Funded PhD position

Human-robot interactions: visual detection and recognition

| Supervisors: | Christophe Garcia, PR, LIRIS  
|             | Christian Wolf, MCF, LIRIS |
| Keywords:   | mobile robotics, computer vision, object and action recognition |
| When:       | September 2012 – August 2015 |
| Where:      | Awabot & INSA-Lyon, Villeurbanne |
| Type of funding: | « Investissements d’Avenir » |
| Salary:     | 1685€ month (net/after taxes) |

This PhD position is funded by the "Interabot" project headed by the company Awabot, the research is done in the LIRIS laboratory and at Awabot. The goal is to develop cognitive and interaction capabilities for the mobile robots of the "EMOX" platform.

To interact with its environment, a mobile robot needs to capable to interpret data from its sensors, amongst which the camera is one of the most important ones.

In this project, we focus on object and action recognition from videos taken from onboard cameras of small mobile robots. Several scientific problems are related to this task:

- Detection and segmentation of moving objects (humans, animals, and objects manipulated by them).
- The design of compact invariant and discriminant descriptors for this task.
- The design of a meta-model for the targeted objects and/or actions.
- The design of learning algorithms for this model.
- The design of efficient detection and recognition algorithms.

The PhD is part of an industrial project and therefore has a strong constraint on the development of efficient algorithms allowing real time processing on hardware of medium complexity.

Applications:
Send an (extended) CV, a motivation letter, recommendation letters and eventually a list of referees (including email addresses) to:
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