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 - Present*

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

Inria, Willow Team — *Sep. 2021 - Present*

- 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

Inria, Thoth Team & Willow Team — *Jul. 2019 – Jul. 2021*

- 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

German Aerospace Center — *Jul. 2019 – Jul. 2021*

- 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

SUGAR: Pre-training 3D Visual Representation for Robotics — CVPR 2024
Shizhe Chen, **Ricardo Garcia**, Cordelia Schmid, Ivan Laptev

PolarNet: 3D Point Clouds for Language-Guided Robotic Manipulation — CoRL 2023
Shizhe Chen*, **Ricardo Garcia***, Cordelia Schmid, Ivan Laptev
*Equal Contribution

Robust Visual Sim-to-Real Transfer for Robotic Manipulation — IROS 2023
Ricardo Garcia, Robin Strudel, Shizhe Chen, Etienne Arlaud, Ivan Laptev, Cordelia Schmid

Instruction-driven history-aware policies for robotic manipulations — CoRL 2022 - Oral
Pierre Louis Guhur, Shizhe Chen, **Ricardo Garcia**, Makarand Tapaswi,Ivan Laptev, Cordelia Schmid

Segmenter: Transformer for semantic segmentation — ICCV 2021
Robin Strudel*, **Ricardo Garcia***, Ivan Laptev, Cordelia Schmid
*Equal Contribution

Learning Obstacle Representations for Neural Motion Planning — CoRL 2020
Robin Strudel, **Ricardo Garcia**, Justin Carpentier, Jean Paul Laumond, Ivan Laptev, Cordelia Schmid

DeepIG: Multi-Robot Information Gathering with Deep Reinforcement Learning — RA-L 2019
Alberto Viseras, **Ricardo Garcia**

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 Co-chair at IROS 2023 - Learning for Manipulation I oral session *2023*