

## Post-doc position

### Project : SmarterPlans

#### Scientific aim

Actually, there are many solutions to get 3D accurate models of objects whatever may be their sizes. In the building domain, these systems are particularly interesting for maintenance and exploitation of existing construction where 3D models are often lacking. However, these systems only provide a 3D description but generally fail to perform object recognition.

In a first step, the aim of the project is to add some **2D object recognition functionalities** to an actual scanning system. The available data to process are high definition images of inside buildings. These object recognition tools will be based on **deep learning approaches** which will require the construction of a ground truth dataset. In a second step, the project will consist in **introducing 3D information** (point cloud provided by a LIDAR are also available) to help recognition and to get 3D information concerning the objects. Objects which are to be recognized belongs to a building equipment catalog for which 2D or 3D images or models are sometimes available (equipment = windows, doors, boiler, electrical cabinet, fire extinguisher...).

#### Context

The aim of this project is helping in the creation of a startup. This project will associate three partners:

- The startup (located in Paris) whose founders have a strong experience in 3D modelling;
- LISTIC, research lab of University Savoie Mont Blanc (Annecy), which has a strong expertise in deep learning approaches;
- Linksium, a Technology Transfer Accelerator Office (or SATT) which is a public organism created to develop and commercialize research results to be transformed into innovative products. Linksium will provide project funds.

Hiring in the startup after the post-doc year is very conceivable.

#### Profile of the candidate

Motivated candidate with a PhD degree in Deep Learning dedicated to Image Processing or Computer Vision and with strong programming skills. A background in 3D modelling will be appreciated.

#### Information to apply

Send an extended CV, a detailed list of publications, a motivation letter and possible referents to: [parick.lambert@univ-smb.fr](mailto:parick.lambert@univ-smb.fr)

#### Practical information

- Duration: 12 months starting in June 2019
- Net Salary/month: 1800€
- Location: Lab. LISTIC in Annecy (with meetings in Paris).
- Supervisors: Prof. Patrick LAMBERT (LISTIC), Dr. Alexandre BENOIT (LISTIC), Thai-Binh PHAN (SmarterPlans).