

5.4 Job Posting for Researcher at **Robotnik**.

Robotnik Automation S.L.: Ronda Auguste y Louis Lumière, 8, 46980 Parque Tecnológico, Paterna, Valencia, Spain

Eligible sending organisations

AUTH, JSI, ULUS

Role title

Autonomous Navigation & Perception Software Engineer - Robotics

Environment

The secondee will join **R&D activities** within our Software Development Department, focusing on autonomous navigation and perception for **mobile robots and mobile manipulators**. Depending on the candidate and ongoing projects, activities may include **localisation and mapping**, path planning, 2D/3D perception and sensor fusion, and navigation evaluation on **real robots**. The role provides hands-on industrial robotics experience suitable for an R1/R2 profile.

What you will work on

The secondee will:

- Develop or extend ROS/ROS 2 modules for localisation, mapping, path planning, obstacle avoidance or autonomous navigation behaviours.
- Integrate and process data from sensors such as LiDARs, RGB-D cameras, IMUs or other perception devices, including sensor fusion where relevant.
- Develop or evaluate perception components for environment understanding, object detection, traversability or semantic information useful for robot navigation.
- Design simulation and real-robot experiments to assess navigation robustness and performance in representative scenarios.

- Analyse recorded data and system logs, identify failure cases and propose improvements together with Robotnik software and R&D engineers.

What you will gain

The secondee will gain:

- Hands-on experience with navigation and perception software on commercial mobile robotic platforms in an industrial R&D environment. They will strengthen their skills in ROS/ROS 2, autonomous navigation, sensor integration and systematic evaluation using both simulation and real robots.
- Learn how navigation algorithms are adapted from research prototypes to robust product functionality, while benefiting from collaboration with Robotnik software, systems and R&D teams, internal demos and technical knowledge-sharing activities.

Desired profile

- Programming experience in Python and/or C++. These are the main languages used for robotics software development and algorithm integration at Robotnik.
- Experience with Linux, Git and preferably ROS/ROS 2. Familiarity with common robotics development and debugging tools will help the candidate work effectively with integrated robotic systems.
- Background in mobile robotics, autonomous systems, computer vision or a related field. Candidates with research experience in navigation or perception and an interest in validating algorithms on real robots are particularly suitable.
- Experience in at least one area such as SLAM/localisation, path planning, sensor fusion, LiDAR or RGB-D perception, or navigation benchmarking is valued. The exact activities can be adapted to the secondee's strengths and to ongoing Robotnik R&D and product-development needs.

Duration & Flexibility

3 to 5 months (continuous stay) between May and November 2027