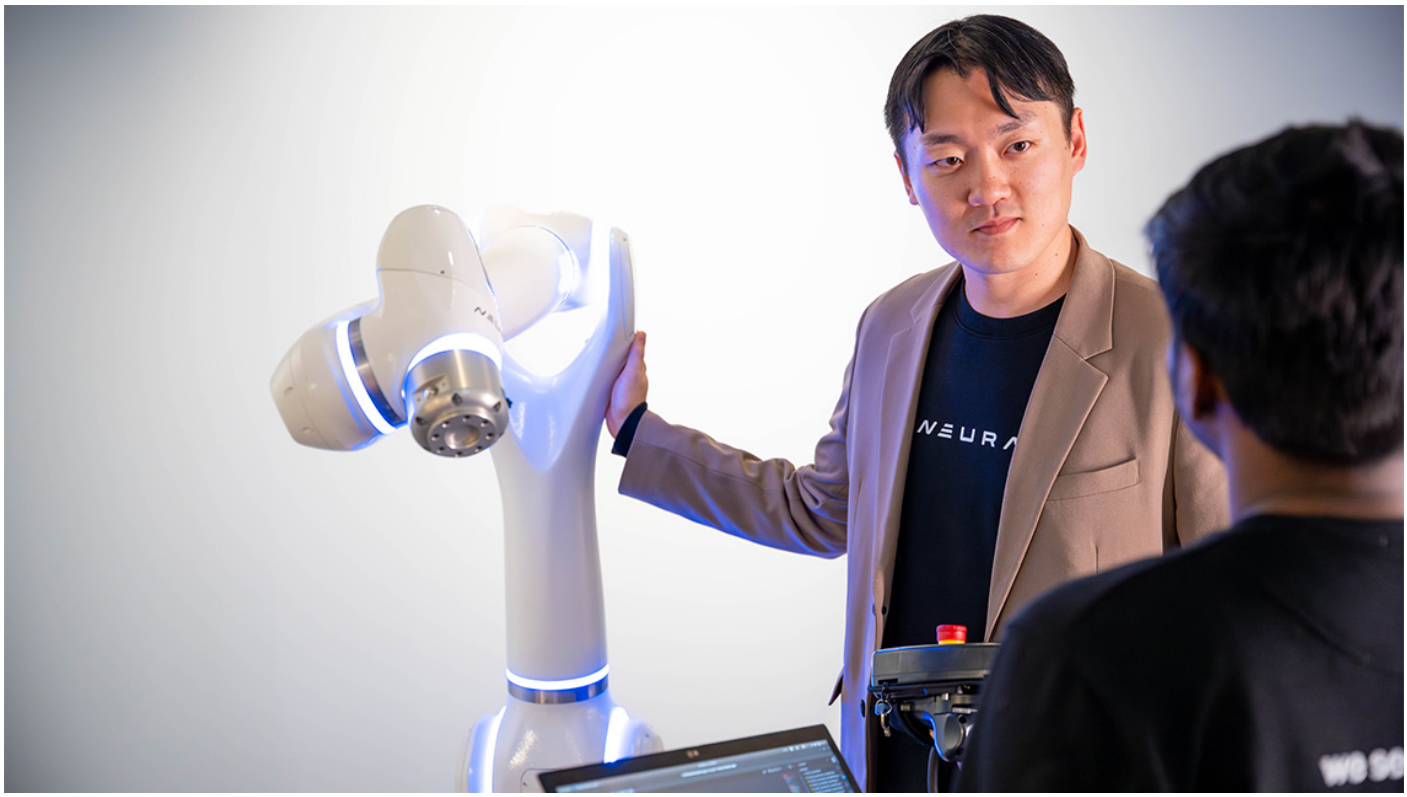

Welcome to **NEURA Robotics**, the innovator of the robotics world. Our goal is to equip collaborative robots with groundbreaking cognitive capabilities to enable safe and intuitive collaboration with humans. Under the leadership of founder David Reger, we have spent the first years of **NEURA Robotics**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

A dexterous robotic hand that cannot reliably sense contact, slip, and finger position is not dexterous — it is fragile. As Perception & Sensing Engineer for BU-Hands, your mission is to build the full sensing and perception stack of the Humanoid Hand: integrating 44+ sensor nodes across tactile, inertial, magnetic, and acoustic modalities; developing the signal processing and classification pipelines that turn raw sensor data into actionable state; and leading the camera integration that enables in-hand visual perception.

You will work from bench characterisation through embedded signal processing pipeline development to ROS 2 integration and AI team collaboration. The sensor suite is dense and the processing targets are constrained — the Hexagon NPU on the Qualcomm IQ platform is your primary inference target for on-hand classification tasks. Your work directly determines what the hand knows about what it is touching, holding, and doing.

- Own the integration and signal processing pipeline for 44+ sensor nodes across the hand: MEMS microphones, 3D magnetometers, IMUs, and barometric sensors (Bosch Sensortec stack)
- Develop tactile processing pipelines on embedded targets (Hexagon NPU / Qualcomm IQ platform): shear detection, slip detection, and contact classification at low latency on constrained hardware
- Integrate absolute position encoders for tendon-driven finger stages; characterise hysteresis, drift, and nonlinearity; develop and validate compensation algorithms
- Lead camera integration for in-hand perception; define the imaging setup, calibration pipeline, and the interface to the AI team's vision–tactile fusion models
- Drive sensor characterisation, bench qualification, and test protocol development for every sensor class on the hand — you own the evidence that the sensing stack meets specification before it leaves the lab
- Collaborate with the AI team on vision–tactile sensor fusion, providing well-calibrated, time-synchronised sensor streams as the input to perception models

What we can look forward to

- Robotics sensing and signal processing
    - 4+ years in robotics sensing — tactile, force-torque, or proprioceptive systems experience is preferred; depth matters more than breadth
    - Strong signal processing background: filter design, noise characterisation, low-noise analog front-end understanding, and the ability to go from raw ADC data to a useful signal on real hardware
    - Hands-on MEMS sensor integration experience: understanding of sensor noise models, temperature sensitivity, cross-axis sensitivity, and how these interact with mechanical mounting choices
    - ROS 2 integration of custom sensor drivers: you have written hardware interface nodes for sensors that did not have existing ROS 2 support
- Embedded inference and sensor fusion
    - Familiarity with ML inference at the edge for sensor classification: deploying a trained model on an NPU or MCU target, optimising for latency and memory, and validating classification performance on real sensor data

    - Experience with sensor fusion across heterogeneous modalities (inertial, tactile, positional, or optical) in a robotic manipulation or dexterous systems context
- Test and characterisation
    - Experience developing bench characterisation protocols and qualification test suites for sensors in a product engineering context — not just integration, but evidence-based qualification
    - Systematic approach to hysteresis and drift characterisation for position sensing in tendon-driven or compliant mechanical systems
- Nice to have
    - Camera calibration experience for in-hand or close-range vision: intrinsic/extrinsic calibration, lens distortion characterisation, and the specific challenges of tight-quarters imaging near articulated fingers
    - Hexagon DSP/NPU or Qualcomm IQ platform experience for embedded inference
    - Bosch Sensortec sensor stack (BMI, BMM, BMP series) integration experience
    - Background in tactile sensor array design or flexible electronics integration for robotic hands
    - Experience bridging perception outputs to manipulation planning or grasp quality 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!

NEURA ROBOTICS