Ricardo **García Pinel**

PhD Candidate in Computer Vision and Robotics

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Education

PhD in Computer Vision and Robotics, École Normale Supérieure – PSL	Paris, France	*2021 - 2025*
Master in Electrical Engineering (2nd Year), Erasmus - Technical University of Munich	Munich, Germany	*2016 - 2017*
Master in Electrical Engineering (1st Year), Technical University of Madrid	Madrid, Spain	*2015 - 2016*
Bachelor in Electrical Engineering, Technical University of Madrid	Madrid, Spain	*2011 - 2015*

Professional Experience

PhD Candidate — Paris, France
Sep. 2021 - Jul. 2025

Inria, Willow Team

- Working on vision-and-language robotic manipulation research projects under the supervision of Cordelia Schmid and Ivan Laptev.
- Development of simulation environments and robot tools to enable Willow team real robot experimental research on a bimanual UR5 robotic platform.
- Collaborated with 2 engineers, 3 PhD students and 2 PostDocs.

Robotics & Computer Vision Research Engineer — Grenoble and Paris, France
Jul. 2019 – Jul. 2021

Inria, Thoth Team & Willow Team

- Worked on a research project about robotic obstacle representations based on point clouds for neural motion planning.
- Developed and published a highly cited new semantic segmentation framework based on ViT transformers (Segmenter).
- Systems administration, maintenance and installation of the GPU cluster (comprising 25 nodes and 66 GPUs), RAID storage system and desktop machines of the team.

Robotics Research Intern — Munich, Germany
Oct. 2017 – May 2018

German Aerospace Center

- Developed a multi-robot algorithm for exploration of physical processes based on Deep Reinforcement Learning using the Python modules: Numpy, OpenCV, Matplotlib and Pytorch.
- Validation of the algorithm on real robotic hardware (UAVs swarm) using ROS.

Publications

Towards Generalizable Vision-Language Robotic Manipulation: A Benchmark and LLM-guided 3D Policy Ricardo Garcia*, Shizhe Chen*, Cordelia Schmid	*Equal Contribution	ICRA 2025
PolarNet: 3D Point Clouds for Language-Guided Robotic Manipulation Shizhe Chen*, Ricardo Garcia*, Cordelia Schmid, Ivan Laptev	*Equal Contribution	CoRL 2023
Robust Visual Sim-to-Real Transfer for Robotic Manipulation Ricardo Garcia, Robin Strudel, Shizhe Chen, Etienne Arlaud, Ivan Laptev, Cordelia Schmid		IROS 2023
Instruction-driven history-aware policies for robotic manipulations Pierre Louis Guhur, Shizhe Chen, Ricardo Garcia, Makarand Tapaswi, Ivan Laptev, Cordelia Schmid		CoRL 2022 - Oral
Segmenter: Transformer for semantic segmentation Robin Strudel*, Ricardo Garcia*, Ivan Laptev, Cordelia Schmid	*Equal Contribution	ICCV 2021
Learning Obstacle Representations for Neural Motion Planning Robin Strudel, Ricardo Garcia, Justin Carpentier, Jean Paul Laumond, Ivan Laptev, Cordelia Schmid		CoRL 2020
DeepIG: Multi-Robot Information Gathering with Deep Reinforcement Learning Alberto Viseras, Ricardo Garcia		RA-L 2019

Skills

Programming	Python, Java, Javascript | Pytorch, ROS, Matplotlib, Numpy | Bash, SQL, Front-end dev.
Others	Simulation frameworks: PyBullet and MuJoCo | Benchmarks: RLBench | LLMs, VLMs, 3D point cloud, image segmentation
Languages	Spanish: Mother Tongue | English: Bilingual Proficiency | French: Advanced Level - C1 | German: Limited Level - B1

Others

Awards	National Award to "Telecommunication Engineer with the best academic trajectory in Spain"	*2018*
Teaching	Object Recognition and Computer Vision, Teacher Assistant - Master level - ENS Paris - 50h	*2022 - 2025*
Reviewer	ACCV 2024, CoRL 2024, ECCV 2024, CVPR 2024, ICCV 2023, IROS 2023, CVPR 2023, RA-L, IJCV and TKDE	
Other Services	Generalization in Robotics Manipulation Workshop and Challenges - Organizer Shizhe Chen, Ricardo Garcia Pinel, Jiafei Duan, Dieter Fox, Cordelia Schmid, Ivan Laptev, Sami Haddadin	CVPR 2025