

# Carlos Rodríguez - Pardo

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CV UPDATED AT: 01/03/2024

## SUMMARY

I am a postdoctoral researcher at Politecnico di Milano and EIEE, working on deep learning for climate change mitigation. Previously, I was a postdoctoral researcher at [MSLab](#), working at the intersection of deep learning, computer graphics and vision, and worked as a research engineer at [SEDDI](#), on machine learning and computer vision for the fashion industry. While at SEDDI, I completed an industrial PhD, under the supervision of [Elena Garcés](#). My work combines academic and industrial research, and is part of award-winning commercial products, like [Textura.ai](#). Besides, I served as an associate lecturer at a MSc in Computer Science. Before that, I worked as a researcher at the [Applied Artificial Intelligence Group](#) at Universidad Carlos III, in machine learning and computer vision.

## EXPERIENCE

03/2024 - Milan, Italy	<b>Postdoctoral Fellow</b> at <a href="#">Politecnico di Milano &amp; EIEE</a> Deep Learning for climate change impact mitigation.
07/2023 - 02/2024 Madrid, Spain	<b>Postdoctoral Researcher</b> at <a href="#">MSLab</a> , Universidad Rey Juan Carlos Research on image synthesis, relighting, 3D object and humans reconstruction, generative models, neural rendering, multimodal deep learning, etc.
01/2023 - 07/2023 Madrid, Spain	<b>Associate Lecturer</b> at Universidad Carlos III <i>Intelligent Data Analysis</i> course at the <a href="#">MSc in Computer Engineering</a> . I designed the contents of the course, taught and graded the students. I received a Teaching Excellence Achievement Recognition. Supervision of BSc theses.
09/2018 - 06/2023 Madrid, Spain	<b>Machine Learning Research Engineer</b> at <a href="#">SEDDI</a> Research and development of computer vision and machine learning algorithms. Project planning. Intern supervision. Writing of patents and scientific publications. Design, implementation and testing of AI models behind products, notably <a href="#">Textura.ai</a> .
06/2016 - 08/2017 Madrid, Spain	<b>Research Assistant</b> at Universidad Carlos III Data science for smart tourism. <a href="#">ETUR 2020 EU Industrial Project</a> in <a href="#">GIAA</a> .
05 - 11/2014 Madrid, Spain	<b>Research Assistant</b> at Universidad Carlos III Research on Augmented Reality for educational purposes. In <a href="#">GIAA</a> .

## EDUCATION

12/2019 - 07/2023 Madrid, Spain	<b>PhD Computer Science</b> , Universidad Rey Juan Carlos <i>Cum Laude</i> (Top grade awarded by the university). Thesis: <a href="#">Neural Networks for Digital Materials and Radiance Encoding</a> . Advisor: <a href="#">Dr. Elena Garcés</a> . Industrial Doctorate programme. Fully funded by SEDDI. <a href="#">Coverage in Computer Vision News</a> .
09/2017 - 08/2018 Edinburgh, UK	<b>MSc Artificial Intelligence</b> , University of Edinburgh <i>Graduated with distinction</i> (Top grade awarded by the university). Thesis: <a href="#">Personalised aesthetics assessment in photography using deep learning</a> , selected as <a href="#">Outstanding Thesis</a> . Advisor: <a href="#">Dr. Hakan Bilen</a> .
09/2012 - 07/2017 Madrid, Spain	<b>BSc Computer Science &amp; BSc Business Administration</b> , Universidad Carlos III <a href="#">Double Bachelor Degree Program</a> . Minor in computation. 1 year spent as an Exchange Student at the University of Waterloo, Canada. Honours in final thesis. 5th best academic record in 55 students. Advisor: <a href="#">Dr. Miguel Ángel Patricio</a> .

## AWARDS & OTHER MERITS

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- 2023 [Runner-Up \(Accésit\) for best PhD thesis in the URJC Young Researcher Awards.](#)  
[Alumni Award of Excellence from Universidad Carlos III.](#)  
[Teaching Excellence Achievement Recognition.](#)
- 2022 Outstanding Reviewer at [ECCV](#) and [NeurIPS](#).
- 2018 [Outstanding Thesis](#) and MSc with Distinction at the University of Edinburgh.
- 2017 Honours in BSc Thesis, Universidad Carlos III, Madrid, Spain.
- 2015 - 2016 Exchange Student at University of Waterloo, Canada.
- 2010 - 2012 International Baccalaureate, IES Ramiro de Maeztu, Madrid, Spain.

## SELECTED COMPLEMENTARY EDUCATION

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- 2023 [Climate Change AI summer school](#) (Virtual).
- 2022 [ELLIS Doctoral Symposium](#) (Alicante, Spain).  
[Oxford Machine Learning Summer School \(ML for Health\)](#), (Virtual).  
[Bayesian Learning & Reasoning Workshop](#), Ruhr-Universität Bochum (Virtual).
- 2021 [Researcher Management and Leadership Training](#), University of Colorado (Virtual).  
[Full Stack Deep Learning](#), UC Berkeley (Virtual).  
[Project Management & Other Tools Specialization](#), UC Irvine (Virtual).  
[Mind and Machine Specialization](#), University of Colorado (Virtual).
- 2020 [Mathematics for Machine Learning Specialization](#), Imperial College London (Virtual).  
[Philosophy of Science](#), University of Pennsylvania (Virtual).

## LANGUAGES

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SPANISH	Native.
ENGLISH	Fluent. <i>Certificate of Proficiency in English (C2)</i> , 8.0 in <i>IELTS</i> .
FRENCH	Intermediate Knowledge (B2).
ITALIAN	Basic Knowledge (A2).

## COMPUTER SKILLS

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PROFICIENT	Python, PyTorch, OpenCV, Numpy, $\LaTeX$ , WandB, Keras, Linux, Scikit-Learn, Kornia.
ADVANCED	Scipy, Streamlit, Matlab, Java, Git, Kornia, PyTorch3D, Unix Scripting.
BASIC	PyTest, Android Development, SQL, HTML, Tensorflow, JAXLib.

## RESEARCH ACTIVITIES AND PROFESSIONAL SERVICES

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### Peer-Reviewed Publications and Patents

- Author of 9 journal and 5 conference papers, and 1 book chapter. ([Full list](#)).
- 2 Patent Applications with SEDDI.

### Talks and Presentations

- Talks: [Eurographics 2023](#), [MLT \(2022\)](#), [I3D \(2022\)](#), [IbPRIA \(2019\)](#), [IWINAC \(2015\)](#).
- Poster Presentations: [CVPR 2023](#), [EDS \(2022\)](#), [AI4CC \(CVPR2022\)](#).
- Press Coverage: [Computer Vision News 2023](#) and [2022](#), [Radio 3 \(2015\)](#).

### Professional Services

- **Reviewer in conferences, journals and workshops:** [ACCV \(2024\)](#), [BMVC \(2020\)](#), [CVPR \(2020, 2022-2024\)](#), [EAAI \(2024\)](#), [ECCV \(2022-Outstanding Reviewer\)](#), [Eurographics \(2024\)](#), [GMP \(2024\)](#), [ICCV \(2021-2023\)](#), [ICLR \(2022, 2024\)](#), [ICML \(2023, 2024\)](#), [LXCV \(2023, 2024\)](#), [NeurIPS \(2022-Top Reviewer, 2023\)](#), [TVCC \(2021-2023\)](#), [WACV \(2024\)](#), [WiCV \(2022- 2024\)](#).

### Other Collaborations and Memberships

- 2023-present: Member of [Climate Change AI](#). *Expert member* in [GENAIA](#).
- 2022-present: Member of [Eurographics](#), [SIGGRAPH](#) & [LXAI](#).
- 2020-present: University of Edinburgh [Alumni Ambassador](#). Member of [OdiselA](#).
- 2019-present: Member of [AERFAI](#) and [AEPIA](#).

## PUBLICATIONS

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- **Rodríguez-Pardo, C.**, Casas, D., Garces, E., and Lopez-Moreno, J., 2024. TexTile: A Differentiable Metric for Texture Tileability. *IEEE/CVF Computer Vision and Pattern Recognition Conference (CVPR 2024)* (Citations: 0)
- Garces, E., Arellano, V., **Rodríguez-Pardo, C.**, Pascual, D., Suja, S., and Lopez-Moreno, J., 2023. Towards Material Digitization with a Dual-scale Optical System. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)* (Citations: 0)
- **Rodríguez-Pardo, C.**, Fabre, J. , Garces, E., and Lopez-Moreno, J., 2023. NEnv: Neural Environment Maps for Global Illumination *Computer Graphics Forum (Proceedings of EGSR)* (Citations: 0)
- **Rodríguez-Pardo, C.**, Kazatzis, K. , Lopez-Moreno, J., and Garces, E., 2023. NeuBTF: Neural fields for BTF encoding and transfer *Computers & Graphics* (Citations: 0)
- **Rodríguez-Pardo, C.**, Dominguez, H., Pascual, D., and Garces, E., 2023. UMat: Uncertainty-Aware Single Image High Resolution Material Capture. *IEEE/CVF Computer Vision and Pattern Recognition Conference (CVPR 2023)* (Citations: 5)
- **Rodríguez-Pardo, C.**, Prieto-Martin, M. , Casas, D., and Garces, E., 2023. How Will It Drape Like? Capturing Fabric Mechanics from Depth Images. *Computer Graphics Forum (Proceedings of Eurographics)* (Citations: 7)
- Garces, E., **Rodríguez-Pardo, C.**, Casas, D. and Lopez-Moreno, J., 2022. A Survey on Intrinsic Images: Delving Deep into Lambert and Beyond. *International Journal of Computer Vision*, 130(3), pp.836-868. (Citations: 23)
- **Rodríguez-Pardo, C.** and Garces, E., 2022. SeamlessGAN: Self-Supervised Synthesis of Tileable Texture Maps. *IEEE Transactions on Visualization & Computer Graphics*. (Citations: 15)
- **Rodríguez-Pardo, C.** and Garces, E., 2021. Neural Photometry-guided Visual Attribute Transfer. *IEEE Transactions on Visualization & Computer Graphics*. (Citations: 9)
- **Rodríguez-Pardo, C.**, Patricio, M.A., Berlanga, A. and Molina, J.M., 2020. Machine learning for smart tourism and retail. In *Handbook of Research on Big Data Clustering and Machine Learning* (pp. 311-333). IGI Global. (Citations: 4)
- **Rodríguez-Pardo, C.**, Suja, S., Pascual, D., Lopez-Moreno, J. and Garces, E., 2019. Automatic extraction and synthesis of regular repeatable patterns. *Computers & Graphics*, 83, pp.33-41. (Citations: 20)
- **Rodríguez-Pardo, C.**, Segura, A., Zamorano-León, J.J., Martínez-Santos, C., Martínez, D., Collado-Yurrita, L., Giner, M., García-García, J.M., Rodríguez-Pardo, J.M. and López-Farre, A., 2019. Decision tree learning to predict overweight/obesity based on body mass index and gene polymorphisms. *Gene*, 699, pp.88-93. (Citations: 16)
- **Rodríguez-Pardo, C.** and Bilén, H., 2019, July. Personalised Aesthetics with Residual Adapters. In *Pattern Recognition and Image Analysis: 9th Iberian Conference, IbPRIA 2019, Madrid, Spain, July 1–4, 2019, Proceedings, Part I* (pp. 508-520). (Citations: 5)
- **Rodríguez-Pardo, C.**, Patricio, M.A., Berlanga, A. and Molina, J.M., 2017, June. Market trends and customer segmentation for data of electronic retail store. In *International Conference on Hybrid Artificial Intelligence Systems* (pp. 519-530). Springer, Cham. (Citations: 1)
- **Rodríguez-Pardo, C.**, Hernandez, S., Patricio, M.A., Berlanga, A. and Molina, J.M., 2015, June. An augmented reality application for learning anatomy. In *International Work-Conference on the Interplay Between Natural and Artificial Computation* (pp. 359-368). Springer, Cham. (Citations: 14)