Main activities

- Determination of the contours of the monitored structures on video images. The first studies will consist in adapting and testing existing methods, in particular an algorithm already developed by the team in other application contexts, particularly suitable for low resolution images.
- Estimation of the motion signal of the structure to be monitored.
- Vibration analysis, including robustness analysis in case of low signal-to-noise ratio.
- Experiments in an IFSTTAR laboratory in Nantes, as well as on real word structures (wind

Assignment

The PhD project will include the following tasks:

- Establish a bibliographic study on vibration analysis using contactless optical, acoustic and microwave methods.
- Elaborate new methods for video image segmentation, based on the experiences of the team in this field.
- Design and develop new vibration monitoring methods by combining image processing and vibration analysis.
- Implement developed algorithms on GPUs (Graphical Processing Units) for real time applications.
- Experiment on simple laboratory structures and on real applications. Compare with methods based on conventional sensors (accelerometers) and with other emerging methods.

The PhD project will include the following tasks:

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- Vibration analysis, including robustness analysis in case of low signal-to-noise ratio.
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About Inria

Inria, the French National Institute for computer science and applied mathematics, promotes "scientific excellence for technology transfer and application". With its 2,700 partners in industry and academia and provide an efficient response to the multidisciplinary application challenges of the digital transformation, Inria is the source of many innovations that add value and create jobs.

The keys to success

Master of science degree in image and signal processing, with good skills in applied mathematics. Knowledge of mechanical vibrations would also be appreciated.

Conditions for application

Thank you to send us these documents by applying online:

- updated CV
- cover letter
- letters of recommendation eventually
- degree transcripts

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.

Warning: you must enter your email 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.
Benefits package
- Subsidised catering service
- Partially-reimbursed public transport
- Social security
- Sports facilities

Remuneration
Gross salary: 1982 euros