

Computational XR medicine: accelerate world's transition to medical VR training with applied computer graphics research

(Υπολογιστική ιατρική με χρήση XR: επιτάχυνση της μετάβασης του κόσμου στην ιατρική εκπαίδευση εικονικής πραγματικότητας με εφαρμοσμένη έρευνα γραφικών υπολογιστών)

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Computational medical XR (extended reality) unifies the computer science applications of intelligent reality, medical virtual reality, medical augmented reality and spatial computing for medical training, planning and navigation content creation. It builds upon clinical XR by bringing on novel low-code/no-code XR authoring platforms, suitable for medical professionals as well as XR content creators. In this talk we aim to show that new integrated XR software platforms and simulation-training authoring tools are needed to allow rapid prototyping of medical VR/XR training, as part of new “computational medical XR” discipline that tackles medical education, preoperative planning, and real-time operative navigation under a new, holistic integrated systems approach. Medical schools, dental schools, nursing academies, medical device companies, hospitals and surgical training centers are now leading in-house the “VRification” of their curricula, hence driving themselves further the adoption and customization of their medical VR modules. Through the ability to control and develop their own XR training material, they can ensure their medical professionals are properly and (continuously) trained while ensuring optimal patient outcomes and fewer medical errors/complications. In the last parts of the talk, we are also sharing some of our key experiences in the field of academic entrepreneurship and key lessons learned.



Assoc. Prof. George Papagiannakis is a computer scientist specialized in computer graphics systems, extended reality algorithms and geometric algebra computational models. He is currently associate professor at the Computer Science department of the University of Crete, Greece, associated faculty member at FORTH-ICS with the Human Computer Interaction Lab and visiting associate professor at the University of Geneva. His research and development interests are centered in the field of high-fidelity interactive computer graphics systems for human computer interaction, featuring embodied presence, psychomotor learning and gamification with simulated virtual humans in extended reality based on geometric algebra computational models. In 2016 he co-founded ORamaVR as a deep-technology spatial computing medical VR startup from FORTH, building the world's most intelligent, symbiotic VR authoring machine for the rapid acceleration of human learning in medicine.

Ομιλία: **Τετάρτη 27-10-2021 14.00 – 15.00**

Αμφιθέατρο ΗΜΜΥ

Live streaming: <http://lsi.gr/comp>

Διοργανωτής: Φοιτητική Ομάδα Game Development