelly Leligou and Pericles Papadopoulos**

Blockchain-Enhanced Labor Protection: An Innovative Complaint Platform for Transparent Workplace Compliance and Fair Competition

**Denis Sinkevich, Anton Anikin and Vladislav Smirnov**

Embracing Blockchain Technology in Logistics

**Marouf Ismahene, Saighi Asma, Kouah Sofia and Laboudi Zakaria**

e-Health Cloud Based Systems: A survey on security challenges and solution

**Christos Kampouris, Philip Azariadis and Vassilis Moulaniitis**

Introducing a Biomimetic Rig for Simulating Human Gait Cycles and its Potential Applications

**Stefanos Karnavas, Dimitrios Kardaras, Christos Troussas, Stavroula Barbounaki, Panagiota Tselenti and Athanassios Kyriazis**

Developing and accessing policies in maritime education using multicriteria analysis and fuzzy cognitive map models

**Hermiñiño Lagunzad, Mikee Gonzaga and Carolyn Samonteza**

Development and Implementation of File Security using Raspberry pi with an Advanced Encryption Standard (AES) Algorithm

**Asma Merabet, Asma Saighi and Zakaria Laboudi**

Artificial Intelligence and Internet of Medical Things for Medical Decision Support Systems: Comparative Analysis

**Chaima Hannachi, Sofia Kouah and Meryem Ammi**

Internet of Everything based Intelligent System for Sleep Recording and Analysis

**12.00 – 12.30** Break

**12.30 – 14.30** **Session 7 : Mixed Reality**

*Session Chair : TBA*

**Christos Papakostas, Christos Troussas, Panagiotis Douros, Maria Poli and Cleo Sgouropoulou**

CoMoPAR: A Comprehensive Conceptual Model for Designing Personalized Augmented Reality Systems in Education

**Andrianthi Kapetanaki, Akrivi Krouska, Christos Troussas, Cleo Sgouropoulou and Stavroula Drosou**

Augmented Reality for Enhancing Linguistic Skills of International Students in Preschool Education

**Amadeus Rex Lisondra, Ryosuke Josef Nakano, Miguel Pardiñas, Josiah Cyrus Boque, Jaime Caro and Richelle Ann Juayong**

UP V-Ikot: Augmented Reality Mobile Application to Assist Campus Visits and Tours Inside the UP Diliman Campus

**Marios Iakovidis, Christos Papakostas and Christos Troussas**

Empowering responsible digital citizenship through an augmented reality educational game

**Andreas Maroungas, Christos Troussas, Akrivi Krouska and Cleo Sgouropoulou**

Crafting Immersive Experiences: A Multi-Layered Conceptual Framework for Personalized and Gamified Virtual Reality Applications in Education

**Lonnie France Gonzales, Frances Lei Ramirez, Samuel Kirby Aguilar, Richelle Ann Juayong, Jaime Caro, Veeda Michelle Anlacan and Roland Dominic Jamora**

Home Bound: Virtual Home for Reminiscence Therapy of Dementia Patients

**Panagiotis Strousopoulos, Christos Troussas, Christos Papakostas, Akrivi Krouska and Cleo Sgouropoulou**

Revolutionizing Agricultural Education with Virtual Reality and Gamification: A Novel Approach for Enhancing Knowledge Transfer and Skill Acquisition

**Josiah Cyrus Boque, Maria Eliza Aguila, Jaime Caro, Cherica Tee, Bryan Andrei Galecio, Isabel Teresa Salido, Romuel Aloizeus Apuya, Michael Tee, Veeda Michelle Anlacan and Roland Dominic Jamora**

Moving in Space: Development Process Analysis on a Virtual Reality Therapy Application for Children with Cerebral Palsy

**14.30 – 15.00** Break

**15.00 – 17.00** **Session 8 : Smart Technologies and Intelligent Systems**

*Session Chair : TBA*

**Viktor Ulev**

Case Study of Organization of Decision-Making and Feedback Synthesis in Intelligent Tutoring Systems with a Cross-Cutting Approach

**Alexander Khayrov, Olga Shabalina, Natalya Sadovnikova, Alexander Kataev and Tayana Petrova**

Computer-Aided Development of Adaptive Learning Games

**Halima Mahideb, Sofia Kouah and Ahmed Ahmim**

Intelligent Air Quality Monitoring System a Comprehensive Review

**Dimosthenis Margaritis, Helen C. Leligou and Dimitrios G. Kogias**

One Dimensional Fingerprinting as an alternative to the Free Space Path Loss equation for indoor positioning

**Mohamed Salah Benkhalfallah, Sofia Kouah and Meryem Ammi**

Smart Energy Management Systems

**Maria Poli, Konstantinos Malagas, Spyridon Nomikos, Apostolos Papapostolou and Grigorios Vlassas**

The Interaction of People with Disabilities with the Intelligent Packaging



**September 28 – 29**  
**Athens, Greece**  
**(Hybrid)**

# Conference Program

The timetable corresponds to Eastern European Summer Time (EEST); UTC+3 hours

**Nikolay Rashevskiy, Danila Parygin, Konstantin Nazarov, Ivan Sinitsyn and Vladislav Feklistov**

Intelligent Assessment of the Acoustic Ecology of the Urban Environment

**Maria Anastasia Katikaridi**

Importance and Effectiveness of Delurking

## 17.00 – 18.15 Session 9: IoT and Smart Cities

Session 9 & 10 will be held in parallel

Session Chair : TBA

**Sofia Kouah, Abdelghani Ababsa and Ilham Kitouni**

Internet of Things based Smart Healthcare System

**Apple Rose Alce, Jerina Jean Ecleo and Adrian Galido**

Exploring Smart City Analytical Framework: Evidence from Select Case Studies

**Nadjem Eddine Menaceur, Sofia Kouah and Makhlof Derdour**

IoT-Based Intelligent Medical Decision Support System for Cardiovascular Diseases

**Maria Poli, Konstantinos Malagas and Spyridon Nomikos**

The Interaction of Disabled People and New Forms of Packaging: A Holistic Approach

**Sabrina Mehdi, Sofia Kouah and Asma Saighi**

Internet of Wearable Things Systems: Comprehensive Review

## 17.00 – 18.15 Session 10: User Experience and Human-Computer Interaction

Session 9 & 10 will be held in parallel

Session Chair : TBA

**Theodosios Sapounidis, Ioannis Kedros and Pavlos Mantziaris**

DuckyCode: A hybrid platform with graphical and tangible user interfaces to program educational robots

**Jeraline Gumalal and Aurelio Vilbar**

Design thinking (DT) and user experience (UX) as springboard to teacher-made mobile applications

**Maria Klouvidaki, Stelios Tsafarakis and Evangelos Grigoroudis**

Readers' satisfaction from online news websites

**Michael Dela Fuente, Carlo Inovero and Larry Vea**

Emotion Recognition through Accelerometer and Gyroscope Sensors: A Pilot Study

**Kurt Ian Khalid I. Israel, Kim Bryann V. Tuico, Richelle Ann B. Juayong, Jaime D.L. Caro and Jozelle C. Addawe**

HomeWorks: Designing Mobile Applications to Introduce a Digital Platform for the Household Services Sector

## 18.15 – 18.30 Workshop

Title: **Lexais app: Connecting legal professionals and customers online**

Presenter: **Zilvinas Varanka**

## 18.30 – 18.45 Closing & Best Paper Awards

### Note:

- All the papers should have a **15-minute** duration **including Q&A** (13 minutes for oral presentation, 2 minutes for answering questions from the audience).
- The timetable of the NiDS2023 Program corresponds to **Eastern European Summer Time (EEST); UTC+3 hours**.
- The **NiDS2023 Conference link** is : [Click here to join the meeting](https://teams.microsoft.com/join/19%3amoxd5sQJVPW_DuuhkMZPUfKTGEAkzNaiSIVOESYF-U1%40thread.tacv2/1693846772197?context=%7b%22id%22%3a%220c8943ee-c370-4bb3-ba51-321f406f32ec%22%2c%22oid%22%3a%224d87f611-a6f2-4156-8750-bfe9b354823d%22%7d) \*  
 Meeting ID: 322 858 327 679 Passcode: 4AH6o9  
 (for all sessions except from 5 & 10)
- The **link of Sessions 5 & 10** is : [Click here to join the meeting](https://teams.microsoft.com/join/19%3amoxd5sQJVPW_DuuhkMZPUfKTGEAkzNaiSIVOESYF-U1%40thread.tacv2/1693847394734?context=%7b%22id%22%3a%220c8943ee-c370-4bb3-ba51-321f406f32ec%22%2c%22oid%22%3a%224d87f611-a6f2-4156-8750-bfe9b354823d%22%7d) \*\*  
 Meeting ID: 340 822 568 774 Passcode: LQnvGb

\* [https://teams.microsoft.com/join/19%3amoxd5sQJVPW\\_DuuhkMZPUfKTGEAkzNaiSIVOESYF-U1%40thread.tacv2/1693846772197?context=%7b%22id%22%3a%220c8943ee-c370-4bb3-ba51-321f406f32ec%22%2c%22oid%22%3a%224d87f611-a6f2-4156-8750-bfe9b354823d%22%7d](https://teams.microsoft.com/join/19%3amoxd5sQJVPW_DuuhkMZPUfKTGEAkzNaiSIVOESYF-U1%40thread.tacv2/1693846772197?context=%7b%22id%22%3a%220c8943ee-c370-4bb3-ba51-321f406f32ec%22%2c%22oid%22%3a%224d87f611-a6f2-4156-8750-bfe9b354823d%22%7d)

\*\* [https://teams.microsoft.com/join/19%3amoxd5sQJVPW\\_DuuhkMZPUfKTGEAkzNaiSIVOESYF-U1%40thread.tacv2/1693847394734?context=%7b%22id%22%3a%220c8943ee-c370-4bb3-ba51-321f406f32ec%22%2c%22oid%22%3a%224d87f611-a6f2-4156-8750-bfe9b354823d%22%7d](https://teams.microsoft.com/join/19%3amoxd5sQJVPW_DuuhkMZPUfKTGEAkzNaiSIVOESYF-U1%40thread.tacv2/1693847394734?context=%7b%22id%22%3a%220c8943ee-c370-4bb3-ba51-321f406f32ec%22%2c%22oid%22%3a%224d87f611-a6f2-4156-8750-bfe9b354823d%22%7d)

