

Fiche de poste

Intitulé du poste : Human-Aware situation assessment for joint actions

Type de poste : Post-Doc Ingénieur·e Autre : ...

Date de début de contrat : à partir de Juillet 2023

Durée du contrat : 18 mois

Quotité de travail : 100% autre précisez (50 % minimum) :

Expérience souhaitée :

Débutant

1 - 4

4 - 10

+ de 10

Niveau d'études souhaité : PhD thesis

Montant rémunération : standard

Laboratoire d'accueil : ISIR (*Institut des Systèmes Intelligents et de Robotique*), Campus Pierre et Marie Curie, 4 place Jussieu, 75005 Paris.

Personne à contacter

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Candidature :

En ligne. Lien vers le portail emploi :

Par mail. Envoyer votre candidature par mail, avec [*nom de l'offre*] en objet, un CV et une lettre de motivation.

Date limite de dépôt de la candidature : May 15, 2023

Description du poste (en anglais)

The PIROS (Perception, Interaction and Robotique Sociales) team of the Institute for Intelligent Systems and Robotics (ISIR) at Sorbonne University (Paris) is looking for a for a highly motivated and ambitious postdoctoral researcher to conduct research on human-robot interaction & machine learning.

Description

Communication is a key factor to achieve successful coordination during a joint huma-robot action. Humans and robots communicate and coordinate during the execution of the joint action using multimodal cues such as speech, gaze and gestures. By doing so humans build a mental model of the robot. Mental models enable humans to infer a robot's intention, anticipate actions,

Sous la co-tutelle de :

establish a common ground and share goals. However, endowing robots with similar models is challenging.

This post-doc position will be focused on the development of new computational models of human-robot communication. These human-aware models will be built by continuously observing human activities and environment and aim to infer human mental states. Human-Centered Machine Learning techniques will be developed to explicitly take into account human specificities in the prediction of multiple mental states such as beliefs, intentions, preferences, competence and rationality. Following a Human-Centered approach, the post-doc position will also consider ethical issues in both modeling (e.g. biases) and experimental (e.g. with human participants) parts of the research work.

Human-Aware situation assessment systems will be evaluated in collaborative tasks such as human-robot handovers using both quantitative (e.g., task efficiency) and qualitative metrics (fluency, trust). The candidate will have the opportunity to conduct experiments with various robots (Franka Emika, Pepper, Mobile Manipulators) as well as ISIR's robots partners.

She/He will work in collaboration with PhD students, post-docs and public/private partners of ISIR. In particular, the position is part of the euRobin network, which aims to advance AI tools, software, architectures, and hardware components in a reproducible approach (European Network of Excellence Centres in Robotics (RIA))

This position is for 18 months contract, but there is a possibility to be extended depending on the performance and circumstances.

Requirements

The ideal candidate must have a PhD degree and a strong background in machine learning, robotics or cognitive science/neuroscience.

The successful candidate should have:

- Experience in robotics
- Good knowledge of Machine Learning Techniques
- Good knowledge of experimental design and statistics
- Excellent publication record
- Strong skills in Python
- Willing to work in multi-disciplinary and international teams
- Good communication skills

Application

Interested candidates should submit the following by email in a single PDF file to: mohamed.chetouani[[@](mailto:mohamed.chetouani@sorbonne-universite.fr)]sorbonne-universite.fr with the subject: Application Post-Doc HRI-ML

1. Curriculum vitae with 2 references (recommendation letters are also welcome)
2. One-page summary of research background and interests
3. At least three papers (either published, accepted for publication, or pre-prints) demonstrating expertise in one or more of the areas mentioned above
4. Doctoral dissertation abstract and the expected date of graduation (for those who are currently pursuing a Ph.D)

Application's deadline: **May 15, 2023.**