

UVIScan Scanning algorithm development

Dear student!

We are SecureOne, and we're manufacturing UVIScan® (www.uviscan.com) - the world's leading system for under vehicle inspection. Join us for a 4 - 6 months internship, and take part in one of our exciting and challenging projects!

We're working on a new project, so we need a brand new scanning algorithm. So how it works:

- There's a camera fixed on the ground. It is observing zenith through a 45° fixed mirror
- A vehicle is passing over the camera
- The camera constantly scans a small area (~2000x24 pixels) with a high frame rate
- A computer processes scanned frames into a whole image of the vehicle's underside.



The task is:

- Develop an algorithm for processing the scan data
- Make uniform pictures regardless of varying speed and trajectories of different cars
- Enhance the picture as much as possible in case of rain drops and/or dust on the scanner.
- Process the data in no longer than 2 sec.

You will:

- Be supplied by raw data collected from such a scanner in a real environment
- Be guided with Computer Vision experienced team member, and given an insight about how the previous algorithm works
- Learn how to write production-ready code in a business environment

Your profile:

- C++ or Python
- Computer Vision, preferably OpenCV library
- Linear algebra and geometry
- Algorithms and data structures knowledge

If you're missing something from the list above but have a passion to get into it - feel free to apply to us as well!

Ir Arno P. Hulshof
SecureOne International BV
+31 6 2068 0774
a.hulshof@secureone.eu