- Acted as a systems integrator for customized Robotnik robots using Linux, C++, Python, ROS and Bash. Worked with devices (RoboSense, Sick, Hokuyo, Realsense, Zed, Axis, Vectornav, Ublox), manipulation (Universal Robot, Franka, Kinova, OnRobot, Robotiq), embedded (Jetson Nano, Teensy, motor drivers) and industrial (Teltonika, Flexy Soft).
- Integrated Robotnik's ROS software architecture, deployed on-site AMCL, Cartographer 3D, move_base, and Hierarchical FSMs in Python for electrical substation inspections (Viesgo, REE), automotive (FORD, Volkswagen), waste management (AUDERE), and manufacturing (EMKA).
- Provided customer-facing diagnostics and solutions for Linux, ROS, networks, PLCs, motor drivers, and mechanical issues. Demonstrated proactive and solution-oriented behaviour by coordinating departments for cross-diagnostics to apply Root Cause Analysis.
- Developed ROS packages, drivers, and integrated sensors for production and customizations with C++ and Python. Developed simulation environments using Gazebo, SolidWorks, and Blender. Developed robot URDFs. Experience with Isaac Sim.

Achievements

- Ensured successful software–hardware integration for 200+ production robots by founding the software production area, leading the team, handling the most critical cases, and meeting tight deadlines.
- Reduced software installation time from 1 week to 4 hours by eliminating bottlenecks, introducing Kanban workflows, quality checkpoints, operative manuals, and a streamlined software architecture.
- Led the integration of ROS2 production software during the parent company's bankruptcy and workforce reductions, ensuring critical order fulfillment and generating new robot sales opportunities.
- Increased the development speed by 5x through unifying multiple ROS1 launch package architectures into a single product-line architecture across all Robotnik robots.
- Achieved an 8x faster release cycle by transforming an ad-hoc process into a standardized release workflow with CI/CD pipelines for ROS1/ROS2 software.
- Drove an 80% decrease in software-to-quality handoff delays by establishing inspection points.
- Provided coaching and mentorship to 6 junior engineers, promoting technical and decision autonomy.
- Ensuring key revenue projects (€100K–€300K) by delivering complex software-hardware integrations.
- Enabled 6 months of autonomous robot inspection in an electrical substation by using 3D Cartographer and ensuring technical feasibility that later supported Robotnik's inspection product line.
- Developed and deployed Robotnik's LED system across all robots, running reliably for 5+ years with minimal maintenance through robust C++ Teensy firmware and a Python ROS driver.

PORTFOLIO

The following links show personal projects that demonstrate software, electronics, and mechanical skills.

- https://roboticarts.io/projects/
- https://github.com/RoboticArts/nano_atom

LANGUAGES

- English (Proficient)
- Spanish (Native Speaker)

EDUCATION

- Master's in Electronic Systems Engineering, Polytechnic University of Valencia 2018 - 2025
  Final thesis to be submitted Autumn 2025
- Bachelor in Industrial Electronics and Automation, Polytechnic University of Valencia 2014 - 2018

HOBBIES

- Robotics, dancing, business, psychology, and motorbikes