COMPUTER / ELECTRONICS DEVELOPER (Master degree or more)
18-month fixed-term contract starting September 2023
Lille - France

JOB DESCRIPTION

The Université Catholique de Lille is recruiting **a computer/electronics developer** to join the ***Neurethic*** project team. This cognitive neuroscience research project has two objectives: to study the emotional and cognitive aspects of multiple sclerosis, and the neurophysiology of digital interactions.

We are looking for a candidate (Master degree or more, post-doc) with **strong development skills** in one or more key languages like **Python and/or C** and ideally some knowledge of electronics or robotics. **Knowledge in cognitive neuroscience is not required** to apply, but an interest in cognition (biological or artificial) is desirable. Depending on the candidate's background, training courses are planned to complete the range of skills required for experimental design and development.

QUALIFICATIONS

Our research protocols involve engineering matters, including:

- The development of dedicated research applications: data collection, dissemination of visual and sound stimuli, etc.
- Synchronisation of measurement and broadcasting equipment,
- Analysis of multimodal signals: time series, event markers, etc.
- Software configuration,
- Implementation of tests (unit and functional),
- Documentation writing,
- Knowledge sharing (open science, open-source development).

Scientific and technological background

Exploring the mechanisms of human cognition requires the design of protocols that combine a theoretical approach with technological innovation. This involves a wide range of measurement equipment and digital devices: electrophysiological sensors, VR headsets, networks, real-time analysis, etc. **Digital applications dedicated to research** are traditionally developed to work in combination with existing software and are based on languages that combine flexibility and performance (**Python** in particular). They can sometimes be made to last in more industrial formats using lower-level languages such as **C** or JAVA.
In addition to the software layer, the design of experiments may involve **hardware or electronic layers** such as the integration of Arduino circuits, acquisition cards or the configuration of measurement equipments.

Beyond the activities related to developments for research, the candidate is expected to participate in the various activities of the team (meetings, seminars, etc.), a daily presence of 200 days per year on site, partial remote work is accepted. The selected candidate will be provided with social benefits (CSE, luncheon vouchers, company health insurance, etc.), a personal workspace, a complete computer setup, any tool required in the design of lab experiments and access to the various digital resources and infrastructures of the university. Remuneration is set according to qualifications and experience based on the contractual provisions in force.

ENVIRONMENT

ETHICS (EA 7446) - THE ANTHROPO-LAB & PSyCOS

Neurethic is a project involving researchers from Anthropo-Lab and PSyCOS, two teams from the ETHICS laboratory (EA 7446), a labeled and multidisciplinary research unit of the Institut Catholique de Lille (https://lillethics.com/).

The research work carried out within **ETHICS** focuses on the ethical reflections raised by the techno-scientific and socio-economic changes of the contemporary world. The first object of interest of ETHICS is therefore ethics and, more broadly, the Human and its inclusion in society and its environment. This anthropological concern is expressed through the various themes that bring together the laboratory teams.

The **Anthropo-Lab** was created in September 2015 to improve understanding of the social and ethical dimensions of human behavior. To address these questions, the team uses a wide range of methodologies including the use of experimentation (laboratory, field and online) and neurophysiological measurements, behavioral modeling, and data analysis. The team is made up of researchers in economics, psychology, neuroscience, management science, political science, and ethology.

The **PSyCOS** (Social and Cognitive Processes in Organizations and Health) research team brings together teacher-researchers, study engineers and doctoral students in neuropsychology, cognitive psychology, social psychology, and occupational psychology. The work and projects of the members of this team focus on the study of cognition and individual, group and intergroup dynamics, more particularly in connection with health issues within organizations or in the face of neurological pathologies.

The ***Neurethic*** project team is made up of researchers in neuropsychology and cognitive neuroscience and benefits from IT and administrative support.

APPLICATION PROCEDURE

Candidates are invited to submit their application files through our portal https://recherche.univ-catholille.fr/candidatures-en-ligne/ (available in french only, contact us for any help in submitting). They should also send a copy to Olivier Capra (olivier.capra@univ-catholille.fr)

The file includes a letter describing the motivations to join the UCL and presenting the proposed contribution, a detailed CV and the copy of the last diploma obtained.

Applications close in September 2023. Auditions take place during the recruitment campaign and end in September 2023.

For any clarification on this job profile, you can contact: olivier.capra@univ-catholille.fr, co-leader of the ***Neurethic*** project and nicolas.vaillant@univ-catholille.fr, Head of ETHICS.