CHRISTOS LOUGIAKIS

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PROFESSIONAL EXPERIENCE

Technical Lead, ATHENA Research and Innovation Center, GR *November 2019-Present*

- Participating in national and EU-funded projects for the Narralive team (https://www.narralive.org/).
- Leading software design and development, focusing on user interaction and engagement.
- **NoFold – Social VR/MR Platform for Board Games:**
  - Leading the creation of a platform for board game creators and players.
  - Conducting quantitative and qualitative studies with creators gathering user requirements.
  - Implementing interactions through rapid prototyping using Unity, Meta SDKs and Photon.
  - Successfully demoed an early prototype to tens of users at the FDG 2023 conference.
- **Narralive Suite:** Leading the design unification of the team's web tools for interactive digital narratives.

Web and Unity Engineer, ATHENA Research and Innovation Center, GR *January 2017-October 2019*

- Software engineer on the front-end aspects of the EU-funded project EMOTIVE (https://emotiveproject.eu/).
- Collaborated with European partners to enhance heritage site experiences through emotional storytelling.
- **Narralive tools:** Designed and developed web-based authoring and experiencing systems for interactive narratives in cultural heritage using Angular and Bootstrap. The systems have been used by hundreds of users.
- **Catalhoyuk VR:**
  - Coordinated the design and implementation of a multi-user VR experience for a remote archaeological site.
  - Designed and developed all interactions and game logic using Unity, SteamVR and Photon.
  - Successfully evaluated with hundreds of users and made public on itch.io (https://narralive.itch.io/catalhoyuk-vr).

Full-Stack Web Engineer and IT Support, CERN, CH *October 2014-September 2015*

- Technical student working as a software engineer for CERN's S'Cool LAB Project.
- Responsible for the design and implementation of two websites, for both the front and the back end using Drupal and MySQL. Provision of technical support for CERN's Education Department.

RESEARCH EXPERIENCE

Visiting Research Scholar - 3DI Lab, Virginia Tech, USA *October 2023-April 2024*

- Designed, implemented, and ran a user study for exploring the effects of physics-based hand interaction on users.
- Used Unity, Meta Interaction SDK and Hand Physics Toolkit (HPTK).
- Advisor: Doug Bowman

Research Assistant, National and Kapodistrian University of Athens, GR *January 2023-Present*

- Researcher assistant for the EU-funded project CAPHE (https://www.caphe.space/).
- Collaborating with diverse artists, philosophers, architects, and educators on XR technology and research, delivering open presentations, tutorials, and demos.
- **Opera VR performance:** Conceptualized, designed and developed a proof-of-concept for blending opera with real-time VR performance using Unity and VRTK. The result was a part of a live concert in Kenya.

Research Assistant, National and Kapodistrian University of Athens, GR *October 2020-September 2022*

- Research assistant for the EU-funded research project BRIDGES (https://www.bridges-horizon.eu/).
- Collaborated with European partners on a holistic solution for co-located group experiences in room-scale immersive XR.
- Explored different **evaluation methods in XR experiences** through a user study.
- Contributed to designing 2 XR use-case scenarios: a **virtual visit to Ancient Athens** and a **firefighter training simulation**.

EDUCATION

PhD - Computer Science, National and Kapodistrian University of Athens, Greece *June 2020-Fall 2024*
- Research interests: HCI, Virtual Reality, UX , Physics-simulated Hand Interaction, Avatars, Embodiment, Perception.
- Advisor: Maria Roussou

MSc - Computer Science, National and Kapodistrian University of Athens, Greece *October 2017-March 2020*
- Thesis in the field of HCI and VR: "*Effects of Virtual Hand Representation on Interaction and Embodiment in HMD-based Virtual Environments Using Controllers*"

BSc - Computer Science, National and Kapodistrian University of Athens, Greece *April 2007-February 2016*

SKILLS

- **Programming tools:** C#, Unity, VS Code, Git.
- **Unity SDKs and Libraries:** XR Interaction Toolkit, Meta XR SKDs, VRTK-Tilia, SteamVR, HPTK, Animation Rigging, ML-Agents, Photon, NormCore.

TEACHING AND SERVICE

Course Assistant, Department of Informatics and Telecommunications, NKUA, GR
- Human-Computer Interaction (ΥΣ08) – Fall 2018, 2019, 2020, 2021, 2022
- Design and Use of Database Systems (K29) – Spring 2022

Student Mentorship
- 1 undergraduate research student (VR, Reinforcement Learning), Department of Computer Science, Virginia Tech, USA
- 4 bachelor and 2 master theses (VR/AR/MR, HCI), Department of Informatics and Telecommunications, NKUA, GR

Reviewer: CHI (2022, 2023, 2024), IEEE VR (2024), FDG (2022), Virtual Reality Journal (2021)

AWARDS

- **PhD Research Mobility Scholarship,** Partnership of Fulbright and IKY-State Scholarships Foundation**,** 2023.
- **Gary Marsden Travel Award,** ACM SIGCHI, 2021.

SELECTED PUBLICATIONS

- **Lougiakis, C.**, Gonzalez, J., Ganias, G., Katifori, A., Ioannidis, I.-P, & Roussou, M. (2024) "*Comparing Physics-based Hand Interaction in Virtual Reality: Custom Soft Body Simulation vs. Off-the-Shelf Integrated Solution*". IEEE VR.
- Kougioumtzian, L., **Lougiakis, C.**, & Katifori. A., (2023). *""Show your cards!": What do creators need for the game design process?"*. FDG.
- Ganias, G., **Lougiakis, C.**, Katifori, A., Roussou, M., Ioannidis, Y., & Ioannidis, I. P. (2023). *"Comparing Different Grasping Visualizations for Object Manipulation in VR using Controllers"*. IEEE TVCG.
- Katifori, A., **Lougiakis, C.**, & Roussou, M. (2022). *"Exploring the Effect of Personality Traits in VR Interaction: the Emergent Role of Perspective-Taking in Task Performance"*. Frontiers in Virtual Reality.
- Katifori, A., **Lougiakis, C.**, & Roussou, M. (2021). *"The Role of High-fiving for Sustaining Engagement in Social VR Experiences"*. CHI 2021 SocialVR Workshop.
- **Lougiakis, C.**, Katifori, A., Roussou, M., & Ioannidis, I.-P. (2020). *"Effects of Virtual Hand Representation on Interaction and Embodiment in HMD-based Virtual Environments Using Controllers"*. IEEE VR.