

### Supervisors

Dr. Hanlin Goh – hlgoh@i2r.a-star.edu.sg

Mr. Olivier Morère – olivier.morere@etu.upmc.fr

Image & Pervasive Access Lab  
1 Fusionopolis Way  
#21-01 Connexis, South Tower  
Singapore 138632

Tel. (65) 6408 2542  
Director. (65) 6408 2536  
Fax. (65) 6776 1378

secretariat@ipal.cnrs.fr  
www.ipal.cnrs.fr



### Keywords

Deep Learning, Convolutional Neural Nets, Object Localization.

### Project Description

Deep models such as Convolutional Neural Networks (CNN) have recently led to major breakthroughs in image classification, closing the gap with human vision in a number of tasks. CNN models are however not directly designed with localization of the classified objects in mind and are not nearly as good at this task. Although a number of methods have been proposed to use CNNs for localization, accuracy and/or speed of the predictions must still be improved.

During this internship, we will overview the state-of-the-art on localization using CNNs and explore different ways of improving upon it. Then, we will investigate how accurate information on localization can in turn help with classification.

### Applicant Profile

- Master Degree or Engineer Student (last year of studies).
- C++ (preferred) or Java
- Python (preferred) or Matlab
- Solid background in mathematics.
- Basic understanding of machine learning.
- Availability for 5 to 6 consecutive months.

**Gratification:** About 800€ net per month (approx. 1.300 Singapore dollars)

**Contact email:** hlgoh@i2r.a-star.edu.sg