Offer #2021-04120

Ingénieur · e en traitement de données et vision par ordinateur

Contract type : Fixed-term contract

Level of qualifications required : Graduate degree or equivalent

Fonction : Temporary scientific engineer

Level of experience : Recently graduated

About the research centre or Inria department

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.

Context

ANR TRACTIVE is a France national agency of research funded project that regroups researchers from computer science, media studies, linguistics, and gender studies for the understanding of gender representation in visual media such as film. We integrate Artificial Intelligence (AI), linguistics, and qualitative media analysis in an iterative approach that aims to pinpoint the multimodal discourse patterns of gender in film, and quantitatively reveal their prevalence.

In this context, we seek an engineer to integrate in our multi-disciplinary team and provide crucial support at the beginning of the project to establish a workflow for the collection, curation, and analysis of film and video data. This project offers hands-on experience on a wide variety of multimedia processing tools, experience in developing code for deployable and open frameworks, and the opportunity to work on a project of large scale and strong societal impact.

Assignment

The engineer will be recruited in the Inria BIOVISION team, and given tasks related to the definition of a data model and pre-processing workflow, but also includes missions to manage data and establish a basis for the online public tool and website to showcase project results. These tasks will be conducted in close coordination with the I3S and IRIT CNRS laboratories, while maintaining communication and exchanges with partners in linguistics and media studies for content in the corpus.

The main tasks will involve:

- management and curation of a corpus of film and video data,
- establishing a workflow to extract, process, and format multimodal (visual and text) features from videos and film metadata,
- preparation of a framework to publish our datasets and workflow under Open Science guidelines, and
- assist in the preliminary design of a public tool and website.

Main activities

Main activities:

- establish and manage data (image, text, metadata) processing workflow
- testing and integrating existing code repositories or libraries
- seek and propose technical solutions to data processing needs
- formatting data for machine learning algorithms
- Python code development

Additional activities

- website development and design tasks

- writing technical documentation and reports
- participating in project meetings

Skills

Required

- Excellent programming skills in Python,
- Good engineering skills to debug and compile repositories with source code in C++ and Matlab,
- Strong competence and prior experience with computer vision, image processing, text processing tools and libraries (e.g., opencv, ffmpeg, cimg, dlib, nltk, Lemur),
- Good familiarity with data processing workflows for machine learning,
- Expertise in code repository management (git),
- Seeking, understanding, using, and writing technical documentation in French and English,
- The ability to understand needs of and communicate technical details to non-technical staff and project members,

Appreciated

- Skills in web programming (HTML5, CSS, javascript, node),
- Prior experience with machine learning libraries (scikit learn, tensorflow, torch) and algorithms,
- Knowledge of virtualization and software packaging (e.g., Docker, Singularity),
- A good level of written and spoken French and English

Benefits package

- 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

Remuneration

From 2632 euros gross monthly (according to degree and experience)

General Information

- **Theme/Domain :** Vision, perception and multimedia interpretation
  Scientific computing (BAP E)
- **Town/city :** Sophia Antipolis
- **Inria Center :** Centre Inria d'Université Côte d'Azur
- **Starting date :** 2022-03-01
- **Duration of contract :** 1 year, 6 months
- **Deadline to apply :** 2022-01-07

Contacts

- **Inria Team :** BIOVISION
- **Recruiter :**
  Wu Hui-yin / hui-yin.wu@inria.fr

About Inria

Inria is the French national research institute dedicated to digital science and technology. It employs 2,600 people. Its 200 agile project teams, generally run jointly with academic partners, include more than 3,500 scientists and engineers working to meet the challenges of digital technology, often at the interface with other disciplines. The Institute also employs numerous talents in over forty different professions. 900 research support staff contribute to the preparation and development of scientific and entrepreneurial projects that have a worldwide impact.

The keys to success

The candidate should possess a strong curiosity towards exploring and testing new technologies, carrying out development tasks with rigor and uphold best practices, be a team player by developing professional work relations and maintaining frequent communications with project members, and be open-minded to work in a diverse and dynamic research group.

Warning : you must enter your e-mail address in order to save your application to Inria. Applications must be submitted online on the Inria website. Processing of applications sent from other channels is

not guaranteed.

Instruction to apply

Defence Security :
This position is likely to be situated in a restricted area (ZRR), as defined in Decree No. 2011-1425 relating to the protection of national scientific and technical potential (PPST).Authorisation to enter an area is granted by the director of the unit, following a favourable Ministerial decision, as defined in the decree of 3 July 2012 relating to the PPST. An unfavourable Ministerial decision in respect of a position situated in a ZRR would result in the cancellation of the appointment.

Recruitment Policy :
As part of its diversity policy, all Inria positions are accessible to people with disabilities.