

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

XR4ED - Universitat Politècnica de Catalunya

Barcelona, Spain

RESEARCH AND DEVELOPMENT ENGINEER

Jan. 2023 - Present

- Researching and developing a framework for animating virtual human avatars in the context of XR applications for education.
- European Project <https://cordis.europa.eu/project/id/101093159>

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.

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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. (10.1109/VR55154.2023.00044)

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>