



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

Our system runs high-density sensing and actuation at 1 kHz. Your firmware will keep the system stable, safe, and responsive. You will own the embedded software on the central ARM controller and the distributed motor controllers, implementing high-rate FOC, safety limits, and communication with the ROS 2 stack. You will work closely with electronics, mechatronics, and controls engineers to turn the architecture into a robust, testable embedded system.

- Implement and tune FOC / current, velocity, and position loops on ARM Cortex-M33 class motor controllers at  $\geq 1$  kHz.
- Develop FreeRTOS-based firmware on a high-performance ARM Cortex-M7 central controller:
  - Motor network supervision (CAN-FD/SPI/RS485).
  - Sensor fusion for encoders, force sensing, ToF, IMUs, and tactile arrays.

- Safety monitoring, watchdogs, and power-loss handling.
- Integrate with micro-ROS / DDS-XRCE to expose the system as a single logical node to the main robot controller.
- Implement calibration procedures, configuration management, and firmware update mechanisms.
- Design and run unit/integration tests for control and safety logic; support HIL / bench testing.
- Work tightly with controls/AI engineers on interfaces, timing budgets, and observability.

## What we can look forward to

- 4+ years in embedded firmware for real-time systems (robotics, motion control, automotive, industrial).
- Fluency in C / C++ for microcontrollers and RTOS environments (FreeRTOS or similar).
- Practical experience with BLDC motor control, FOC, and real-time control loops.
- Experience with one or more of: CAN-FD, SPI, RS485, Ethernet in real-time systems.
- Comfortable reading schematics, understanding power and sensing hardware, and debugging at the HW/SW boundary.
- Strong focus on safety, reliability, and deterministic behaviour.
- Experience with ARM Cortex-M7/M85 platforms and dual-core debugging.
- micro-ROS / ROS 2 integration experience.
- Prior work on servo drives or complex articulated robotic systems.
- Familiarity with control theory (impedance control, observers, state estimation).

## 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

Apply

**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!

