Visible Light Communication Intern at Inria in France

Unique ID#: F0002

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1. Internship details

Company Name: **Inria**

Position Title: **Visible Light Communication (VLC) Intern (in the context of IoT domain)**

City: **Lille**

Country: **France**

Internship Term: **Summer 2018**

Number of Position Available: **1**

Language Requirements: **English**

Company Address: **Inria, 40 avenue Halley, 59650 Villeneuve d'Ascq, France**

Internship Hours: **Full-Time**

Compensation: **Paid (Around 500 euros per month with assistance for accommodation and participation for lunch)**

1.1. About us

Inria, the French National Institute for computer science and applied mathematics, promotes "scientific excellence for technology transfer and society". Graduates from the world's top universities, Inria's 2,700 employees rise to the challenges of digital sciences. With its open, agile model, Inria is able to explore original approaches with its partners in industry and academia and provide an efficient response to the multidisciplinary and application challenges of the digital transformation. Inria is the source of many innovations that add value and create jobs.

1.2. Internship description

The internship will be in charge to work on an already developed Visible Light Communication scheme based on one-to-one, one-to-multi, multi-to-multi schemes with a transmitter and a receiver. In particular, he/she will work on already implemented (in our laboratory) software filters in order to set the right parameters for different environments, namely in indoor and outdoor contexts and will deal with a set of experiments in order to derive measurement related to the throughput and the achievable distance between the transmitter(s) and the receiver(s). The results will be exploited by the internship student for a more complex communication scheme, involving multiple receivers.

1.3. Responsibilities

1) Getting started with the Visibile Light Communication system components

2) Formal definition of the objectives to be realized and identification of the metrics to be considered in the communication system (with the supervisor)

3) Experimental phase and collection of measurements with formal representation of the results obtained

4) Based on the results obtained, modification and updates to do on the system (with the supervisor)

1.4. Qualifications

1) Strong programming skills (C, Python, Labview)

2) Background on Arduino and Raspberry

3) Signal Processing knowledge

4) Skills on USRP (Universal Software Radio Peripheral) is a plus

1.5. Benefits of Interning with Us

1) High quality of school programs and consequently high-level students

2) Cultural exchange opportunity and cross-cultural benefits