

Internship OPTOMECHANICAL SYSTEM with MACHINE VISION, M/W

Type of contract: work placement

Place: Orsay (91)

Sector of activity: manufacture of optical metrology instruments

Company

IMAGINE OPTIC leads the global market in the photonics high technology domain. Driven by its creativity and innovations since 1996, our SME has developed its know-how among prestigious customers in both academic and industrial breakthroughs in space industry, astronomy, ultra-high intensity lasers, microscopy or process control. It has the ambition to better understand the universe, from the infinitely small to the infinitely large.

Pioneer in Adaptive Optics and wavefront sensors, IMAGINE OPTIC manufactures wavefront metrology based on the Shack-Hartman principle.

Located in the Chevreuse valley at the heart of the Plateau de Saclay cluster, IMAGINE OPTIC offers a motivating and respectful work environment that enables employees to fully develop their skills and sense of responsibility. Enthusiasm and envy are the company's driving forces.

Your mission

Imagine Optic needs a new production tool which manipulates glass on the microscale.

1. You **design the optomechanical system**, a kind of a simple microscope with CCD camera. The system further has some manipulator (long story...) and a motorized stage carrying glass samples.
2. You **assemble and test the prototype** with off-the-shelf components.
3. You **implement a Python script** that uses some simple **machine vision** to move the sample on the motorized stage under the manipulator.

This is your chance to demonstrate your skills in optical design and machine vision. This project allows to transform mostly theoretical knowledge of your studies into proven experience much valued in the current job market.

Your profile

Engineering student in final year (école d'ingénieur - 3^{ème} année or M2, graduate studies)

Requirements:

- Proven knowledge in optics; you know how to use Zemax (or similar) to make a simple design of an optical system. This project uses Zemax.
- Solid experience with Matlab or Python. This project uses Python.
- Optional: Basic knowledge about how to use a CAD application such as FreeCAD.

Desired qualities:

- Interest in system integration
- Strong inclination for tinkering
- You feel part of the Maker movement

Duration: 6 months

Expense allowance: legal amount for allowance, 35 hours per week + transport + TR

Contact:

Please send your **CV + motivation letter** with reference **1811 004** to Dietmar Korn, PhD (R&D Engineer) dkorn@imagine-optic.com