

Postdoc Offer - Computer Vision for Scene Understanding and Human Motion Pattern Recognition

Where to apply

Application Deadline: 10/12/2018 05:00 - Europe/Brussels

Contact Details

Where to send your application.

COMPANY

MINES ParisTech - Centre for Robotics

E-MAIL

Sotiris.manitsaris@mines-paristech.fr

Hiring/Funding Organisation/Institute

ORGANISATION/COMPANY

MINES ParisTech - Centre for Robotics

COUNTRY

France

DEPARTMENT

Research Centre

CITY

Paris

ORGANISATION TYPE

Higher Education Institute

POSTAL CODE

75006

WEBSITE

<http://caor-mines-paristech.fr>

STREET

60, Boulevard Saint-Michel

E-MAIL

sotiris.manitsaris@mines-paristech.fr

ORGANISATION/COMPANY

MINES ParisTech - Centre for Robotics

LOCATION

France › Paris

RESEARCH FIELD

Computer science

Engineering › Electrical engineering

Mathematics › Applied mathematics

TYPE OF CONTRACT

Temporary

JOB STATUS

Full-time

RESEARCHER PROFILE

Recognised Researcher (R2)

Established Researcher (R3)

HOURS PER WEEK

35

APPLICATION DEADLINE

10/12/2018 05:00 - Europe/Brussels

OFFER STARTING DATE

05/12/2018

**EU RESEARCH FRAMEWORK
PROGRAMME**

H2020

Introduction:

The Centre for Robotics of MINES ParisTech is involved in several research projects on human motion pattern recognition applied to the Factory of the Future, the Creative and Cultural Industries and the Autonomous Vehicles. The main objective of these projects is the development of novel methodologies and technological paradigms that improve the perception of the machine and allows for natural body interactions in human-machine partnerships.

Topic:

MINES ParisTech is opening a Postdoctoral position on Computer Vision for Scene Understanding and Human Motion Pattern Recognition in the context of H2020 collaborative projects. Whether in manufacturing or the creative industries, professional gestures are executed by workers or craftsmen while they manipulate tools and materials in order to assemble or create an object. The value of motor skills in such activities is very important. For example, simple tasks, such as the marking and cutting of leather pieces or sewing main panels of a product are common in different basic leather crafting procedures and they can be either completely manually executed or assisted by a collaborative robot. Preserving, understanding and transmitting the motor skills of these professions, by using motion capturing and gesture recognition technologies, constitutes a very important challenge for researchers, instructors, ergonomists and human resources departments. Moreover, there is an increasing need for machine learning in the professional context

where humans perform gestures while interacting with objects, tools and devices on their workbench. The team of the Centre for Robotics has developed machine learning algorithms that can extract meaningful features from optical, depth and/or RGB-D sensing (e.g. Random Decision Forests, Geodesic distances etc.) that are able to segment the scene into objects, workbench, body poses etc.. Moreover, the team is currently working on the gesture/action recognition based on time-series from 3D coordinates, rotations and other motion descriptors. Early recognition and prediction techniques have also been developed.

The Postdoctoral researcher will actively contribute to specific research and innovation tasks of H2020 projects (with a focus on Creative and Cultural Industries) as they have been described in the Description of Work of the project. The team of the Centre for Robotics is expecting from the candidate to extend their existing knowledge or to bring new scientific and technical skills in deep/machine learning for scene understanding and/or in 3D pose detection and/or in object and gesture recognition. Active assistance in the teaching duties of the Post-Master's Degree AIMove is also expected. Moreover, the Postdoctoral researcher will jointly supervise PhD students, research engineers and interns.

This position gives the possibility to the candidate to work with other European researchers both in the project and in the wider academic community, as well as opportunities to work directly with industrial partners. Moreover, the candidate will acquire transferable skills that will enhance future employability through leading and contributing to highly interactive and collaborative work. Finally, the candidate will be autonomous and concentrated on his/her work and will contribute to the project and team management tasks, such as preparation of the project meetings (distance calls or physical meetings in different European countries – 3 per year), reports and deliverables.

ADDITIONAL INFORMATION

Benefits

The Postdoctoral researcher will have a 12-month contract, extendable to 18 months. The gross monthly salary will depend on the profile/experience of the candidate. Complementary activities to research, such as teaching or providing reports and deliverables, etc., are included into the salary.

Eligibility criteria

Completed eight years of studies and have received a PhD.

Additional comments

For more information please visit the following links :

<http://caor-mines-paristech.fr/en/home/>

<https://www.linkedin.com/in/sotirismanitsaris>

aimove.eu

REQUIREMENTS

Offer Requirements

REQUIRED EDUCATION LEVEL

Computer science: PhD or equivalent

Engineering: PhD or equivalent

Mathematics: PhD or equivalent

REQUIRED LANGUAGES

ENGLISH: Excellent

Skills/Qualifications

We are looking for a motivated and talented researcher how has completed eight years of studies and has received a PhD in one of the following domains:

Computer Vision

Pattern or Gesture Recognition

Human Pose Detection

Machine or Deep Learning

any relevant domain

Specific Requirements

The Postdoctoral researcher should have excellent skills on:

Machine Learning

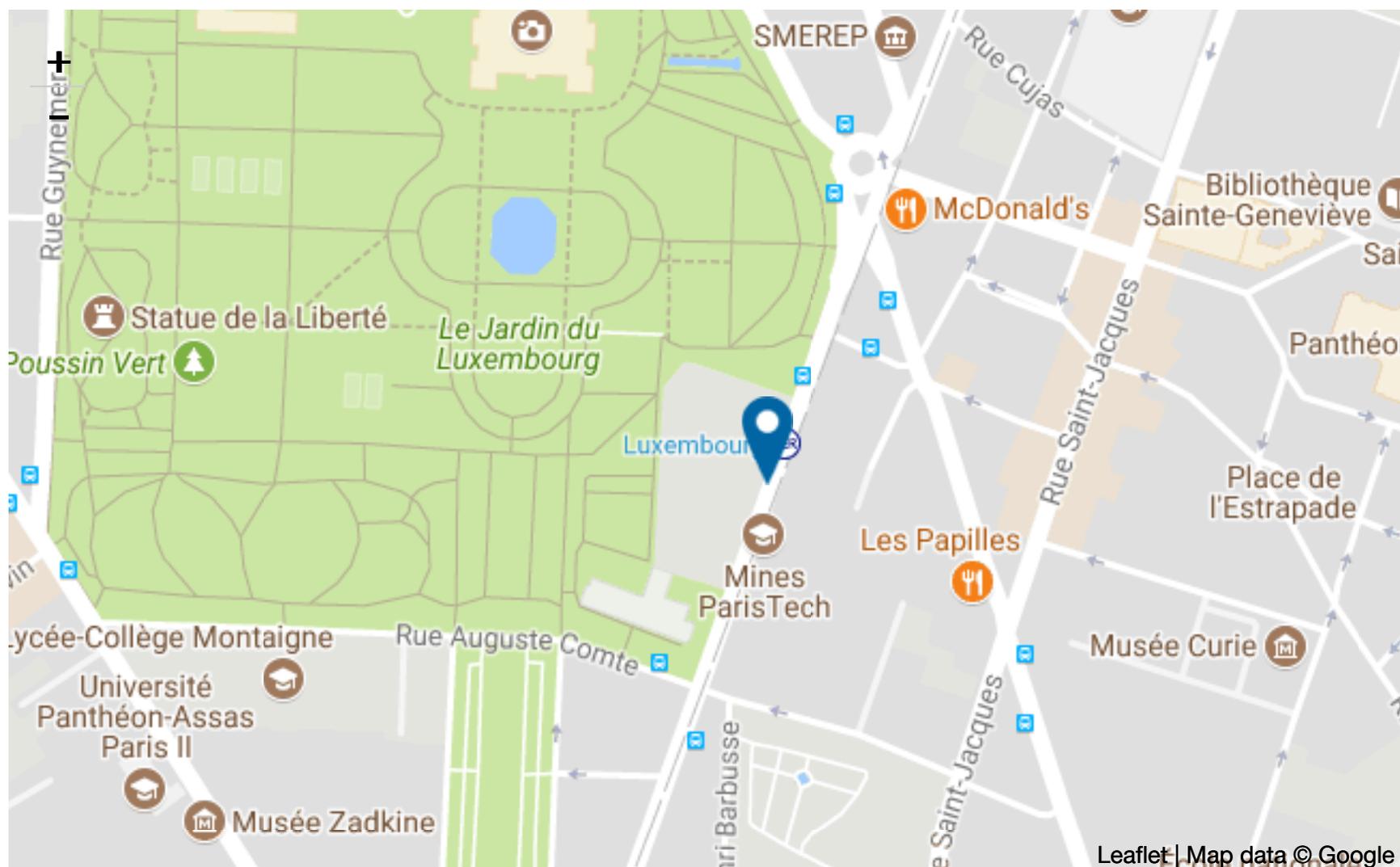
Signal Processing

Computer Vision

Programming : C++, Python, R.

Moreover, the Postdoctoral researcher must be proficient in both written and spoken English and possess excellent presentation and communication skills which will be needed for regular interactions with the project partners (e.g. researchers, engineers, creative and cultural industries, expert workers or craftsmen, etc..). Good knowledge of French would be appreciated. Furthermore, any type of experience in EU collaborative projects would be useful.

Map Information



Job Work Location



Personal Assistance locations

WORK LOCATION(S)

1 position(s) available at

MINES ParisTech

France

Paris

75006

60, Boulevard Saint-Michel

EURAXESS offer ID: 326208