25th International Conference on Interactive Collaborative Learning
51st IGIP International Conference on Engineering Pedagogy

ICL2022
„**Learning in the Age of Digital and Green Transition**"

Hilton Park Vienna, Austria, 27–30 September 2022

# ICL Special Session Call for Papers

## Title

***A**rtificial intelligence, cross **R**eality, digital **T**wins in **E**ducation*

## Acronym

*ARTiE*

## Overview

*In this Special Session, we focus on three amazing technologies: Artificial Intelligence (AI), Cross Reality (XR), and Digital Twins (DT) and their influence on education, especially higher education. AI is a key to many modern and future innovations in different areas. XR introduces new dimensions into our experience. DT offers promising opportunities for the digital representation of real objects (physical twins) for different purposes.*

*But what can we achieve if we combine these technologies? What new value can we offer to society in general and to education and learning? What are both existing and potential use cases for such an advancement? In this Special Session, we are going to find answers to these questions. Our aim is to show the benefits of a synergy of AI, XR, and DT. At this stage, it is too early to say about the complete combination of these techniques, however, elements of a future technology of Intelligent XR-based Digital Twins are already being developed. We would like to initiate a discussion on this matter among the interested researchers. We named this Special Session the ART because it is a kind of art so far to create a DT based on elements of AI and XR. But we would like to find a way how to make a transition from heuristic to universal methods of creating such advanced DTs. We invite you to share your experience and ideas on this promising topic.*

## Topics

- *Data collecting, processing, Interoperability and quality for intelligent XR systems*
- *Deep Learning architectures for XR and DT applications*
- *Mobile AR solutions and Tiny Machine Learning*
- *AI methods for personal intelligent DT*
- *Data analysis for DT applications and Data Science*
- *Formal methods for DT development*
- *Visual modelling for XR and DT*
- *Mulsemedia elements for DT*

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- *Data fusion methods for DT*
- *Physical Twins behaviour modelling*
- *Software tools and methods for AI, XR, and DT*
- *AI+DT use cases*
- *DT applications for education*

## Submission

*Please submit using the conftool submission server. We kindly ask you to follow the instructions from the conference website.*

## Deadlines

*The submission deadline is the 30th of May 2022. Please follow the conference website for actual changes.*

## Review and publication

*The papers will be reviewed in by the special session program committee. The camera-ready version of the accepted papers should be submitted by the 11th of July and the presenting author should register as a conference participant until that day. These are the necessary conditions to include an accepted paper in the program.*

*Accepted papers, which had been presented at the conference, will be published in ICL2022 Proceedings with Springer in the series Lecture Notes in Networks and Systems.*

## Program Committee

### Chair(s)

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