CHRISTOS LOUGIAKIS

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PROFESSIONAL EXPERIENCE

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

- Leading the R&D of national and EU-funded projects of the Narralive team (https://www.narralive.org/)
- Focusing on user interaction and engagement.
- **NoFold – Social VR/MR Platform for Board Games:**
  - Leading the creation of a next generation platform for board game creators and players.
  - Conducting quantitative and qualitative studies with creators gathering user requirements.
  - Implementing player interactions through rapid prototyping using Unity, Meta's SDKs and Photon.
  - VR Demo of early prototype at the FDG 2023 conference and MR Demo at Meta's Hackathon 2024 and local events.
- **Narralive Suite:** Unifying the team's web tools for interactive digital narratives.
- Writing project proposals for grant applications (so far 2 European and 4 national).

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/).
- **Narralive tools:**
  - Designed and developed web-based authoring and experiencing systems for interactive narratives in cultural heritage.
  - Used 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.
- Designed and developed 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*

- Research on physics-based hand interaction: designed, implemented, and ran user studies.
- Used Unity, Meta Interaction SDK and a self-custom version of Hand Physics Toolkit (HPTK).
- Advisor: Doug Bowman

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

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

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

- Collaborated with European partners on a holistic solution for co-located group experiences in room-scale immersive XR for the EU-funded research project BRIDGES (https://www.bridges-horizon.eu/).
- Explored different **evaluation methods in XR experiences** through a user study with 38 participants.
- 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 topics: 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 3 master theses (VR/AR/MR, HCI), Department of Informatics and Telecommunications, NKUA, GR

Reviewer: CHI ('22, '23, '24), IEEE VR ('24), VRST ('24), Frontiers of VR ('24), FDG ('22), Virtual Reality Journal ('21)

AWARDS

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

SELECTED PUBLICATIONS

- **"Effects of Different Tracker-driven Direction Sources on Continuous Artificial Locomotion in VR"**, *Lougiakis, C.*, Mandilaras, T., Katifori. A., Ganias, G., Ioannidis, I.-P, & Roussou, M. (2024), VRST.
- ***"Comparing Physics-based Hand Interaction in Virtual Reality: Custom Soft Body Simulation vs. Off-the-Shelf Integrated Solution"**, Lougiakis, C.*, Gonzalez, J., Ganias, G., Katifori, A., Ioannidis, I.-P, & Roussou, M. (2024), IEEE VR.
- ***"Comparing Different Grasping Visualizations for Object Manipulation in VR using Controllers"***, Ganias, G., *Lougiakis, C.*, Katifori, A., Roussou, M., Ioannidis, Y., & Ioannidis, I. P. (2023), IEEE TVCG.
- ***"Exploring the Effect of Personality Traits in VR Interaction: the Emergent Role of Perspective-Taking in Task Performance",*** Katifori, A., *Lougiakis, C.*, & Roussou, M. (2022), Frontiers in Virtual Reality.
- ***"The Role of High-fiving for Sustaining Engagement in Social VR Experiences"***, Katifori, A., *Lougiakis, C.*, & Roussou, M. (2021), CHI 2021 SocialVR Workshop.
- ***"Effects of Virtual Hand Representation on Interaction and Embodiment in HMD-based Virtual Environments Using Controllers"***, *Lougiakis, C.*, Katifori, A., Roussou, M., & Ioannidis, I.-P. (2020), IEEE VR.