
Niveau de diplôme exigé : Thèse ou équivalent  
Fonction : Post-Doctorant

A propos du centre ou de la direction fonctionnelle

Le centre Inria Sophia Antipolis - Méditerranée compte 37 équipes de recherche, ainsi que 9 services d'appui à la recherche. Le personnel du centre (600 personnes environ dont 400 salariés Inria) est composé de scientifiques de différentes nationalités (250 personnes étrangères sur 50 nationalités), d'ingénieurs, de Techniciens et d'Administratifs. 1/3 du personnel est fonctionnaire, les autres sont contractuels. La majorité des équipes de recherche du centre sont localisées à Sophia Antipolis et Nice dans les Alpes-Maritimes. Six équipes sont implantées à Montpellier et une équipe est hébergée par le département d'informatique de l'université de Bologne en Italie. Le Centre est membre de la Communauté d'Université et d'Etablissement (ComUE) « Université Côte d'Azur (UCA) ».

Contexte et atouts du poste

Inria, the French National Institute for Computer Science and applied mathematics, promotes "scientific excellence for technology transfer and society". Graduates from the world's top universities, Inria's 2,700 employees rise to the challenges of digital sciences. With its open, agile model, Inria is able to explore original approaches with its partners in industry and academia and provide an efficient response to the multidisciplinary and application challenges of the digital transformation. Inria is the source of many innovations that add value and create jobs.

This position is attached to Wimmics, a joint research team (Inria, University Côte d'Azur, I3S, CNRS) located in Sophia-Antipolis. Wimmics had 40-50 members in 2017 all working on bridging social and formal semantics on the Web and in particular studying AI and semantic Web approaches to support epistemic communities online.

Mission confiée

In its evolution, the Web has motivated the need for collectives of people and autonomous agents: from organizing the Web through directories maintained by people (e.g., the now defunct Yahoo! Directory, DMOZ) to automatic search engines (e.g., Google) that enhance people's search through the use of crawlers and information retrieval algorithms, or to socio-technical systems (e.g., Wikipedia) in which people and software agents work together to improve the quality of published material [1]. The more recent developments towards a Web of Things (WoT) [2] enable Web services to sense and act on the physical world, which further stresses the need for autonomous agents that can achieve their design objectives in a flexible manner such that they can cope with the heterogeneity and dynamicity of WoT environments [3,4]. The Web has now become a world-wide environment that spans across the physical-digital space and supports collectives of people and autonomous agents in pursuit of individual or common goals – we refer to such collectives as hybrid communities [5].

Research on autonomous agents and multi-agent systems (AAMAS) already provides models and technologies that can be applied to design and develop communities of autonomous agents [6]. In addition, the past decades have also witnessed significant progress towards a Web of Things (WoT) [2] enabling Web services to sense and act on the physical world, which further stresses the need for autonomous agents that can achieve their design objectives in a flexible manner such that they can cope with the heterogeneity and dynamicity of WoT environments [3,4]. The Web has now become a world-wide environment that spans across the physical-digital space and supports collectives of people and autonomous agents in pursuit of individual or common goals – we refer to such collectives as hybrid communities [5].

The main research question investigated during this postdoctoral research visit is: What is an ontological alignment between concepts from AAMAS and Web research that is sufficient to enable the deployment of hybrid communities of people and autonomous agents in WoT environments?

References


Informations générales

- Thème/Domaine : Représentation et traitement des données et des connaissances  
- Développement web (BAP E)  
- Ville : Sophia Antipolis  
- Centre Inria : CRI Sophia Antipolis - Méditerranée  
- Date de prise de fonction souhaitée : 01-11-2018  
- Durée de contrat : 1 an, 4 mois  
- Date limite pour postuler : 30-03-2018

Contacts

- Equipe Inria : WIMMICS  
- Recruteur : Gandon Fabien / fabien.gandon@inria.fr

L'essentiel pour réussir

- Given the relatively short timeframe for this assignment, it is essential that the candidate has already demonstrated strong expertise in REST and the Web architecture.  
- Given the broad scope of this assignment, it is essential that the candidate has a can-do attitude and is at ease with studying and integrating models and technologies from two very large fields, i.e. AAMAS and Web research. Having a background in both fields would be ideal.  
- Key traits for maximizing the research output of this assignment include: striving for excellence in research, demonstrated interest in intelligent systems for the Web, and the ability to self-motivate and prioritize tasks.

Conditions pour postuler

Avant de candidater, il est fortement conseillé de contacter le responsable scientifique, et ce de préférence avant le 20 mars.

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 :


Principales activités
The main activities of this postdoctoral position include:

- analysis of similarities and mismatches between architectures for multi-agent systems (MAS) and the Web architecture;
- ontological definition and alignment of core concepts from MAS and the Web architecture;
- development of enablers (e.g., models, ontologies, protocols, algorithms) required for designing and deploying hybrid communities in WoT environments;
- reference implementations of the defined enablers, and the deployment of a hybrid community demonstrator in the SophiaTech campus;
- publishing of key findings and results in top conferences and journals from relevant communities (AAMAS, JAAMAS, WWW, ISWC, ESWC, SWJ, JWS, IoT, WoT etc.).

Compétences
Technical skills and level required :

- PhD in Computer Science with a specialization in the WoT, Web architecture, Semantic Web, or AAMAS.
- Strong understanding of REST and the Web architecture. Good knowledge of WoT research and standardization efforts.
- Good knowledge of Semantic Web standards.
- Good knowledge of architectures and meta-models for MAS.
- Practical software engineering experience is a plus.
- Experience with agent programming languages and MAS platforms is also a plus.

Languages :

- Good English skills in both writing and communication.
- French skills are a plus

Relational skills :

- Autonomous
- Comfortable with international communication and cooperation

Other valued appreciated :

- Knowledge of standardization bodies and processes

Avantages sociaux

- Subsidised catering service
- Partially-reimbursed public transport

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

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.
- Social security
- Paid leave
- Flexible working hours
- Sports facilities

Rémunération
Gross Salary: 2650 brutto per month