System optical engineer (H/F)

Level of qualifications required: Graduate degree or equivalent

Fonction: Temporary scientific engineer

About the research centre or Inria department

The Inria University of Lille centre, created in 2008, employs 360 people including 305 scientists in 15 research teams. Recognised for its strong involvement in the socio-economic development of the Hauts-De-France region, the Inria University of Lille centre pursues a close relationship with large companies and SMEs. By promoting synergies between researchers and industrialists, Inria participates in the transfer of skills and expertise in digital technologies and provides access to the best European and international research for the benefit of innovation and companies, particularly in the region. For more than 10 years, the Inria University of Lille centre has been located at the heart of Lille’s university and scientific ecosystem, as well as at the heart of Frenchtech, with a technology showroom based on Avenue de Bretagne in Lille, on the EuraTechnologies site of economic excellence dedicated to information and communication technologies (ICT).

Context

OptiWISE is a start-up incubated at Inria and wants to become the next leader in deploying free space optical (FSO) communication systems in urban networks.

We are developing a full duplex optical wireless communication system on a wind turbine park.

With FSO we can provide a very high speed and secure wireless communication using just light signals. Apart from being immune to hacking and jamming attacks, it is possible to achieve high data rates similar to optical fibre but being wireless using this technology. At OptiWISE we are providing high speed wireless communication in areas where it is difficult to deploy an optical fiber cable. We are committed to solving real customer problems with cutting edge technology and disruptive products.

6 reasons to join OptiWISE:

- Experience in developing hardware and taking a technology from lab to real life scenarios.
- Have a significant impact on the deployment of the products in the market
- Experience in understanding market strategy, communication and customer needs
- Have a startup experience in a safe environment working alongside friendly team in Lille
- Learn new things everyday
- Attractive remuneration and benefits

Assignment

At OptiWISE, the engineer will help in developing the hardware of an FSO communication system along with the CEO and a team of scientific advisors.

As an engineer, you will also be responsible to identify the needs required to develop the hardware. The main idea is to develop a solution which is easy to deploy in existing communication system. So it will be the job of the engineer to understand the customer needs and figure out the changes needed to be done at hardware level.

Over the long term, you will join the startup as Chief Technical Officer (CTO) and develop a team of engineers to work in different aspects of product development.

Main activities

- Identify and prospect a portfolio of key accounts
- Develop a full duplex FSO communication system for real used case scenarios in outdoor environment
- You will be working on modulating the existing communication protocol on a light beam to transmit it wirelessly
- Travel with team to various startup events to understand the market and develop the product according to these needs

Skills
Skills

- Passionate about new technology
- Experience in MATLAB, Python, Arduino or Raspberry Pi programming
- Basic knowledge on signal processing
- Hardware experience in developing Internet-of-Things systems
- Should be able to learn new things quickly and implement them on the hardware setup
- Good communication skills as it will be required for you to pitch the project in French to investors
- Basic knowledge of wireless communication

We don't really expect for you to know everything however, learning about new technology and quickly implementing them is something we are looking for.

Benefits package

- Subsidized meals
- Partial reimbursement of public transport costs
- Leave: 7 weeks of annual leave + 10 extra days off due to RTT (statutory reduction in working hours) + possibility of exceptional leave (sick children, moving home, etc.)
- Possibility of teleworking and flexible organization of working hours
- Professional equipment available (videoconferencing, loan of computer equipment, etc.)
- Social, cultural and sports events and activities
- Access to vocational training
- Social security coverage

Remuneration

According to the profile

General Information

- **Town/city:** Villeneuve d’Ascq
- **Inria Center:** Centre Inria de l’Université de Lille
- **Starting date:** 2024-02-01
- **Duration of contract:** 7 months
- **Deadline to apply:** 2023-12-31

Contacts

- **Inria Team:** STIP-LNE
- **Recruiter:** Saxena Prakriti / prakriti.saxena@inria.fr

About Inria

Inria is the French national research institute dedicated to digital science and technology. It employs 2,600 people. Its 200 agile project teams, generally run jointly with academic partners, include more than 3,500 scientists and engineers working to meet the challenges of digital technology, often at the interface with other disciplines. The Institute also employs numerous talents in over forty different professions. 900 research support staff contribute to the preparation and development of scientific and entrepreneurial projects that have a worldwide impact.

**Warning:** you must enter your e-mail address in order to save your application to Inria. Applications must be submitted online on the Inria website. Processing of applications sent from other channels is not guaranteed.

Instruction to apply

Send an email to prakriti.saxena@inria.fr with a cv and a cover letter with subject: Application for Engineer- (Your Name)

**Defence Security:**
This position is likely to be situated in a restricted area (ZRR), as defined in Decree No. 2011-1425 relating to the protection of national scientific and technical potential (PPST). Authorisation to enter an area is granted by the director of the unit, following a favourable Ministerial decision, as defined in the decree of 3 July 2012 relating to the PPST. An unfavourable Ministerial decision in respect of a position situated in a ZRR would result in the cancellation of the appointment.

**Recruitment Policy:**
As part of its diversity policy, all Inria positions are accessible to people with disabilities.