Ignacio de Loyola Páez Ubieta

28/05/1998 (Spanish) Living in Tampere (Finland) Phone: +34 626 054 111

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Seeking to keep pushing the boundaries of manipulation and perception on real robots.

EDUCATION

02-2022 / 07-2025 *Alicante - Spain*
PhD in Computer Science (University of Alicante)
- Excellent cum laude mark.
- Specialization in Robotics inside AUROVA group.
- Thesis on "Multisensorial perception for grasping objects with multifingered grippers", directed by Santiago T. Puente (University of Alicante).

12-2023 / 05-2024 *Paris – France*
PhD. Research Stay (Sorbonne University - CNRS)
- Worked on data driven methods for grasping objects in a new SOTA method.
- Supervised by Stéphane Doncieux (ISIR director) at AMAC/ASIMOV research teams.
- Two consecutive research stays: 1/12/2023 – 29/2/2024 & 14/3/2024 – 14/5/2024).

09-2020 / 06-2021 *Alicante - Spain*
Automatic and Robotics Master's Degree (University of Alicante)
- Average mark of 9.56 / 10.0, including 5 A and 3 A+.
- Thesis on "Design, simulation and control of a robotic humanoid robot", with Jorge Pomares Baeza (University of Alicante) and Leonard Felicetti (Cranfield University) as tutors.

09-2016 / 06-2020 *Alicante - Spain*
Robotics Engineering Bachelor's Degree (University of Alicante)
- Average mark of 7.69 / 10.0, obtaining 7 A and 3 A+.
- Thesis on "Robotic satellites guidance with image-based control", with Jorge Pomares Baeza (Universidad of Alicante) and Leonard Felicetti (Cranfield University) as tutors.

Languages: **Spanish :** Native.
English : Certificate of Proficiency in English by Cambridge University (C2).
Valencian / Catalan : Grau Mitjà de coneixements en valencià (C1).
French : Diplôme d'Etudes en Langue Française A2 (A2).

Programming & Robotics: C++, Python and ROS(2), Tensorflow, Pytorch, OpenCV.
Simulation & Modeling: Gazebo, RVIZ, Matlab/Simulink.
Tools & Platforms: Linux, Docker, Singularity and Slurm.

EMPLOYMENT

12-2025 / XX-XXXX *Tampere – Finland*
Postdoctoral Research Fellow (Tampere University)
- Working on "Practical and REliable FOundation models for Robot Manipulation" project, led by Roel Pieters and funded by the Research Council of Finland.
- Research in robotic manipulation and foundation models.

12-2024 / 12-2025 *Alicante – Spain*
Adjunct Professor of Automation and Robotics (University of Alicante)
- Lectures on Bachelor's Degree (Robotics Engineering, Biomedical Engineering) and Master's Degree (Automation and Robotics) levels. Knowledge area in Systems Engineering and Automatics.
- Department of Physics, Systems Engineering and Signal Theory (DFESTS).

12-2024 / 11-2025 *Alicante - Spain*
Research Assistant (University Institute for Computer Research – University of Alicante)
- Working on "Autonomous mobile robots for intelligent manipulation in outdoors" project, led by Francisco A. Candelas Herías and Santiago T. Puente Méndez and funded by Ministry of Science, Innovation and Universities and European Union (PID2021-122685OB-I00).
- Research in intelligent manipulation, artificial vision and AI for robot control.

04-2022 / 12-2024 *Elche - Spain*
Research Assistant (Miguel Hernández University of Elche)
- Worked on "Towards greater integration of intelligent robots into society: navigate, recognize and manipulate" project, led by Oscar Reinoso Garcia and funded by the Regional Government of Comunidad Valenciana (PROMETEO/2021/075).
- Research in robotic manipulation and perception techniques.

09-2021 / 02-2022 *Alicante - Spain*
Technical Research Assistant (University of Alicante)
- Worked on "Mobile manipulation for non-structured outdoor environments" project, led by Francisco A. Candelas Herías and Santiago T. Puente Méndez and funded by Ministry of Science, Innovation and Universities (RTI2018-094279-B-I00).
- Used 2D and 3D artificial vision techniques, neural networks, trajectory controllers and robotic grippers.

HONORS AND AWARDS

02/2025
ROBOVIS 2025: candidate to best poster award
- Achieved with "LiCAR: pseudo-RGB LiDAR image for CAR segmentation" article.

03/2024
Nova member – Global Top Talent Network
- Nova is the merit-based access network where the top 3% of talent connect, develop and accelerate their careers.

06/2023 **Santander Bank / UA - Mobility Scholarships for international PhD mention**
- Scholarship to facilitate opting for the International Mention in the PhD.

02/2022 **Outstanding Student EPS/UA Hall of Fame 2022**
- Achieved by showing up the EPS-UA beyond the school environment.
- Issued by University of Alicante.

01/2022 **Master's Degree Extraordinary Award**
- Best academic record of the academic year (2020/2021) in the "Automation and Robotics Master's Degree".
- Issued by University of Alicante.

10/2021 **Best Final Bachelor´s Degree Thesis 2020**
- Prize received after achieving the Special Mention in the Final Bachelor´s Degree Thesis.

10/2020 **National Ranking of Academic Excellence 2020**
- Included in the "National Ranking of Academic Excellence 2020". Achieved position 6 out of 30 in the field "Other Engineering Degrees". Distinction awarded to the top 1% of graduates of Spanish universities.

06/2016 **Baccalaureate Extraordinary Award**
- Granted to a limited number of students per group when their marks are close to the best possible grade (typically to up to 5% of the students).

PUBLICATIONS (selected)

A) Journals

- [J1] S.T. Puente, I-L. Páez-Ubieta and M. Fernández-Herrero. "Comparative of LLM-generated rewards for training RL agents in robot manipulation tasks". IEEE Transactions on Robotics (T-RO). Under review.
- [J2] I-L. Páez-Ubieta, D. Frau-Alfaro and S.T. Puente. "GeoGraspEvo: Multifinger Grasp Pose Estimation". Machine Vision and Applications (MVA). Under review (second round).

B) International conferences

- [IC1] J. Huber, F. Hélénon, M. Kappel, I-L. Páez-Ubieta, S.T. Puente, P. Gil, F.B. Amar and S. Doncieux. "QDGset: A Large Scale Grasping Dataset Generated with Quality-Diversity", 42nd IEEE International Conference on Robotics and Automation (ICRA 2025), Atlanta, U.S.A, 2025. doi: 10.1109/ICRA55743.2025.11127427.
- [IC2] I-L. Páez-Ubieta, D. Frau-Alfaro and S.T. Puente. "Transferability of labels between multilens cameras", 20th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications (VISAPP 2025), Porto, Portugal, 2025, vol. 3, pp. 410-417, doi: 10.5220/0013154100003912.
- [IC3] I-L. Páez-Ubieta, E.P. Velasco-Sánchez and S.T. Puente. "LiCAR: pseudo-RGB LiDAR image for CAR segmentation", 5th International Conference on Robotics, Computer Vision and Intelligent Systems (ROBOVIS 2025), Porto, Portugal, 2025, vol. 2629, pp. 63-73, doi: 10.1007/978-3-032-00986-9.
- [IC4] I-L. Páez-Ubieta, E. Velasco-Sánchez, S.T. Puente. and F. A. Candelas. "Detection and depth estimation for domestic waste in outdoor environments by sensors fusion", 22nd IFAC (International Federation of Automatic Control) World Congress 2023, Yokohama, Japan & IFAC-PapersOnLine, 56(2), 2023, pp. 9276-9281, doi: 10.1016/j.ifacol.2023.10.211.
- [IC5] I-L. Páez-Ubieta, E. Velasco-Sánchez, S. T. Puente, P. Gil and F. A. Candelas. "GeoGraspEvo: grasping points for multifingered grippers", 2023 IEEE 28th International Conference on Emerging Technologies and Factory Automation (ETFA), Sinaia, Romania, 2023, pp. 1-4, doi: 10.1109/ETFA54631.2023.10275406.