

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

The Humanoid Hand packs dozens of actuated finger and palm drive stages into a form factor that must be safe, precise, and responsive at human-scale speeds. As Firmware Engineer for Dexterous Hand Systems, your mission is to build and own the embedded firmware stack that makes this possible — from the motor control loops running on Infineon TLE9879 drivers, through the RTOS HAL layer and Qualcomm IQ-series bring-up, to the communication stack that connects the hand to the rest of the robot in real time.

This is a deeply technical, hands-on role. You will work in close collaboration with the Electronics and Control engineer to close the firmware–controls loop on real hardware, define and implement communication protocols that meet deterministic timing requirements, and architect safety monitoring targeting ASIL-B compliance. The hand is a new product — many of the hardest problems do not have established answers yet, and your engineering judgment will directly shape the architecture.

- Develop and maintain field-oriented control (FOC) firmware for BLDC actuators across all finger and palm drive stages — tuning and debugging on real hardware, not library integration
- Architect and own the hardware abstraction layer (HAL) on RTOS (e.g. Zephyr) and Linux Kernel targets, including full Qualcomm IQ-series SOM bring-up
- Define and implement the full communication stack: FastDDS and Micro-XRCE-DDS for ROS 2 integration, TSN (IEEE 802.1AS/Qbv) for deterministic Ethernet, CAN, SPI, and I²C for local device buses
- Implement multi-level watchdog and safety monitoring architecture targeting ASIL-B compliance
- Collaborate with the Electronics team on hardware bring-up and motor driver integration (Infineon TLE9879); collaborate with the Control engineer to ensure the firmware layer meets the timing and observability requirements of the torque and impedance control loops running above it

What we can look forward to

- Embedded firmware and real-time systems
 - 5+ years of embedded firmware development in real-time systems — RTOS experience is mandatory; Zephyr RTOS experience is strongly preferred
 - Deep FOC implementation experience: you have tuned and debugged field-oriented control on real BLDC actuators, not just configured a library; you understand current loop bandwidth, back-EMF compensation, and commutation timing at the implementation level
 - Linux Kernel driver development: device tree authoring, custom driver implementation, and low-level peripheral bring-up (SPI, I²C, CAN)
 - Hands-on DDS middleware experience in embedded or edge contexts: FastDDS, Micro-XRCE-DDS, or equivalent in a resource-constrained environment
- Communication and safety
 - Practical experience implementing deterministic communication stacks: TSN (IEEE 802.1AS/Qbv), CAN bus protocol stack, or equivalent in a latency-critical embedded system
 - Functional safety experience (ISO 13849 or IEC 61508) — particularly watchdog architectures and safe-state design for actuated systems; ASIL-B or SIL 2 level experience is a strong plus
- Nice to have
 - Qualcomm IQ platform (or similar) BSP and bring-up experience
 - Infineon TLE9879 or similar integrated motor driver bring-up and configuration

- Experience developing firmware for tendon-driven or BLDC-actuated robotic hand or finger mechanisms
- Contributions to open-source RTOS or embedded middleware projects (Zephyr, NuttX, or similar)

What you can look forward to

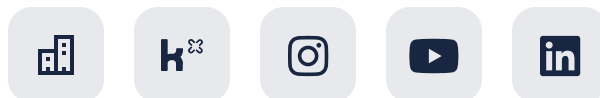
- Become part of an agile company, actively shape topics and benefit from flat hierarchies in a highly motivated team
- Enjoy an attractive salary, flexible working hours and 30 days of vacation
- The freedom to contribute your own ideas and drive them forward
- Celebrate successes together with company 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!



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