

Jans Solano



Education

Pontifical Catholic University of Peru (PUCP)
BSc in Mechatronics Engineering

Mar 2019 – Dec 2024

- **Summa Cum Laude** (Grade: 17.72/20) – **Rank: 1st** out of 80 students.
- Thesis: Visual Navigation for wheeled quadruped with fall recovery capability (advised by [Prof. Diego Quiroz](#)).

University of Stuttgart
Exchange Student in Computer Science

Oct 2023 – Mar 2024

- Grade: 1.3 (scale 1–6, 1 best).
- Relevant Coursework: Foundation Models, Computer Vision, Deep Learning for NLP, Machine Learning.

Research Experience

Yale University
Research Affiliate (advised by [Dr. Josue Ortega](#))

Remote, USA

Jan 2025 – May 2025

- Fine-tuned **Visual Language Models** (Llama Vision, Qwen-VL) on fMRI for clinical variable prediction.
- Developed a GPT-based predictor conditioned on a pretrained visual encoder for clinical variable prediction.
- Developed **Vector Quantized VAE** for fMRI reconstruction; aligned fMRI-text via **adversarial training**.

Max Planck Institute for Intelligent Systems (MPI-IS)
Research Intern (advised by [Prof. Katherine Kuchenbecker](#))

Stuttgart, Germany

Jul 2024 – Sep 2024

- Adapted Minsight, a vision based **soft tactile sensor**, for high frequency sensing by embedding a microphone.
- Developed **motion patterns** for a dexterous hand and a 3-axis machine to interact with fabrics and surfaces for data collection.
- Implemented **temporal DL models** to classify surfaces and fabrics dynamically in-hand using audio data.

Pontifical Catholic University of Peru (PUCP)
Research Assistant (advised by [Prof. Diego Arce](#))

Lima, Peru

Aug 2022 – Aug 2023

- Compared **traditional and DRL algorithms** for autonomous navigation of mobile robots in simulation.
- Tested mapping, localization, and evaluated traditional local planners in **highly dynamic environments**.
- Implemented and evaluated DRL algorithms for map-based and mapless autonomous navigation.

Industry Experience

Robot.com (formerly Kiwibot)
Robotics Engineer

San Francisco, USA

Aug 2025 – Present

- Implemented simulation for wheeled quadruped, including **mapping and localization stack**.
- Implemented data collection stack in LeRobot format for custom **bimanual manipulators**.
- Fine-tuning **Visual Language Action models** for diverse bimanual manipulation tasks.

Bosch Center for Artificial Intelligence (BCAI)
Working Student

Renningen, Germany

Oct 2023 – Mar 2024

- Developed hardware for robotic AI demonstrators: lane follower RC car and dice anomaly detector.
- Implemented an **Imitation Learning** pipeline for autonomous RC car and optimized inference with TensorRT.
- Automated data collection and trained **LSTM autoencoder** for audio-based anomaly detector demonstrator.

Publications

- **Solano J**, Quiroz D. “*Stand, Walk, Navigate: Recovery-Aware Visual Navigation on a Low-Cost Wheeled Quadruped*”. **IROS 2025 - Workshop on Wheeled-Legged Robotics**. [\[Paper\]](#)
- Andrussov I, **Solano J**, Richardson B, Martius G, Kuchenbecker K. “*Adding internal audio sensing to internal vision enables human-like in-hand fabric recognition with soft robotic fingertips*” (**Oral**). **Humanoids 2025**. [\[Website\]](#), [\[Paper\]](#)
- **Solano J**, Cisneros J, Sarmiento L, Quispe G, Hermitaño A, Quiroz D, Balbuena J. “*Design and Implementation of an Inspection Robot for Crack Detection in Flooded Pipes*.” **IEEE INTERCON 2023**. [\[Paper\]](#)
- Arce D, **Solano J**, Beltrán C. “*A Comparison Study between Traditional and Deep-RL Algorithms for Indoor Autonomous Navigation in Dynamic Scenarios*.” **Sensors 2023**. [\[Paper\]](#)

Competitions

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| European Rover Challenge <i>Computer Vision & Autonomous Navigation Member</i> | <i>Kielce, Poland</i> <i>2023, 2025</i> |
| ○ (2023) Developed algorithms for ArUco 3D pose estimation and robot arm motion planning. ○ (2025) Implemented 3D reconstruction and SLAM modules integrating depth and LiDAR data. | |

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| Latin American Space Challenge <i>Electronics and Controls Lead</i> | <i>São Paulo, Brazil</i> <i>2021, 2023</i> |
| ○ (2021) Designed and programmed the electronics system for a CanSat mini-satellite. ○ (2023) Developed the Go-to-goal PID navigation algorithm for a comeback rover CanSat. | |

Teaching and Mentorship

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| Pontifical Catholic University of Peru (PUCP) <i>Lecturer – ROS2 Specialization Program</i> | <i>Oct 2025 - Jan 2026</i> |
| Mobile Robot Navigation and Robot Manipulation courses, focusing on applied autonomy with ROS2. | |
| Mision Tech <i>Mentor – Robotics Bootcamp</i> | <i>Aug 2025</i> |
| Mentored high school students through hands-on robotics and programming challenges. | |
| Pontifical Catholic University of Peru (PUCP) <i>Teaching Assistant – Robotics and Artificial Intelligence</i> | <i>Mar 2025 – Jul 2025</i> |
| Assisted lectures and labs on kinematics, navigation, and AI, and helped test educational robotics modules. | |
| Teens in AI <i>Mentor – Women's Day Hackathon</i> | <i>Mar 2022</i> |
| Taught participants core machine learning concepts while mentoring teams building AI prototypes solutions. | |

Honors and Awards

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| 1st Place – Class of 2024 | <i>2025</i> |
| Awarded distinction at the graduation ceremony for ranking 1st out of 80 Mechatronics graduates in the 2024 class. | |
| CaCTüS Cohort | <i>2024</i> |
| 9 selected from 700+ applicants worldwide to participate in a fully funded internship at the Max Planck Institute. [Link] | |
| DARI Scholarship | <i>2023</i> |
| Awarded an exchange scholarship for academic excellence. Ranked 1st among PUCP exchange applicants. [Link] | |
| Latin American Space Challenge | <i>2023</i> |
| Awarded 1st prize among 40+ teams from Latin America and Asia in the CanSat and Overall Satellite categories. [Link] | |
| European Rover Challenge | <i>2023</i> |
| Finalists in the European Rover Challenge Remote 2023 [Link] | |
| COAR National Scholarship | <i>2018</i> |
| Awarded full bachelor scholarship. Ranked 1st among 400+ applicants from high performing schools (COAR). [Link] | |
| ONAM National Mathematics Olympiad | <i>2017</i> |
| Awarded 1st Place in the ONAM Trilce National Mathematics Olympiad. [Link] | |

Leadership and Community Service

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| PUCP Mechatronics Students Association | <i>2023</i> |
| <i>Academic Affairs Representative:</i> Supported academic community by organizing talks and compiling past exams. | |
| PUCP Robotics Club | <i>2022</i> |
| <i>Project Coordinator:</i> Coordinated multidisciplinary robotics projects and organized technical workshops for competitions. | |

Skills

- **Programming:** Python, C/C++, MATLAB.
- **Tools & Simulation:** ROS 1/2, Gazebo, Isaac Sim/Lab, Docker, Git, Rerun.
- **Libraries & Frameworks:** Transformers, PyTorch, Tensorflow, OpenCV, MoveIt, NAV2.
- **Languages:** English (Fluent), Spanish (Native), German (Basic).