

2020-02904 - Post-Doctoral Research Visit F/M The role of rapport in human-conversational agent interaction: Modeling conversation to improve task performance in human-agent Interaction

Type de contrat : CDD
Contrat renouvelable : Oui
Niveau de diplôme exigé : Thèse ou équivalent
Autre diplôme apprécié : Ecole d'ingénieur
Fonction : Post-Doctorant
Niveau d'expérience souhaité : De 3 à 5 ans

Contexte et atouts du poste

The objective of this project is to build embodied conversational agents (also known as ECAs, or virtual humans, or chatbots, or multimodal dialogue systems) that have the ability to engage their users in both social and task talk, where the social talk serves to improve task performance. In order to achieve this objective, we model human-human conversation, and integrate the models into ECAs, and then evaluate their performance.

Depending on the candidate's experience, she or he can be hired as postdoc, or as "jeune chercheur", which is a more advanced position.

Mission confiée

- The post doc chosen for this project should have a broad range of skills at the intersection of Cognitive Science and Computer Science. These skills should include several of the following:
- The analysis and synthesis of conversational behavior, as the team will be using human behavior as the basis for the implementation of a conversational agent.
- The construction of a corpus of data, as the team will be gathering a corpus of data on the social aspects of human-human conversation within a particular domain, and annotating and analyzing those data.
- Development of computational models from the results of the data analysis as well as based on relevant prior literature, using tools such as structural equation modeling and other tools.
- The implementation of data-driven computational models of social phenomena into a functioning ECA (Embodied Conversational Agent) using machine learning approaches to dialogue systems, such as deep reinforcement learning and LSTM (among others).
- Evaluating research, as the team will evaluate whether the new models improve the performance of the ECA.

The candidate will be able to help decide the domain of the research, as applications of the work can be as varied as virtual personal assistants such as Alexa, Siri, and Google Now and intelligent tutoring systems.

For more information on the project, potential candidates should look at the SARA (Socially-Aware Robot Assistant) website at <http://articulab.hcii.cs.cmu.edu/projects/sara/> and read some of the publications associated with the project, here <http://articulab.hcii.cs.cmu.edu/publications/>

Principales activités

- Design and carry out experiments
- Analyze their results
- Implement modules in working socially-aware dialogue systems
- Write articles
- Present work in conferences

Compétences

Competences:

Compétences Techniques: Solid competence in deep learning applied to dialogue systems, competence in statistics, advanced competence in programming in language such as Python and C++, and use of tools such as Tensorflow and Pytorch.

Langue: French, English

Compétences relationnelles: ability to work in a team, and collaborate with others from different disciplines and backgrounds. Ability to manage other team members.

Compétences additionnelles appréciées: Theoretical background in one or several of the following: cognitive science, linguistics, conversational analysis, sociolinguistics, social cognition, learning science.

Avantages

- Subsidized meals

Informations générales

- **Thème/Domaine:** Langue, parole et audio
Systèmes d'information (BAP E)
- **Ville:** Paris
- **Centre Inria:** CRI de Paris
- **Date de prise de fonction souhaitée:** 2020-10-01
- **Durée de contrat:** 2 ans
- **Date limite pour postuler:** 2020-09-30

Contacts

- **Equipe Inria:** COML
- **Recruteur:**
Cassell Justine / justine.cassell@inria.fr

A propos d'Inria

Inria est l'institut national de recherche dédié aux sciences et technologies du numérique. Il emploie 2600 personnes. Ses 200 équipes-projets agiles, en général communes avec des partenaires académiques, impliquent plus de 3500 scientifiques pour relever les défis du numérique, souvent à l'interface d'autres disciplines. L'institut fait appel à de nombreux talents dans plus d'une quarantaine de métiers différents. 900 personnels d'appui à la recherche et à l'innovation contribuent à faire émerger et grandir des projets scientifiques ou entrepreneuriaux qui impactent le monde. Inria travaille avec de nombreuses entreprises et a accompagné la création de plus de 180 start-up. L'institut s'efforce ainsi de répondre aux enjeux de la transformation numérique de la science, de la société et de l'économie.

L'essentiel pour réussir

Passion for interdisciplinary research, at the nexus of AI and Social Sciences, ability to work as part of a team

Consignes pour postuler

Documents nécessaires au dossier du candidat:

- letter of motivation describing the subject of the doctoral thesis, and how the candidate's past experience prepares him/her to work on this topic
- CV
- Names and contact information for 2 or 3 people who can write letters of recommendation

(DO NOT attach the letters - we will request the letters)

Sécurité défense :

Ce poste est susceptible d'être affecté dans une zone à régime restrictif (ZRR), telle que définie dans le décret n°2011-1425 relatif à la protection du potentiel scientifique et technique de la nation (PPST). L'autorisation d'accès à une zone est délivrée par le chef d'établissement, après avis ministériel favorable, tel que défini dans l'arrêté du 03 juillet 2012, relatif à la PPST. Un avis ministériel défavorable pour un poste affecté dans une ZRR aurait pour conséquence l'annulation du recrutement.

Politique de recrutement :

Dans le cadre de sa politique diversité, tous les postes Inria sont accessibles aux personnes en situation de handicap.

- Partial reimbursement of public transport costs
- Leave: 7 weeks of annual leave + 10 extra days off due to RTT (statutory reduction in working hours) + possibility of exceptional leave (sick children, moving home, etc.)
- Possibility of teleworking (after 6 months of employment) and flexible organization of working hours
- Professional equipment available (videoconferencing, loan of computer equipment, etc.)
- Social, cultural and sports events and activities
- Access to vocational training

Attention: Les candidatures doivent être déposées en ligne sur le site Inria. Le traitement des candidatures adressées par d'autres canaux n'est pas garanti.