Jose Luis **Ponton**

GENERATIVE AI · DEEP LEARNING · CHARACTER ANIMATION · COMPUTER GRAPHICS · XR/VR

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Summary

Recent Ph.D. graduate specializing in character animation and artificial intelligence for virtual humans. Currently a Research Intern at Meta Reality Labs, with previous experience at the Max Planck Institute for Informatics and a tech startup, where I contributed to motion capture and animation pipelines. Passionate about applying state-of-the-art technology to create the next generation of characters for games, film, and interactive media.

Experience

Meta   *Zurich, Switzerland*

RESEARCH SCIENTIST INTERN   *Jun. 2025 - Jan. 2026*

- Researched and developed scalable AI-based motion stylization.
- Supervisor: Petr Kadleček.

Hyper Online (Y Combinator startup)   *(Remote) San Francisco, California, USA*

RESEARCH ENGINEER - FREELANCE   *Feb. 2024 - Jan. 2025*

- Developed the computer vision-based motion capture pipeline for Hyper's desktop application. Integration and post-processing of computer vision-based pose, hand and face tracking techniques, and retargeting to skeletal models.
- Researched AI models for audio to blendshapes / morph targets.

Max Planck Institute for Informatics   *Saarbrücken, Germany*

RESEARCH INTERN   *May. 2024 - Jul. 2024*

- Researched diffusion model-based motion capture from insole sensor data.
- Supervisors: Prof. Dr. Christian Theobalt and Dr. Marc Habermann.

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.

Universitat Politècnica de Catalunya   *Barcelona, Spain*

RESEARCHER   *Apr. 2019 - Nov. 2022*

- Researched real-time motion synthesis for character animation and VR avatars: Deep Learning, Motion Matching, IK and Motion Capture.

Education

Universitat Politècnica de Catalunya   *Barcelona, Spain*

PH.D. IN COMPUTING   *Dec. 2022 - Dec. 2025*

- Grade: Cum Laude. Awarded an excellence Ph.D. scholarship FPU 2021 (code FPU21/01927) from the Spanish Ministry of Science.
- Deep Learning and Generative AI for Character Animation: editing, control, tracking, retargeting.
- Supervisors: Nuria Pelechano and Carlos Andujar.

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, Character Animation and Virtual Reality

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).
- Specialization in Artificial Intelligence, 3D Graphics/Geometry and Game Programming.

Skills

Programming	Python, C#, C++, LaTeX, R, CUDA, GLSL/HLSL
Game Engines/Libraries/SW	PyTorch, Unity, Blender, Git, VR, AR
Languages	English, Spanish, Catalan

Selected Publications

Step2Motion: Locomotion Reconstruction from Pressure Sensing Insoles

JOSE LUIS PONTON, EDUARDO ALVARADO, LIN GENG FOO, NURIA PELECHANO, CARLOS ANDUJAR, MARC HABERMANN

Under review.

arXiv (10.48550/arXiv.2510.22712).

Environment-aware Motion Matching

JOSE LUIS PONTON, SHELDON ANDREWS, CARLOS ANDUJAR, NURIA PELECHANO

SIGGRAPH Asia. Dec. 2025. Hong Kong. China.

ACM Transactions on Graphics (10.1145/3763334).

DragPoser: Motion Reconstruction from Variable Sparse Tracking Signals via Latent Space Optimization

JOSE LUIS PONTON, EDUARD PUJOL, ANDREAS ARISTIDOU, CARLOS ANDUJAR, NURIA PELECHANO

Eurographics. May. 2025. London, UK.

Computer Graphics Forum (10.1111/cgf.70026).

Stretch your reach: Studying Self-Avatar and Controller Misalignment in Virtual Reality Interaction

JOSE LUIS PONTON, REZA KESHAVARZ, ALEJANDRO BEACCO, NURIA PELECHANO

CHI conference on Human Factors in Computing Systems. May. 2024. Hawaii, USA. (10.1145/3613904.3642268)

SparsePoser: Real-time Full-body Motion Reconstruction from Sparse Data

JOSE LUIS PONTON, HAORAN YUN, ANDREAS ARISTIDOU, CARLOS ANDUJAR, NURIA PELECHANO

SIGGRAPH Asia. Dec. 2023. Sydney. Australia.

ACM Transactions on Graphics (10.1145/3625264).

Fitted avatars: automatic skeleton adjustment for self-avatars in virtual reality

JOSE LUIS PONTON, VÍCTOR CEBALLOS, LESLY ACOSTA, ALEJANDRO RÍOS, EVA MONCLÚS, NURIA PELECHANO

Virtual Reality. Springer. Jul. 2023. (10.1007/s10055-023-00821-z)

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.

Computer Graphics Forum (10.1111/cgf.14628). *Top 10% viewed paper 2023.*

AvatarGo: Plug and Play self-avatars for VR

JOSE LUIS PONTON, EVA MONCLUS, NURIA PELECHANO

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

Selected Projects

Motion Matching (over 500 stars on GitHub)

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, tags, among other features. https://github.com/JLPM22/MotionMatching

PyMotion

Python library for manipulating and **processing motion data** in NumPy or **PyTorch**. It is designed to facilitate the development of neural networks for character animation. Features: quaternion operations and conversions to other rotation representations; dual quaternions; BVH importer/exporter; skeletal operations such as forward kinematics; Blender integration. https://github.com/UPC-ViRVIG/pymotion

Game Development Educator & YouTube Creator

Established and grew a large Spanish-language YouTube channel on game development, achieving **over 120,000 subscribers and 9M+ views**. It involved creating technical tutorials and simplified explanations on topics like gaming, computer graphics, character animation, and AI, demonstrating communication for a global audience. https://www.youtube.com/c/JLPMGameDev/videos