Eduardo **Alvarado**

PH.D. IN CHARACTER ANIMATION AND COMPUTER GRAPHICS

Tulpenstraße 49, 70180, Stuttgart, Germany

📱 (+49) 1575-3315-779 | ✉ alvaradopinero.eduardo@gmail.com | 🎂 August 5th, 1992 | 🏠 www.edualvarado.com | ⌥ edualvarado | in

alvaradopineroeduardo | 🎓 Eduardo Alvarado

Education

Ph.D. in Character Animation and Computer Graphics
Palaiseau, France

ÉCOLE POLYTECHNIQUE, LIX
Oct. 2020 - Oct. 2023

- Topic: Efficient Models for Human Locomotion and Interaction in Natural Environments.
- Supervisors: **Prof. Damien Rohmer** and **Prof. Marie-Paule Cani**.
- Funding: European Union's Horizon 2020 Research Programme. Marie Skłodowska-Curie Grant Agreement n. 860768 (CLIPE project).

M.Sc. in Embedded Systems and AI
Freiburg, Germany

ALBERT-LUDWIGS-UNIVERSITÄT FREIBURG
Apr. 2017 - Nov. 2019

- Framework: Robotics, Computer Vision, Machine Learning, Deep Learning and Reinforcement Learning.
- Thesis: Deep Multimodal Learning for Autonomous Driving.
- Supervisors: **Prof. Joschka Bödecker** and **Prof. Abhinav Valada**.

B.Sc. in Electronics and Automation Engineering
Madrid, Spain

UNIVERSIDAD CARLOS III - POZNAN UNIVERSITY OF TECHNOLOGY (ERASMUS)
Sep. 2010 - Sep. 2014

- Framework: Digital/Analog Electronics, CS, Robotics and Control Engineering.
- Thesis: Development of a localization-based AR framework in C++ for smart glasses.
- Supervisors: **Prof. Angel Garcia Crespo**.

Academic & Industry Experience

Postdoctoral Researcher - Character Animation and AI
Saarbrücken, Germany

MAX PLANCK INSTITUTE FOR INFORMATICS
Jan. 2024 - Currently

- Research on real-time, physics-based and data-driven character animation and interactions.
- Supervisors: **Prof. Christian Theobalt** and **Dr. Marc Habermann**.

Ph.D. Intern
Bordeaux, France

UBISOFT LA FORGE
Mar. 2023 - Jun. 2023

- Topic: Development of authoring tools for the production stages of crowd/character animation.

Research Scientist - AI for Material Rendering
Stuttgart, Germany

INSTALOD GMBH
Jun. 2020 - Sep. 2020

- Research on AI (Image Processing, GANs) for 3D Materials Synthesis (SVBRDFs) with focus on the game- and film-industry.

M.Sc. Thesis - Deep Multimodal Learning for Autonomous Driving
Renningen, Germany

ROBERT BOSCH GMBH
May 2019 - Nov. 2019

- Research on novel Object Tracking and Detection methods using DL-based representations in the field of sensor-fusion for Autonomous Driving.

Research Assistant - Autonomous Intelligent Systems
Freiburg, Germany

ALBERT-LUDWIGS-UNIVERSITÄT FREIBURG
Sep. 2017 - Feb. 2019

- Integration of Autonomous Driving simulations (Unreal Engine 4) with AirSim and ROS for the virtual acquisition of camera- and LiDAR-data.
- TurtleBot3 Waffle HW/SW set-up for teleoperation, SLAM and indoor mapping.

M.Sc. Intern - Dev-tools Engineer for Autonomous Driving
Friedrichshafen, Germany

ZF FRIEDRICHSHAFEN AG
Apr. 2018 - Oct. 2018

- ROS tools-development and integration of closed-loop systems in simulated and real environments on-board, for manipulation and visualization of vehicle-data.

Business Strategy Analyst - Robotics and 3D Printers
Madrid, Spain

BQ MUNDO READER S.L.
Nov. 2014 - May 2016

- Responsible for Strategy Planning. In-depth knowledge of Additive Manufacturing and project management in the Industry 4.0 sector.
- Channel Distribution Manager. Lecturer for robotics workshops and trainings for international groups, clients and educational institutions.
- QA Engineer. Involvement in the development and quality-monitoring of robotic and 3D printing projects (Arduino, Raspberry Pi, C++/Python).

Teaching Experience

TA for INF633 - Advanced 3D Graphics　　　　　　　　　　　　　　　*Palaiseau, France*
École Polytechnique　　　　　　　　　　　　　　　　　　　　　　*Oct. 2020 - Oct. 2021*

- Lab coordinator under the supervision of Prof. Marie-Paule Cani.
- Technical Art in Unity: Ecosystems Authoring, Procedural Animations, AI for Behavior Planning.

Languages

Spanish Native **English** Fluent **German** Fluent **French** Intermediate

Skills

Programming	Python, C#, C++, LaTeX	**Game/3D**	Unity, Unreal Engine, Blender	**Robotics**	ROS, Gazebo
AI	PyTorch, Tensorflow	**OS**	Windows, Linux	**SW-Dev**	CMake, Visual Studio, PyCharm, Git

Academic Activities

Research Visitor　　　　　　　　　　　　　　　　　　　　　　*Nicosia, Cyprus*
CYENS Centre of Excellence　　　　　　　　　　　　　　　　　*Jul. 2021 - Oct. 2021*

- Topic: Character Animation with focus on Motion Capture and Motion Matching.
- Supervisor: Prof. Yiorgos Chrysanthou.

Research Visitor　　　　　　　　　　　　　　　　　　　　　　*Barcelona, Spain*
Universitat Politècnica de Catalunya　　　　　　　　　　　　*Sep. 2022 - Dec. 2022*

- Topic: Crowds Authoring in Natural Environments.
- Supervisor: Prof. Nuria Pelechano.

Publications　　　　　　　　　　　PEER-REVIEWED JOURNAL AND CONFERENCE ARTICLES

How Much Do We Pay Attention? A Comparative Study of User Gaze and Synthetic Vision during Navigation (📄)

Julia Melgare, Guido Mainardi, **Eduardo Alvarado**, Damien Rohmer, Marie-Paule Cani, Soraia Musse

Poster, Motion, Interactions and Games (MIG), 2023

Generating Upper-Body Motion for Real-Time Characters Making their Way through Dynamic Environments (◯📄▶)

Eduardo Alvarado, Damien Rohmer, Marie-Paule Cani

Proceedings of the ACM SIGGRAPH/Eurographics Symposium on Computer Animation (SCA), 2022 - **Best Paper Honorable Mention Award**

Real-Time Locomotion on Soft Grounds With Dynamic Footprints (◯📄▶)

Eduardo Alvarado, Chloé Paliard, Damien Rohmer, Marie-Paule Cani

Frontiers in Virtual Reality, Frontiers, 2022, 3, (10.3389/frvir.2022.801856)

A Survey on Reinforcement Learning Methods in Character Animation (📄)

Ariel Kwiatkowski, **Eduardo Alvarado**, Vicky Kalogeiton, Karen C. Liu, Julien Pettré, Michiel van de Panne, Marie-Paule Cani

Eurographics 2022, Computer Graphics Forum, Wiley, 2022, pp.1-27. (10.1111/cgf.14504)

Soft Walks: Real-Time, Two-Ways Interaction between a Character and Loose Grounds (◯📄▶)

Chloé Paliard, **Eduardo Alvarado**, Damien Rohmer, Marie-Paule Cani

Eurographics 2021 (short), May 2021, Vienna, Austria.

Dissemination Activities

PhD Research in Character Animation　　　　　　　　　　　　*Barcelona, Spain*
Research Center for Visualization, Virtual Reality and Graphics Interaction (ViRVIG) - UPC　　　　*Oct. 2022*

PhD Research. "Present and Future of Character Animation"　　　*Saarbrücken, Germany*
Max Planck Institute for Informatics　　　　　　　　　　　　　　　　*Oct. 2022*

Summer School Youth Program. "Can AI be Creative? Using AI for Animation"　*Palaiseau, France*
HEC Business School　　　　　　　　　　　　　　　　　　　　　　*Jul. 2022*

GeoViC Research Group for M.Sc. students　　　　　　　　　　　*Palaiseau, France*
École Polytechnique　　　　　　　　　　　　　　　　　　　　　　*May 2022*

Workshop on Virtual Humans and Crowds in Immersive Environments (VHCIE)　　*Online*
IEEE VR 2022　　　　　　　　　　　　　　　　　　　　　　　　*Mar. 2022*

PhD Research in Character Animation *Rennes, France*

INRIA *Mar. 2022*

PhD Research in Motion Matching and Motion Capture *Nicosia, Cyprus*

CYENS Centre of Excellence *Sep. 2021*

GeoViC Research Group for M.Sc. students *Palaiseau, France*

IDIA day (Computer Science, Data & AI) at IP Paris *Jun. 2021*

Doctoral Consortium *Online*

Eurographics 2021 *May 2021*

Interests

I love skiing. Every year I try to visit a different place to practice it with friends and family. I also like to keep myself regularly informed about new developments in robotics and AI, trying to get my nieces interested in them as well. In my spare time, I work on my photography portfolio and my personal blog about game-dev. Someday I would love to create my own studio. When I get the chance, I enjoy working on electronics projects, as well as reading about fields that are new for me.