Robotic NDT

Ultrasonic inspection of large objects

SAM XL is a manufacturing expertise centre with a focus on automated low-volume manufacturing parts of high complexity. SAM XL researches and demonstrates new technologies, techniques, and materials for aerospace applications using robotics, lightweight composites and specialised manufacturing techniques.

Robotic NDT is an interesting method for inspecting large composite structures. A robot on a mobile platform can manoeuvre itself around aircraft or wind turbine blades, and inspect non-flat surfaces. The robot could be equipped with cameras, depth sensors, ultrasonic probes etc.

The internship at SAM XL involves automating the Non-Destructive Testing (NDT) inspection process. You'll assist in interfacing with NDT sensors to collect data and work with the software stack to process and analyse it. Key tasks include integrating sensors, developing data processing algorithms, automating defect detection, and enhancing existing software. You may work with ROS (Robot Operating System) and a mobile manipulator to assist in data collection and automation. The role will also involve ensuring accurate results compared to manual inspection.

Your profile

You are:

- WO engineering MSc student
- Fast learner & independent worker
- Enthusiastic about composites

You have experience with:

- Python/C++ (ROS is a plus)
- Composites
- NDT
- DASML lab test facilities

Profile of your potential employer

We offer:

- A cool workspace with a lot of robots
- Access to high-end hardware
- Dynamic and experienced colleagues
- Mentoring in task scoping and implementation
- Exposure to robotic manufacturing technology know-how
- Internship remuneration

Application process

Interested candidates should submit their resume and a cover letter detailing their interest and relevant experience to internships-samxl@tudelft.nl. Applications will be reviewed on a rolling basis until the position is filled.

Join us at SAM XL to gain hands-on experience in cutting-edge composites research!

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