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

As a Robotics Software Engineer focused on vision and perception, you will be the architect of our robot's "eyes" and its ability to comprehend the world. You will be responsible for designing, developing, and deploying the complete perception stack that enables our humanoid robots to see, understand, and interact with complex, dynamic human environments. Your work will transform raw sensor data from cameras, LiDAR, and IMUs, Force Torque and joint sensors into actionable, high-level understanding for navigation, manipulation, and human-robot interaction. You will work extensively with 3D computer vision, deep learning, sensor fusion, and high-performance C++ to build a robust and reliable perception system.

- Design and implement the complete perception software architecture, from low-level sensor drivers to high-level scene understanding, ensuring real-time performance and robustness.

- Develop and optimize state-of-the-art algorithms for SLAM (Simultaneous Localization and Mapping), object detection and tracking, semantic segmentation, and 3D reconstruction.

- Write clean, efficient, and maintainable code in modern C++ (C++17/20) for the core perception and sensor fusion libraries.

- Architect and manage the high-throughput flow of sensor data through the system using ROS2 and its underlying DDS framework.

- Integrate and calibrate a diverse array of perception sensors, including stereo/depth cameras, LiDARs, and IMUs, into a unified world model.

- Collaborate closely with controls, manipulation, and planning engineers to define perception requirements and deliver the necessary data for downstream tasks.

- Develop tools for data visualization, system diagnostics, and performance evaluation of perception algorithms.

- Create and maintain comprehensive technical documentation for the perception system, sensor interfaces, and data formats.

- Validate perception modules both in simulation and on real humanoid platforms, bridging sim to reality.

- Ensure perception modules meet real-time and safety-critical requirements for human-robot collaboration.

- Establish and champion best practices for software development, including version control (Git), continuous integration (CI/CD), and data-driven automated testing.

What we can look forward to

- Education: Bachelor's or Master's degree in Computer Science, Software Engineering, Robotics, or a related technical field.

- Professional Experience: 3+ years of professional experience in software development with a focus on computer vision or perception for robotics.

- C++ Proficiency: Strong command of modern C++ (C++11 and newer), including object-oriented design, multithreading, and performance optimization on memory-constrained systems.

- Computer Vision Fundamentals: Solid theoretical and practical understanding of 3D geometry, camera models, multi-view geometry, filtering (e.g., Kalman filters), and sensor fusion techniques.

- 3D Vision Experience: Demonstrable, hands-on experience developing and deploying algorithms using 3D data, particularly with point clouds. Proficiency with libraries like PCL (Point Cloud Library) is essential.

- Deep Learning Expertise: Proven experience in applying deep learning models for perception tasks (e.g., object detection, segmentation). Familiarity with frameworks like PyTorch or TensorFlow and experience deploying models on robotics hardware.

- Experience with GPU programming for accelerating perception algorithms (e.g., CUDA, OpenCL).
- Experience with performance optimization for real-time applications on embedded systems (e.g., NVIDIA Jetson).
- Familiarity with simulation environments such as Gazebo or NVIDIA Isaac Sim for perception development and testing.
- Proficiency in Python for rapid prototyping, data analysis, and training machine learning models.
- Experience with MLOps and infrastructure for managing large-scale sensor datasets and training pipelines.
- Knowledge of classical computer vision libraries, such as OpenCV.
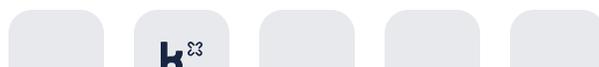
What you can look forward to

- 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 25 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!