

Welcome to **NEURA Robotics**, the innovator of the robotics world. Our goal is to equip collaborative robots with groundbreaking cognitive capabilities to enable safe and intuitive collaboration with humans. Under the leadership of founder David Reger, we have spent the first years of **NEURA Robotics** laying the foundations for humans and robots to work hand in hand.

**"We serve humanity"** is not just a motto, but our mission. Become part of our ambitious, international company and shape the future of robotics with us.

Welcome to **NEURA Robotics** - where innovation meets team spirit.

# Your mission & challenges

# Motion Planning & Development:

Design, implement, and test motion planning algorithms for robotic manipulators and mobile robots using ROS 2 frameworks (e.g., Movelt 2 for arms, Navigation2 for mobile bases). Develop robust path planning, trajectory optimization, and collision avoidance routines to enable safe and efficient autonomous operation.

#### Robot Software Integration:

Develop and maintain ROS 2 nodes, services, and libraries that integrate various sensors and actuators into a cohesive robotic system. This includes interfacing with hardware like robotic arms, grippers, mobile bases, cameras, and LiDARs, ensuring seamless communication and control within the ROS 2 ecosystem.

#### • System Performance & Reliability:

Optimize system performance for real-time operation and reliability. Tackle issues across software and hardware (DDS communication, control loops, etc.) to ensure robust robot behavior in dynamic environments. You will fine-tune ROS 2 middleware (Fast DDS QoS settings, threading) for low-latency, reliable messaging and address real-time computing challenges.

#### Open-Source Contribution:

Actively contribute to the ROS 2 open-source community. Create and maintain high-quality opensource ROS packages as part of our project deliverables, and collaborate with external developers to upstream improvements. This role involves engaging with the ROS community (e.g., participating in forums, ROS Enhancement Proposals) to provide support and foster collaboration on community-driven packages.

# Collaboration & Deployment:

Work closely with cross-functional teams (controls, perception, hardware engineers) to integrate planning software with overall robot systems. Participate in code reviews and testing, and assist in deploying software onto robots for field trials. Ensure documentation and tutorials are developed for both internal use and the open-source community.

# What we can look forward to

#### Education & Experience:

Bachelor's or Master's degree in Robotics, Computer Science, Electrical/Mechanical Engineering, or a related field. 3+ years of hands-on software development in robotics, with significant exposure to ROS or ROS 2 systems.

# ROS 2 Expertise:

Deep familiarity with ROS 2 architecture and tools. Proven experience developing ROS 2 applications (custom nodes, tf2, ROS2 launch, etc.) and working with ROS 2 middleware (DDS/RTPS). Experience with Fast DDS and tuning QoS parameters for performance is highly desired.

# • Motion Planning Experience:

Strong background in motion planning and robot kinematics. Proven experience with motion planning libraries and frameworks – for example, using Movelt 2 for manipulator path planning and control, and Navigation2 or OMPL for mobile robot path planning.

# Programming Skills:

Strong proficiency in C++ and Python for robotics software development. Ability to write efficient, reliable code for algorithm implementation and hardware interfacing. Familiarity with modern development practices (object-oriented design, data structures, multi-threading) is expected.

#### Linux & Development Tools:

Comfortable working in a Linux environment for development and deployment. Proficiency with development tools and workflows: version control (git/GitHub), build systems (colcon/CMake), and containerization (Docker) for ROS 2 applications.

# • Open-Source Track Record:

Demonstrated active participation in the open-source robotics community, with a track record of contributing to ROS/ROS 2 or related projects. This could include contributions to ROS 2 core, Navigation2, Movelt, or maintaining your own ROS 2 packages.

# Preferred Skills & Experience

# Real-Time & DDS Tuning:

Experience with ROS 2 real-time performance optimization (e.g., real-time Linux, rclcpp executors, tuning DDS middleware). Familiarity with the ros2\_control framework for real-time hardware interfacing is beneficial.

# Advanced Perception/ML:

Knowledge of computer vision or machine learning as applied to robotics (for instance, using vision for grasp planning or ML-based motion optimization) is a plus. Additional expertise in sensor fusion, physics simulation, or 3D perception will also be valued.

# DevOps & CI/CD:

Experience with continuous integration/continuous deployment pipelines and automated testing for robotics software. Familiarity with tools like GitHub Actions or Jenkins for building and testing ROS 2 packages, and experience deploying software updates to robots in the field.

# Simulation & Visualization:

Proficiency with simulation and visualization tools commonly used in ROS 2 development. This includes experience using Gazebo (Ignition) to simulate robot scenarios and RViz/Foxglove for visualization and debugging of robot states.

# Community Leadership:

Prior experience as a maintainer or significant contributor of a ROS/ROS 2 open-source project is a bonus. Participation in ROS 2 working groups, attending ROSCon presentations, or other community leadership activities will set you apart as a candidate committed to the open-source spirit.

# What you can look forward to

- Become part of an agile company, actively shape topics and benefit from flat hierarchies in a highly motivated team
- Enjoy an attractive salary, flexible working hours and 30 days of vacation
- The freedom to contribute your own ideas and drive them forward
- Celebrate successes together with company events
- Take advantage of our corporate benefits program
- And even more fun with great colleagues



# We are looking forward to meeting you and shaping the future of robotics together. Are you in?

Couldn't find a suitable position? Please send us an unsolicited application. We are always looking for passionate tech enthusiasts to help us revolutionize the world of robotics!

