# Jose Luis Ponton

PH.D. STUDENT · COMPUTER ANIMATION · XR · COMPUTER GRAPHICS

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## Education

**Universitat Politècnica de Catalunya**                                                   *Barcelona, Spain*

PH.D. IN COMPUTING                                                                         *Nov. 2022 - Present*

- Researching and developing deep learning-based tools to advance human motion understanding and provide high-quality avatar motion in VR applications.
- Supervisors: Nuria Pelechano and Carlos Andujar.
- Awarded a Ph.D. scholarship FPU 2021 (code FPU21/01927) from the Spanish Administration.

**Universitat Politècnica de Catalunya**                                                   *Barcelona, Spain*

M.SC. IN INNOVATION AND RESEARCH IN INFORMATICS                                           *Sep. 2020 - Jul. 2022*

- Grade: 9.15/10.00
- Specialization in Computer Graphics and Virtual Reality
- Thesis: Motion Matching for Character Animation and Virtual Reality Avatars in Unity

**Universitat Politècnica de Catalunya**                                                   *Barcelona, Spain*

B.S. IN COMPUTER SCIENCE AND ENGINEERING                                                  *Sep. 2016 - Jul. 2020*

- Grade: 9.03/10.00 (Rank 3 of 239).
- Thesis: Navigation and collaboration techniques for Virtual Reality.

## Research Experience

**ViRVIG Research Group - Universitat Politècnica de Catalunya**                           *Barcelona, Spain*

RESEARCHER                                                                                *May. 2021 - Nov. 2022*

- Researched real-time motion synthesis for character animation and VR avatars: Deep Learning, Motion Matching, IK and Motion Capture.
- Developed an open-source Unity package to easily integrate VR self-avatars to any application. https://github.com/UPC-ViRVIG/AvatarGo.

**CYENS Centre of Excellence**                                                            *Nicosia, Cyprus*

RESEARCH INTERN                                                                           *Jul. 2022 - Sep. 2022*

- Researched Deep Learning for data-driven character animation from sparse input data.
- Supervisor: Dr. Andreas Aristidou.

**ViRVIG Research Group - Universitat Politècnica de Catalunya**                           *Barcelona, Spain*

RESEARCH INTERN                                                                           *Apr. 2019 - Apr. 2021*

- Developed collaborative VR and AR tools for visualizing and interacting with architectural designs. Project in collaboration with Temple Expiatori de la Sagrada Família.

## Skills

|   |   |
|---|---|
| **Programming** | Python, C#, C++, LaTeX, R, CUDA, GLSL/HLSL |
| **Game Engines/Libraries/SW** | Unity, PyTorch, Blender, Git, SteamVR, Oculus, ARCore |
| **Languages** | English, Spanish, Catalan |

## Publications

**Animation Fidelity in Self-Avatars: Impact on User Performance and Sense of Agency**

HAORAN YUN, **JOSE LUIS PONTON**, CARLOS ANDUJAR, NURIA PELECHANO

30th IEEE Conference on Virtual Reality and 3D User Interfaces. Mar. 2023. Shanghai, China.

**Combining Motion Matching and Orientation Prediction to Animate Avatars for Consumer-Grade VR Devices**

**JOSE LUIS PONTON**, HAORAN YUN, CARLOS ANDUJAR, NURIA PELECHANO

ACM SIGGRAPH/Eurographics Symposium on Computer Animation (SCA). Sep. 2022. Durham, United Kingdom. (10.1111/cgf.14628)

https://upc-virvig.github.io/MMVR/

**AvatarGo: Plug and Play self-avatars for VR**

**JOSE LUIS PONTON**, EVA MONCLUS, NURIA PELECHANO

Eurographics 2022 - Short Papers. May. 2022. Reims, France. (10.2312/egs.20221037).

# Selected Projects

Please, visit my website for a complete list of my projects: https://joseluisponton.com/projects

**Motion Matching**

Motion Matching implementation for the Unity game engine. It includes a spring-based character controller, BVH-accelerated search, inertialization blending, automatic and customizable feature extraction/selection, foot lock, among other features.

https://github.com/JLPM22/MotionMatching