Embedded Systems Robotics Engineer

In order to improve the efficiencies of horticultural growing operations and unlock growers to focus more on the problems that matters, the LUNA system by iUNU employs smart Agricultural robotic scanners that provide comprehensive, 24/7 monitoring of plants within the growing operation. Whether one of LUNA's robotic scanners is monitoring a fresh crop of Arugula in a deep water hydroponic pond, or performing a daily check-up up on a greenhouse full of tomato plants, LUNA robotics platforms must operate in a hot and humid greenhouse and orchestrate comprehensive data collection of facilities all autonomously, without any human intervention. As iUNU expands to more customers, so does the opportunity and need for talented robotics embedded engineers to ensure high-robustness autonomy, efficient data collection, and integration of new sensors. Enter this specific job posting – We are looking for an embedded systems robotics engineer to become part of the iUNU family and help us with our current and future generations of robotic scanners.

On the average day on the job, the following is what should expect for this position:

- Designing and implementing robotic software stacks on both embedded micro-controllers and single-board Linux computers
- Designing and implementing real-time motion control systems for robotic scanners
- Working collaboratively with other robotics, mechanical, and computer vision engineers to drive proper outcomes of LUNA robotics system as a whole
- Research, develop, and integrate the latest sensor technology into LUNA robots
- Program high-level robotics tasks with ROS in C++ and Python, and additionally work with real-time operating systems on an embedded micro-controller level
- Design and implement large-scale fleet management frameworks across all LUNA customers
- Contribute, maintain, and improve upon autonomous robot operation
- Work in an Agile SCRUM environment with other members of the robotics team

At a minimum, the following skills are required:

- At least 3 years C++ experience
- At least 3 years Python experience
- At least 2 years embedded programming experience with an ARM-based micro-controller in C++ (Arduino doesn’t count)
- At least 3 projects with demonstrably working real-time operating system implementations (RTOS) for micro-controllers
- At least 3 projects with demonstrably working ROS projects (Robot operating system)
- At least 3 projects with demonstrably working PID controllers
- At least 3 projects with a demonstrably working autonomy element in a system with a motion system (no human intervention).

Nice-to-haves:

- Experience with STM32 series micro-controllers
- Experience with FreeRTOS
- Deep math and statistics background
- Electrical engineering experience
• Inverse kinematics experience
• Experience with sensor fusion methods (ie. Kalman or particle filtering)