



Offre n°2020-02723

Temporary scientific engineer / Vision, perception and multimedia interpretation / Behaviour recognition from videos

Le descriptif de l'offre ci-dessous est en Anglais

Type de contrat : CDD

Contrat renouvelable : Oui

Niveau de diplôme exigé : Bac + 5 ou équivalent

Autre diplôme apprécié : master

Fonction : Ingénieur scientifique contractuel

Niveau d'expérience souhaité : Jeune diplômé

A propos du centre ou de la direction fonctionnelle

The Inria Sophia Antipolis - Méditerranée center counts 34 research teams as well as 8 support departments. The center's staff (about 500 people including 320 Inria employees) is made up of scientists of different nationalities (250 foreigners of 50 nationalities), engineers, technicians and administrative staff. 1/3 of the staff are civil servants, the others are contractual agents. The majority of the center's research teams are located in Sophia Antipolis and Nice in the Alpes-Maritimes. Four teams are based in Montpellier and two teams are hosted in Bologna in Italy and Athens. The Center is a founding member of Université Côte d'Azur and partner of the I-site MUSE supported by the University of Montpellier.

Contexte et atouts du poste

Within the framework of a partnership

- collaboration Stars/SEMAGRAMME teams from Inria and DFKI : the MePheSTO project

Recognition and modeling of patient behavior using Vision and machine learning techniques (including detection and monitoring of people) to

- Perform an analysis of the state of the art of the existing algorithms related to the analyse of patient behavior.

- Model the patient behavior interacting with doctors during the consultation.

- Deliver an operational solution to recognize a set of patient behaviors using Computer Vision and machine learning techniques

-The main task of this engineer is to build the different models related to video analysis for behaviour monitoring including facial expression, gesture, engagement (gaze and head orientation) analysis. The main challenges to be addressed will consist in adapting and transferring Deep Learning models for action/gesture detection in untrimmed live stream videos to a reliable framework usable in clinic practice. This engineer will work closely with the multimodal social analysis Post-doc from DFKI and will be involved in the speech analysis part. This work will be conducted with the help of the different members of STARS team already working on computer vision for activity and behaviour monitoring to adapt and improve the existing frameworks to the context of MePheSTO project.

- MePheSTO is an interdisciplinary research project that envisions a scientifically sound methodology based on artificial intelligence methods for the identification and classification of objective, and thus measurable, digital phenotypes of psychiatric disorders. MePheSTO has a solid foundation of clinically motivated scenarios and use-cases synthesized jointly with clinical partners. Important to MePheSTO is the creation of a multimodal corpus including speech, video, and biosensors of social patient-clinician interactions, which serves as the basis for deriving methods, models and knowledge. Important project outcomes include technical tools and organizational methods for the management of medical data that implement both ELSI and GDPR requirements, demonstration scenarios covering patients' journeys including early detection, diagnosis support, relapse prediction, therapy support, an annotated corpus, Ph.D. theses, and publications. MePheSTO builds a joint DFKI-INRIA workforce – the foundation for future R&D and innovation projects.

Mission confiée

Assignments :

With the help of Stars team and F. Bremond, the recruited person will develop new algorithms.

For a better knowledge of the proposed research subject :

A state of the art, bibliography and scientific references are available at the following URL, do not hesitate to log in: <http://www-sop.inria.fr/members/Francois.Bremond/>

Collaboration :

The recruited person will be in connection with DFKI/SEMAGRAMME.

Principales activités

Main activities :

- Analyse the requirements of partners and end-users.
- Study the limitations of existing solutions.
- Propose a new algorithm for detecting the behaviours of patients
- Evaluate and optimise proposed algorithm on targeted patient video datasets
- Oral presentation and Write reports

Compétences

Technical skills and level required : Computer Vision and Machine Learning, Strong background in C++ programming, Python, Linux, artificial intelligence.

Languages : English

Relational skills : team work

Other valued appreciated : leadership

Avantages

- Subsidized meals
- 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
- Social security coverage

Rémunération

Depends on experience

Informations générales

- **Thème/Domaine** : Vision, perception et interprétation multimedia Statistiques (Big data) (BAP E)
- **Ville** : Sophia Antipolis
- **Centre Inria** : [Centre Inria d'Université Côte d'Azur](#)
- **Date de prise de fonction souhaitée** : 2020-08-01
- **Durée de contrat** : 3 ans
- **Date limite pour postuler** : 2020-07-26

Contacts

- **Équipe Inria** : [STARS](#)
- **Recruteur** :
Brémond François / Francois.Bremond@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 215 équipes-projets agiles, en général communes avec des partenaires académiques, impliquent plus de 3900 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 200 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

- Essential qualities in order to fulfil this assignment are feeling at ease in an environment of scientific dynamics and wanting to learn and listen.
- Passionate about innovation, willing to go for a PhD thesis in the field of Computer Vision and Machine Learning.

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.

Consignes pour postuler

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.