# CHRISTOS LOUGIAKIS

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## 💻 PROFESSIONAL EXPERIENCE

**Technical Lead**, ATHENA Research and Innovation Center, GR          *November 2019-Present*
- Supporting 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 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.
- **Narralive Suite:** Unifying the team's web tools for interactive digital narratives.
- Writing project proposals for grant applications (so far 2 European and 2 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 a user study with 17 participants.
- 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 focus: 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 (Κ29) – 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), Frontiers of 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

- *"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.
- ***""Show your cards!": What do creators need for the game design process?"***, Kougioumtzian, L., *Lougiakis, C.,* & Katifori. A., (2023), FDG.
- *"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.